BIBLIOGRAPHY OF
INDUSTRIAL, VOCATIONAL, AND
TRADE EDUCATION
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LETTER OF TRANSMITTAL

DEPARTMENT OF THE INTERIOR,
BUREAU OF EDUCATION,
Washington, D. C., March 29, 1913.

Sir: In this country and abroad there is a general and increasing interest in industrial education and in the various forms of vocation and trade schools. Teachers, school boards, civic organizations, manufacturers, trades-unions, city and State officials are working apart and together to formulate some practical program whereby this type of education may be given in the best and most economic way. In many foreign countries, and in several States and cities of this country, marked progress has been made. The literature on the subject has been so abundant and varied that there is need for an annotated list of the more important books, reports, articles, and periodicals that have appeared within the last few years. I therefore recommend for publication as a bulletin of this bureau the accompanying manuscript prepared by Henry R. Evans of the Editorial Division, assisted by members of the library staff.

Respectfully submitted,

P. P. CLAXTON,
Commissioner.

To the Secretary of the Interior.
BIBLIOGRAPHY OF INDUSTRIAL, VOCATIONAL, AND TRADE EDUCATION.

I. NOMENCLATURE OF INDUSTRIAL EDUCATION.


II. BIBLIOGRAPHIES.


6. Columbia university. Teachers college. School of industrial arts. Annotated list of books relating to industrial arts and industrial education. New York City, Teachers college, Columbia university, 1911. 50 p. 8°. (Technical education bulletin, no. 6)


Contains list of well-annotated titles on the various phases of industrial education.
INDUSTRIAL, VOCATIONAL, AND TRADE EDUCATION.


   "These books have been of popular use in the St. Joseph (Mich) public library and will be of value to other libraries." — Library journal, March, 1908, p. 118.

   The bibliography of home economics (p. 41-56) is divided into nine parts as follows: General; elementary schools; rural schools; secondary schools; club study; colleges and universities; foreign countries; bibliography; periodicals. It is well-annotated and indexed. The School of household arts of Columbia university. Teachers college, published in 1911 an annotated list of books relating to domestic science. See Technical education series A, no. 2.

III. INDUSTRIAL EDUCATION.

   Bibliography: p. 14-15. Industrial education is treated in Chapter XI. Author notes the decline of the apprenticeship system, its causes, and present status. Also discusses the provisions for trade, technical and art schools and the problems involved.

   Chapter VI (Educational methods) discusses the educational needs of an industrial democracy. Author says that they are largely ruled by the traditions of class and commercial education.

17. Alexander, Magnus W. The needs of industrial education from the standpoint of the manufacturer. Social education quarterly, 1: 196-201, June 1907.

   Address, Social education congress, December 1, 1906. Also in Southern educational review, 3:137-54, December 1906-January 1907; and under title Western industrial education. In School journal, 74: 11-13, 12, January 12, 1907.
   Describes situation in Nebraska.

19. Arnell, L. D. Educational outlook based on occupations. Pedagogical semi-
   nary, 12: 334-38, September 1905.
   A statistical study based upon the returns of the census of 1900.


   References: p. 182. Discusses instruction in fine arts and in the applications of art to handicraft in this country. Mainly statistical.


   "Our only solution of the problem [of skilled labor] is to turn to the schools and introduce in them thorough practical studies leading to a vocational course which . . . will lead to industrial intelligence."
BIBLIOGRAPHY.


"Our public schools... have not met the demands of industry... so that there is now a national demand for skilled workers in the industries and there is no adequate means of supplying this demand."


Discussion: p. 50-54.


"Give the child all through his course the right kind, quality, and quantity of industrial training intertwined and interdependent upon his language, mathematics, history, science, and home life... The school should serve the time, the place, and the people. The application of the school must vary as the conditions, the needs, and the desires of the people change."


Also in The elementary school teacher, 9: 44-45, May 1908.

"The question is whether human beings who differ widely in native gifts and acquired tendencies shall be forced to pursue a single conventional course of training, or have the privilege of choosing a course that will equip them not only for the worthy use of their leisure, but for the intelligent pursuit of their vocations."


Also in Southern educational review, 8: 187-78, October-November 1908.


"A thorough-going study of the problem of education in the industrial state of civilization. The point of view is that of pragmatism."—American journal of sociology, November 1908, p. 64. A record of what has already been done in public education to promote social efficiency and of the present tendencies.


Discusses work done in various parts of Africa, India, Ceylon, North Borneo, and America.


Industrial training: Its aims and scope, p. 8-44.
10 INDUSTRIAL, VOCATIONAL, AND TRADE EDUCATION.


The author points out that manual and industrial instruction in the public schools is an educational, economic, and social necessity.


A survey of the activities of the Commission in various social fields. Industrial and vocational education considered. The December 21, 1912, number of the Survey contains a tabulated statement of the classified duties of the Commission.


States that the immense prosperity of the United States “has been accomplished without any of the German ideas regarding the class of schools above mentioned.” Claims that “Germany’s industrial advancement is due simply to its freedom from trade unions and to the low wages which prevail there, and not the result of technical schools, trade schools, or any other kind of education. . . . Germany simply has been copying England, even in such lines as chemistry, the production of coloring dyes and enameling.” Says that England has attained her high position in the industrial world, “without anything in the way of continuation, vocational, industrial or technical schools.”


Chronological table showing sequence in Pennsylvania’s school industrial work, p. 441-42.

“This has been, perhaps, the most difficult state in the Union in which to educate the people to the value of hand training in their schools.”


Contains that the common man desires “an education for his children which shall be vocational and liberal in the same sense that the old classical training was and still is vocational and liberal for the few.” Shows how the secondary school can realize the new ideal in education.

43. Cushman, L. S. Governmental co-operation in industrial education. Elementary school teacher, 8: 603-7, June 1908.


In the introduction the author lays down certain fundamentals which he says “must soon be clearly recognized and brought into and made a part of our educational ideals, policies, and methods.” If we are to have universal education, it must contain a large element of the vocational. He writes: “We must agree that in a system of universal education the best results will always follow when as many subjects as possible and as many vocations as may be are taught together in the same school, under the same management, and in the same body of men.”

Declares it to be a blunder to transplant the European trade school and transplant it into the soil of America.
BIBLIOGRAPHY.

Advocates combining the vocational and the nonvocational in the high schools. Says: "If members of the several vocations are to be educated separately the education will not only be hopelessly narrow and needlessly expensive, but, what is even worse, our people will be educated in groups separately, without knowledge of or sympathy with each other, producing a stratification of our people that is not only detrimental to society but dangerous if not fatal to democratic institutions."


One of the most useful books that has appeared on the subject of industrial education. Describes the movement for vocational instruction as a popular one, as evolution and not revolution. Treats of the educational significance of modern industry; trade schools at sixteen; trade unions and trade schools; schools in the factory; supplemental education in its relation to industry, etc.
In discussing the public and private control of trade schools, the author says: "Undoubtedly if the trade school movement in America is to make appreciable headway it must have the sympathy and aid of labor organizations. This is perhaps the strongest reason for urging that these schools become a part of the public school system." Industrial education "to command respect must be in the hands of real artisans and not theorists who are indifferent mechanics."


Also in Educational monthly, 1: 1-9, October 1906.

Discussion: p. 84-86.

The author contends that the new industrial schools "can not displace, nor half displace, the common elementary school. They will have to follow and supplement it. . . . They ought to be wholly apart from manual training schools. They are not to train mechanical or electrical engineers. . . . They are to train workers to do better work that they may earn more bread and butter."


Reprinted.
A strong showing of the utter inadequacy of American facilities for trade and industrial education, as compared especially with Germany.


BIBLIOGRAPHY.

   A brief review of the activities of the National society.

   Partly reprinted from various periodicals.
   CONTENTS—Industrial education.—Industrial education, under state auspices, in Massachusetts.—What kind of industrial school is needed?—Industrial education and social progress.—The industrial continuation schools of Munich.—Professional preparation of high school teachers.—School instruction in religion.—The country schoolmaster in Bavaria.
   "The author's presentation is strong and deserves a wide reading."—Manual training magazine, December 1908, p. 188.

   Discussion: p. 156-80.

   Discusses the demand for industrial education. Author contends that manual training may be so organized as to have a distinct value for industrial efficiency without loss of cultural value.
   Shows the basis for reorganization of manual training courses for industrial ends.

   A condensed but excellent review of the whole field of industrial education in the United States, England, Germany, and France. Bibliographical references only to the most important and accessible titles given, p. 443-44.


   A review of the problem of industrial education, based chiefly on Continuation schools in England and elsewhere, ed. by M. E. Sadler, and the writings of various American specialists. Author says: "The opinion of many is that to protect industrial training from extreme measures, the safest way is not to house it in independent school plants, but have it organically affiliated with the present system."

   Dealing particularly with the situation in Cincinnati, O.

   A survey of present opportunities and immediate and future needs in the vocational training of American boys and girls.
14

INDUSTRIAL, VOCATIONAL, AND TRADE EDUCATION.


76. Kerschenstein, Georg. The school of the future a school of manual work. Tr. by T. C. Horsfall. School and home education, 31: 278-86, March 1912. Address given to Swiss teachers at Zurich. The writer believes "that character can not be developed by teaching in words alone, but that training in the actual doing of things must accompany knowledge getting."


79. Industrial education. Educational foundations, 23: 400-8, 826-32, March and June 1912. Discusses the aims of industrial education and the nature of the subjects to be taught. Deals with the continuation, trade, and evening schools.


81. Lane, Winthrop D. Broadening industrial education. Survey, 29: 321-23, December 14, 1912. Treats of the different types of industrial education. Says: "Distinction should be made between what are called prevocational and vocational instruction. One of the proposed names of securing greater harmony between the public school system and the actual environment of life is the making over of the elementary curriculum to include, side by side with reading, writing, and arithmetic, training in manual dexterity, in the purposes and use of tools, and perhaps in some of the elementary processes which may be found to underlie modern trade."


86. Some sociological phases of the movement for industrial education. American journal of sociology, 18: 392-50, November 1912. Emphasizes the fact that the industrial education movement is bound to have a profound effect on the whole system of popular education. Discusses vocational education in all its phases.
BIBLIOGRAPHY.


95. Miller Leslie W. The claims of industrial considered with reference to certain prevalent tendencies in education . . . Boston, School of printing, North-end union, 1908. 16 p. 12°.


98. Munzelman, H. T. The work of the College of industrial arts. Texas school magazine, 15: 7-9, December 1912.


106. Person, Harold Stafford. Industrial education; a system of training for men entering upon trade and commerce. Boston & New York, Houghton, Mifflin and company, 1907. 86p. 8°. (Hart, Schaffner & Marx prize essays) Deals with the training required by young men who would fit themselves for the higher positions in industry or commerce, and the need of providing such training in the United States. The need is now generally admitted. The author's opinion clearly is that while commercial training should be offered in high schools, collegiate courses, and professional departments, the ideal conditions can be found only in distinctly professional instruction, open only to those who have already completed a liberal education. The question here raised is a large one, about which, as is well known, there is serious difference of opinion.

"It sets forth briefly the economic conditions which hold in the kingdom of Wurttemberg, the natural resources of the country, and the system of transportation. It then traces the development in this environment of the system of industrial schools and the service which they render in the upbuilding and maintenance of the state."

It also includes a brief description of other industrial and commercial schools of the kingdom, and an outline of the activities of the Wurttemberg central bureau for industry and commerce.


108. Prosser, Charles A. Facilities for industrial education. American school board journal, 46: 11-12, 58, September 1912. "The above address was delivered before the Department of school administration during the recent meeting of the National Education Association. It is remarkable in that it embodies a wealth of practical suggestions. Historical conjecture has been the order of the day."


Contents.-General summary.-Conditions of entrance and advancement in individual industries.-Attitude of labor unions toward industrial and trade schools.-Comments by employers on industrial training.-Rules and agreements of labor unions in regard to apprentices and helpers.-Labor of New York State relating to child labor, compulsory education, apprenticeship, and industrial education.-Institutions offering courses in industrial training in New York State.
111. The problem of industrial education. Manual training magazine, 8: 125-32, April 1907. A brief analysis of the economic, social, and educational aspects of the problem, with a statement of the functions and limitations of the various existing agencies for industrial training.


115. Rogers, Howard J. The relation of education to industrial and commercial development. Educational review, 23: 490-502. Discusses national development in material progress, the struggle for commercial and industrial supremacy, etc. Our system of public education. Contrasts American with foreign conditions in regard to the working classes.


An article by E. C. Elliott and others. Dr. Elliott gives an interesting presentation of the philosophy underlying public education. He says that until we possess "reliable data upon which to base a rational scheme of reorganization, the public schools cannot hope to become instruments for industrial determination". Neither will they cease to prevent the present positive misselection of individuals for their proper station of efficiency and happiness.

Mr. McElroy cites statistics of attendance in grammar schools of Albany, N.Y., to show a very rapid decrease in enrollment. Advocates industrial continuation schools.

124. Turner, Kate B. What shall I do after high school? Ladies' home journal, 29: 10, 16, April 1912.

Describes the various professional and industrial channels open for girls, and their requirements.


General review. Statistics of schools in this country which offer training for specific vocations in the industries. For reviews of financial and industrial training in the United States see previous reports of the Bureau, from 1898 to 1909.


An exhaustive compilation of material regarding trade and technical education in the United States. Describes institutes for industrial education in the United States. Chapter 2 deals with the attitude of employers, graduates, and labor unions towards such institutions. A study is made of industrial education in Austria, Belgium, Canada, France, Germany, Great Britain, Hungary, Italy, and Switzerland.

A synopsis of the report, prepared for the exhibit of the Bureau at the Louisiana purchase exposition, is contained in Bulletin no. 34 of the U.S. Bureau of labor. Washington, September, 1904. p. 1369-1417. The text is copiously illustrated.


Bibliography: p. 398-399. Comprehensive study of industrial education in all its phases. Discusses at length apprentice-ship schools; vocational guidance; legislation regarding industrial education, etc. "The data for this report were gathered mainly by special agents of the Bureau of labor on a schedule of inquiries. The information was collected during the latter half of the year 1910 and relates to conditions at that time. . . . A very few schedules were secured by correspondence."

Chapter xviii contains voluminous statistics of Trades and subjects taught and time devoted to schoolroom work and practice.


Contents: 1. Reason for leaving school and going to work. 2. Circumstances possibly influential in causing children to leave school. 3. Industrial experience of children. 4. Legal conditions affecting the employment and school attendance of children. 5. Retardation, repeating, and elimination.

An intensive study of 612 children in seven different localities, taken from two northern and two southern states. Domestic, educational, industrial, legal, social, and hygienic conditions discussed. Throws light on the difficulty experienced by boys in securing chances to learn trades.


Speech delivered at the annual banquet of the National society for the promotion of industrial education, Chicago, January 23, 1908.

Advocates free industrial high schools, fully equipped, to be open night as well as day to the boys who have taken the manual training course in the primary schools. "Manifestly no apprentice-ship system in the United States ever had or which it ever could invent would enable us to rise to the standard of the present and the approaching situation."
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130. Walker, Hugh. Are "the brains behind the labour revolt" all wrong? Hib- 
ber journal, 10: 348-65, January 1913.

131. White, Frank B. Industrial education in the Philippine islands. Vocational 
education, 2: 263-77, March 1913.

132. Wild, Laura H. Training for social efficiency: the relation of art, industry and 
February April and June 1912; 33: 91-99, 159-65, 208-22, October, November 
and December 1912.

133. Winston, George T. Industrial education and the new South. In U. S. 

134. Wood-Simons, May. Industrial education in Chicago. Pedagogical seminary, 

In North Central association of colleges and secondary schools. Proceedings, 
1916. Chicago, Published by the Association, 1910. p. 3-23.

IV. INDUSTRIAL EDUCATION IN FOREIGN COUNTRIES.

GENERAL.

136. Gibson, Carleton B. Recent tendencies toward industrial education in 
Europe and America. In Southern educational association. Journal of 
proceedings and addresses, 1908. p. 157-66.

137. Kreuzpointner, Paul. The new standard of the present day industrial educa-
tion in Europe. American school board journal, 43: 15-17, September 1911.

138. Ware, Fabian. Educational foundations of trade and industry. New York, 

139. Winslow, Charles H. Report on the relations of European industrial schools 

(Massachusetts. Commission on industrial education. Bulletin no. 10)
INDUSTRIAL, VOCATIONAL, AND TRADE EDUCATION.

GREAT BRITAIN.


ENGLAND.


Chairman. R. A. Bray.


Chairman. J. R. Macdonald.


London. County council.


SCOTLAND.

145. Hatch, Henry D. Some observations on Scottish public educational provisions for promoting the life careers of pupils leaving school. Educational bi-monthly, 7: 203-21, February 1913. Shows the work of the juvenile branch of the Board of trade labour exchange in the school board offices, Edinburgh.

CANADA.


Many manufacturers, contractors, and skilled mechanics representing the various trades appeared before the Commission. "From whatever point of view the witnesses spoke, they were one in saying that the conditions to be met required the establishment of some well-considered scheme of vocational training based upon and accompanied by the essentials of a good general education."

Contains a résumé of the aims and methods of industrial education in educational centers in the United States and Eastern Canada.


In introduction, says that the present importance of the problem of industrial education is the result of three main causes: "1. The rivalry amongst the nations for commercial supremacy. 2. The imperfect provision for training skilled workmen. 3. The modern extension of the scope of education to include vocational as well as cultural training, administered and maintained wholly or largely at the public expense."

Describes conditions in Ontario, England, Scotland, France, Switzerland, Germany and United States.


This representative commission of English chief education officers visited Canada and the United States in the summer of 1911, to investigate the relationship existing between the educational institutions and the industrial and commercial occupations of the people. A stay of several days was made in turn in Quebec, Montreal, Ottawa, Toronto, Detroit, Buffalo, Philadelphia, New York, and Boston, and a short visit was paid by one of the members to Chicago and St. Louis.
BIBLIOGRAPHY.

NEW SOUTH WALES.


A voluminous report, describing conditions in New South Wales, Europe and America.

"The aim of this report is to disclose the state of trade, commercial, technical and industrial education generally, both in its lower and higher forms, and the state of the relation of these to the development of a state university. . . . Throughout, the commissioners have attacked their task from what may be called the comparative standpoint."


Report by Frederick Rose.


Bibliography: p. [x]-xxiv.

In a chapter on industrial education stress is laid upon the intimate relation of school training to vocation. The character and extent of the general and industrial continuation schools are described.

Contains a resume of industrial conditions in Germany before 1871; shows the remarkable progress made subsequent to that date. The relation of school training to the intended vocation is treated.


The instruction covers the whole business of the gardener, including industrial arithmetics and bookkeeping, civics, botany, reading, and drawing.


The instruction in physics and machinery, as well as in materials and shop work, is given by a skilled machinist; the remaining instruction is undertaken by teachers of the common and continuation schools.

159. Industrial continuation schools for mechanicians' apprentices, Munich. Boston, Wright & Potter printing co., state printers, 1907. 15 p. 8°. (Its Bulletin no. 4)

Apprentices, who during their four years of required attendance on the school have not done well, may be required, upon the application of their master or of the school, to attend all, or part of the instruction in any one class.


A comparison between German continuation schools and industrial schools in the United States and a comparison between German continuation schools and industrial schools in the United States.


Discussion: p. 208-12.


Owing to the dual school organization in Prussia, there has been a conflict of interests between the clerical party and those interested in industrial education. The clericals want a guaranty that one hour per week shall be given over to religious instruction. The other party claims that religious teaching has no place in a trade school. As it is now, only the districts or communes can make attendance compulsory. The result is that for the most part Prussia has only voluntary trade-school attendance.


166. Snowden, Albert A. The industrial improvement schools of Wurttemberg, together with a brief description of the other industrial schools of the kingdom... Teachers college record, 8 : 1-79, November 1907.


A comparison between German continuation schools and industrial schools in the United States.
BIBLIOGRAPHY.


A comprehensive survey of the subject. Contains a study of the administration of industrial education. Describes the various schools, methods of instruction, curricula, and the attitude of the people and government toward industrial education in general. For discussion of continuation schools, see p. 145-47.

FRANCE.


“Enseignement technique primaire, agricole, industriel, commercial, maritime, métiers.”


BELGIUM.


Volume I contains a résumé of industrial, commercial, and domestic education in Belgium, followed by elaborate presentations of each subject. Volume II gives statistical details regarding courses in commerce and languages; industrial arts schools; apprenticeship, etc.


ITALY.


RUSSIA.


LATIN AMERICA.

V. ASSOCIATIONS, COMMITTEES, AND COMMISSIONS.


F. Kreuzpointner, chairman.

Summarizes the conclusions of the Committee under eight heads. Says: "... Industrial education and trade training must not only consider the mechanical and technical necessities of the mechanic, but also the culture and moral aesthetic side of life of the man and citizen.

"That manual training, as now conducted, is too exclusively devoted to the acquisition of manual dexterity, but if broadened and deepened and made more technical by the addition of suitable subjects, it can be made an excellent foundation for industrial education, and become a preparation for trade training." Recommends a system of specific trade schools, the burden of conducting them being equally divided between the community and the state.


F. Kreuzpointner, chairman.

Sum up opinions of other organizations. Discusses industrial education as a social law, etc.


F. Kreuzpointner, chairman.

Discusses the value of continuation schools upon the Cincinnati and Boston plan. Declares that for the present at least such schools are preferable to the more expensive trade schools.


F. Kreuzpointner, chairman.

Reports a growing demand for shop apprenticeship schools, continuation schools, and for a system of state or nationally subsidized industrial schools, leaving to local effort the adjustment of these schools to local conditions." Discusses the Cincinnati continuation schools, etc.


"The utmost development of the capabilities of every individual child means more in the aggregate to the national wealth than does the proper development of our material resources."


museums of fine arts, p. 43-50.
7. J. F. Haney—The adaptation of pattern to material, p. 57-75.
8. F. E. Mathewson—A shop problem in design, p. 77-89.
10. J. C. Grinnell—Some phases of bookbinding in the elementary schools, p. 77-82.
13. J. P. Haney—The adaptation of pattern to material, p. 57-76.
15. T. M. DeBey—Creating ideals in furniture design, p. 81-87.
17. J. C. Grinnell—Some phases of bookbinding in the elementary schools, p. 77-82.
20. F. E. Mathewson—A shop problem in design, p. 77-91.
22. A. W. Garrit—Toy-making as a form of constructive work, p. 83-86.
23. J. C. Grinnell—Some phases of bookbinding in the elementary schools, p. 77-82.


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museums of fine arts, p. 43-50.
7. J. F. Haney—The adaptation of pattern to material, p. 57-75.
8. F. E. Mathewson—A shop problem in design, p. 77-89.
10. J. C. Grinnell—Some phases of bookbinding in the elementary schools, p. 77-82.
13. J. P. Haney—The adaptation of pattern to material, p. 57-76.
15. T. M. DeBey—Creating ideals in furniture design, p. 81-87.
17. J. C. Grinnell—Some phases of bookbinding in the elementary schools, p. 77-82.


Reiterates demand for continuation schools. Day classes for those in employment, and no loss of wages; these to be for children between 14 and 16 years of age. For those from 16 up, night work is permissible. "It is advisable that, as in Wisconsin, the development of industrial education be put into the hands of a special state board of industrial education."
Supplementary report . . .


Jesse D. Burks, chairman.


A selected bibliography on industrial education, p. 788-793.

Papers: p. 650-60; 774-48 (with discussion).


Prof. F. T. Carleton, speaking of the industrial factor in social progress, 1897, says: "In the process of adjustment involved in passing from small-scale and unsystematic to large-scale and routinized industry, social and political institutions, including the public school system, must undergo fundamental modifications." He declares that a science of education must rest on "the basis of solid economic values." He declares that a science of education must rest on "the basis of solid economic values."
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200. —— Part 2. New York City, National society for the promotion of industrial education, 1908. 104 p. 8°. (Bulletin no. 6)


201. —— Proceedings of second annual meeting, Atlanta, Ga., Nov. 19-21, 1908. New York, National society for the promotion of industrial education, 1909. 151 p. 8°. (Bulletin no. 9)


204. — Proceedings of the fifth annual meeting, Cincinnati, Ohio, November 2-4, 1911. New York, National society for the promotion of industrial education, 1912. 239 p. 8°. (Its Bulletin no. 15)


The article on The Cincinnati continuation school for apprentices, by J. H. Reinschaw, is illustrated with half-tone cuts, showing pupils at work. He says: "The continuation school is distinctively a creation of Cincinnati and is a copy of no other school in the world. . . . It differs from the German plan in that it uses no machine equipment. The school is based upon the principle that the productive power of a youth in a shop does not depend solely upon the hours he works, but that his attitude toward his work and his intelligence in his work are the determining factors. To this end the manufacturers' organisations, the labor organisations, and the school authorities decided two and a half years ago to shorten the hours of labor without decreasing the pay. The working week of the boys was shortened one-half day and their weekly pay was maintained. The half day of rest from work was to be spent in a schoolroom under educational and cultural influences."


"The most important piece of work," says Mr. Bawden, "accomplished at this convention and perhaps the most important that has yet been accomplished in the movement as a whole, is the formulation of a statement of principles and policies that should underlie legislation for vocational education."


Opinions of employers and employees regarding educational training. A questionnaire was sent to 200 manufacturers and representatives of organized labor. The replies received are highly interesting.


Contents.—A study of the changed position of women in industry; Opportunities of women in industry; What trade training is accomplishing; Suggested schemes for industrial training.

208. — Education of workers in the shoe industry. Prepared by Arthur D. Dean, New York City, National society for the promotion of industrial education, 1908. (Its Bulletin no. 8)
BIBLIOGRAPHY.

209. — Industrial education . . . Communication from C. R. Richards, president of the National society for the promotion of industrial education, transmitting reports by a committee of the society on the subject, together with resolutions urging upon Congress an appropriation to enable the Department of education to develop schools for industrial training . . . [Washington, Government printing office, 1910] 3 p. 8°. (United States 61st Cong., 2d sess. Senate. Doc. 516)


212. — Circular of information; constitution, state branches, officers and members. New York City, National society for the promotion of industrial education, 1908. 44 p. 8°. (Its Bulletin, no. 7)


The author says: "The essential features of the compulsory trade continuation schools of Munich are thus summed up in these five points: (a) practical work is made the center of interest; (b) the active sympathy and cooperation of employers on the one hand, and of trade societies and guilds on the other, is enlisted on behalf of the schools; (c) the time of instruction is sufficient in amount and excellent in quality; (d) every opportunity that presents itself for training the citizen is utilized."

Discusses the purpose of vocational studies; the educational values and relationship of the value developed in vocational studies to the standards appropriate for college admission.


Contains interesting papers on the vocational high school; the part-time co-operative plan of industrial education; vocational guidance; classification of plans for industrial training, etc.

Part I gives various types of vocational schools. Chapter 1 presents a classification of plans for industrial training, by Frank M. Leavitt. Each chapter of the year-book is by a different author and describes for the most part the given type of school with which the author is connected. Comparison is made with other institutions of similar character, and conclusions drawn "as to the relation of the particular type of school to the solution of the industrial education problem."


Chairman, Frederick R. Couter.


Chairman, C. C. Schmidt.


Discussion; p. 106-11.


Reprinted from its Proceedings, 16.

Prepared by Arthur L. Williston, chairman.


Contains constitution of the association. Name was originally Western drawing teachers' association, but changed at the above meeting. Papers by F. D. Cranamow, C. S. Hammock, and others.


Contains report of Committee on handicrafts in the public schools, p. 69-87. Elizabeth E. Langley, chairman. Data based upon replies received from a questionnaire sent to public schools in various parts of the country. Report represents all the states except North Dakota, Arizona, Oklahoma, South Carolina, Mississippi, and Louisiana.


1 Originally the Herbert society; name changed to the National society for the scientific study of education, and finally to the present title.
BIBLIOGRAPHY.


COMMISSIONS.


   Will A. Yeeling, chairman.
   Recommendations include 17 items concerning "the establishment of vocational schools, the machinery of administration, compulsory attendance, teacher training, and related topics." Revised in Vocational education, 2: 251-30, February 1913.
   Appendices contain a digest of laws relating to industrial education, also drafts of bills proposed—vocational education in industries, agriculture and domestic science, apprenticeship, and certification of the compulsory attendance laws. Views of organized labor and manufacturers given.

   Contains report and recommendations of special committee created by the legislature of 1909. To be found also as chapter I in annual report of the state superintendent for 1910.

   Discusses among other things the practicability of introducing industrial instruction, or extending it, in the schools of Maryland, city and rural, with forms of industrial education for colored children. Gives replies to circular letter addressed to citizens of Maryland and others.

   Carroll D. Wright, chairman.
   Reprinted by Columbia university, Teachers college, Educational reprints, no. 1.
   Outline of vocational education. Gives the status of vocational education in Massachusetts. Presents report of the sub-committee on the Relation of children to the industries. Statistics gathered
During the investigation, industrial education in Europe submits for consideration of the legislature the draft of a bill providing for industrial and technical schools, with the recommendation that a second commission be appointed to extend the investigation of methods of industrial training and of local requirements, and advising and assisting in the introduction of industrial instruction by means of a system of independent schools. With some modifications the recommended legislation was adopted by the state. The new commission was appointed August 30, 1906.

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Paul H. Bonus, chairman.

Advocates cooperation with local authorities in the founding of schools for technical and industrial education. Shows that considerable progress had been accomplished in the matter of establishing in several cities of the state of the industrial schools contemplated by the law.

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Paul H. Bonus, chairman.

A notable report. Evening industrial schools established by the commission in five cities; requests for others under advisement. Nearly 1,000 pupils in attendance upon these schools. In reviewing the work accomplished during the year, the Commission says that "during the past year the interest in industrial education steadily increased among all classes and in all directions. Both employers and employees are meeting on the common ground of mutual interests." The report gives voluminous data on industrial education in foreign countries; the relations of European industrial schools to labor, etc. Describes special schools in the United States; and the attitude of the manufacturing interests in 20 Massachusetts cities towards industrial education. Fully illustrated.

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Day industrial schools established in 2 cities and evening industrial in 11 cities of the state. By an act of the legislature, approved May 29, 1909, the commission on industrial education was abolished, likewise the existing state board of education. The powers and duties of each body were given to a new board of education, created in conformity with the provisions of the act.

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240. Industrial continuation schools for jewelers' and gold and silver workers' apprentices, Munich. Boston, Wright & Potter, 1907. 12 p. 8°. (Bulletin no. 1)

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241. Industrial continuation schools for machinists' apprentices, Munich. Boston, Wright & Potter, 1907. 12 p. 8°. (Bulletin no. 2)

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242. Industrial continuation schools for machinists' apprentices, Munich. Boston, Wright & Potter, 1907. 15 p. 8°. (Bulletin no. 3)

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243. Industrial continuation schools for machinists' apprentices, Munich. Boston, Wright & Potter, 1907. 11 p. 8°. (Bulletin no. 4)

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244. Industrial continuation schools for gardeners' apprentices, Munich. Boston, Wright & Potter, 1907. 8 p. 8°. (Bulletin no. 5)

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245. The agricultural school. Boston, Wright & Potter, 1907. 11 p. 8°. (Bulletin no. 6)

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246. Industrial education, under state auspices, in Massachusetts. Boston, Wright & Potter, 1908. 13 p. 8°. (Bulletin no. 7)

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249. Report on the advisability of establishing one or more technical schools or industrial colleges . . . Boston, Wright & Potter, 1908. 38 p. 8°. (Bulletin no. 10)
BIBLIOGRAPHY.


Contains reports of 25 English educators who were brought to the United States in 1903 by Sir Alfred Mosely to investigate American methods of education. A number of papers treat directly of technical and industrial education; the attitude of the employer of labor and trade-unions. Comparisons drawn between conditions in England and this country.

Data obtained through correspondence and personal interviews with employers and workers everywhere in the state. Results of investigations show that the apprenticeship system has been virtually abandoned as a means of instructing the young in the various trades. There is a lack of skilled and efficient workmen, and this will be largely increased unless a better means of obtaining instructional instruction is found. Schools have not been able to offer vocational training. A large number of the pupils leave school between the ages of 14 and 17, and without any idea as to what trade or vocation they should pursue. They drift into occupations, rather than those most suited to their abilities, the result being an arrested progress. The trades have become so specialized that there is little opportunity for a novice to go beyond the narrow limits of the work in which he is engaged, unless he has supplementary training.
Commission recommended that trade schools be established at present, being too expensive a form of education. "The average person leaves school early in life to earn his daily bread, and the necessity of earning presents him with many responsibilities which he would not meet if he could attend a day trade school." Data showing the average weekly earnings of graduates of the Newark technical school, a state institution of secondary grade.


Contains considerable data regarding apprenticeship.

C. F. Cary, chairman. This Commission, appointed by the Governor of Wisconsin in 1907, to investigate industrial and agricultural education and formulate plans upon which to base legislative action, submitted its report on January 10, 1911. Among other measures it recommended continuation schools, with compulsory attendance of children from 14 to 16 years of age already engaged in industry, supplemented by trade and evening schools. It advised the modernization and extension of outgrown apprentice laws and their adaptation to the requirements of proposed industrial schools.
VI. INDUSTRIAL EDUCATION AND TRADE-UNIONS.

258. American federation of labor. Industrial education. Consisting of an investigation and report by a competent special committee; reports of officers and committees; action of A. F. of L. convention; the attitude of organized labor and others toward the problem; a glossary of definitions, etc.; labor's bill for congressional enactment. 1st ed. Washington, American federation of labor, 1910. 69 p. 8°.

A brief summary of the active field of industrial education, with particular emphasis on the attitude of organized labor toward the problem, in foreign countries and in the United States. Describes apprenticeship schools, legislation, etc.

"A proper apprenticeship system which will guarantee to the youth the opportunity of learning his trade as a whole is very much desired."

"One of the disadvantages of many apprenticeship systems is that establishments have become so large and with so many departments with their divisions and subdivisions that the time of the boy is fully employed in mastering details of one department to the exclusion of all other departments. Public industrial schools or schools for trade training should never become so narrow in their scope as to prevent all-round shop training."

Report warns against the exploitation of boys who desire to become skilled craftsmen.


Presents the authoritative, official statement of the attitude of the American federation of labor toward vocational education. Gives the conclusions and recommendations of the committee, based on a careful study of the situation. Various schools already established are described.


Address given at Teachers college, February 15, 1912. Voices the opposition of labor unions to the private trade schools. Tells about the industrial education to their members. Thinks industrial education should be a part of the public school system.

261. Industrial education and what labor unions are doing to promote it. Vocational education, 2: 28-35, September 1912.

This article is by the General secretary of the United brotherhoods of carpenters and joiners. His extended knowledge and experience, as well as official position, enable Mr. Duffy to speak with authority on this question.


Presents the concensus and recommendations of employers and employees in regard to industrial education.


Reprinted in Western Journal of education, 12: 401-406, October 1907.


Also in School exchange, 1: 564-55, March 1910.

Largely the work of the International Typographical union; the correspondence course in printing.

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Great emphasis is laid upon the need for continuation trade schools to train, not the captains of industry, but the rank and file of the American industrial army. The German schools of this sort are cited as good examples.

VII. ECONOMIC AND SOCIAL VALUES.


Writer calculates that "a boy taught under the apprenticeship system earns $30,000 in a lifetime; a trade school boy earns $40,000; a technical graduate earns $60,000."


Comparison made of the earning capacity of men trained in the shop and those trained in school.


Discussion: p. 67-68.

Gives statistics of 62 schools.


Reprinted from the City club bulletin, December 27, 1912.

A study of child wage earners between 14 and 18 years of age, as they apply to the city of Philadelphia. Study based on the school census of June, 1912. Presents a number of interesting statistical charts and tables.

The following conclusions are drawn: 1. That the problem of the working child is not an immigrant problem, since over 50 per cent of those reported as at work are of the second generation of American birth. 2. That this is not the problem of the boy alone, since over 49 per cent of the workers are girls. 3. That the vast majority of children who leave school at fourteen to enter industry go into those kinds of employment which offer a large initial wage for simple mechanical processes, but which hold out little or no opportunity for improvement and no competence at maturity. 4. That wages received are so low as to force a parasitic life. 5. That slight advancement is offered the fifteen-year-old over the fourteen-year-old child worker."


36. INDUSTRIAL, VOCATIONAL, AND TRADE EDUCATION.

280. Massachusetts. Commission on industrial and technical education. What the value of the years from fourteen to sixteen might be to boys. In its Report... April 1906. p. 67-69. chart.


Students in textile schools, p. 183-96.
BIBLIOGRAPHY.

VIII. INDUSTRIES AND HEALTH.


An epoch-making book. Analyzes fatigue, its nature and effects. Seeks to explain the phenomena of overwork in working people. Of value to educators, especially those engaged in preparing young people for industrial pursuits.


"The alarming increase of nervous diseases among school children, the crying need of facilities for play, and the social necessity for industrial education—all three facts point in the same direction, namely, that the school must assume the responsibility for a greater share of the child's time."


"Evening work is comparatively unprofitable, and a short time in class in the evening is sufficient, plus the labors of the day, to induce a very low condition of mental energy."

IX. LEGISLATION.


Chairman, Col. Horatio B. Winch.

300. Commercial club of Chicago and others. Tentative draft of proposed law for establishing a system of vocational schools for Illinois. Chicago, 1912. 10 p. 12°.


Given full text of the bill.

Introduced in House of Representatives early in 1908 by Hon. C. R. Davis, of Minnesota. The object of the bill was the raising of a per capita tax of 10 cents to establish and maintain industrial and agricultural high schools, one-half of the proceeds to be appropriated for industrial high schools in the cities and one-half for agricultural high schools in the rural districts.


305. ——— and Prosser, C. A. Legislation upon industrial education in the United States; prepared for the American association of labor legislation and the National society for the promotion of industrial education ... New York City, National society for the promotion of industrial education, 1910. 76 p. table. 8°. (National society for the promotion of industrial education. Bulletin. no. 12.)


311. Simpkins, Rupert R. Legislation for the last three years on vocational education. School review, 29: 407-16, June 1912. Cites the valuable work of the six commissions provided for by legislative enactment within the last three years.


313. Senate. A bill to provide for cooperation with the states in promoting instruction in agriculture, the trades and industries, and home economics in secondary schools; in preparing teachers for these vocational subjects in state colleges of agriculture and the mechanic arts, in state normal schools, and in other training schools for teachers supported and controlled by the public; in maintaining extension departments of state colleges of agriculture and the mechanic arts; in maintaining branches of state experiment stations; and to appropriate money and regulate its expenditure. [Washington, Government printing office, 1912] 28 p. 8°. (62d Congress, 2d session. Senate 3. Calendar no. 346. [Report no. 405]) Introduced by Senator Page April 6, 1912; reported with amendments Feb. 26, 1912; text of original bill and reported amendments withdrawn, and substitute reported placed on calendar, June 14, 1912; ordered reprinted July 24, 1912.


"Industrial education ... will furnish all the opportunities we need in industrial efficiency."  


"The course of study suggested is frankly and primarily planned as a training for vocational; but it would be a preparation for avocation as well."  


"The work of the Hyannis normal school in the industrial training of the grade children. Hyannis public school."  


Also in Elementary school teacher, 8: 130-42, November 1907. Title: Democracy in education.

"A rational system of secondary education must provide not only for the training of special vocations but also for making children conscious of the special capacities that they individually possess."  


"The industrial training can not be the predominating discipline until about a sixth grade is reached. Even then it should be designed especially for those who go farther with a general intellectual course."  


Clay-work, sawing, tool-work, etc., in the grades.


Contains discussions regarding the significance of industrial epochs; the origin of industries that0ede industry; and practical applications. Philosophical to phenomena.
Discuss the course of study; vocational education, etc.

Reprinted.
We cannot escape the fact that the elementary schools are wasting time, and that the lack of balance in the educational system is menacing the balance of the country. . . . The demand that the programs of the schools shall be more rational, and the work of the teachers shall fit children for definite duties with more exactness, is heard on every side.

Work in Cleveland, Ohio.

Reprinted.

An effort to discover how many boys in the Dubuque, Iowa, elementary schools were earning money in out-of-school employment.


We must decrease the school hours so far as formal studies in the grammar schools are concerned for certain boys and girls forced ... to go early to work, but increase the time correspondingly for such pupils to be given to industrial training and commercial subjects . . . ending possibly in a closely articulated elementary system of apprenticeship between the grammar schools and leading industrial enterprises.

Contains account of the development of industrial education in the public schools of Indiana.


A statistical consideration to prove that children in American schools should be fitted to earn a livelihood.

342. Langley, Ruphroyne. Constructive activities as an essential and important factor in the elementary school course. Elementary school teacher, 9: 32-33, September 1908.
Advocate handwork in the elementary school, from the kindergarten on.
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343. Leavitt, Frank M. The Cleveland elementary industrial school. Vocational education (Peoria) 1: 10-21, September 1911. illus.


359. Ware, Allison. Life and the elementary curriculum. Sierra educational news. 5: 10-20, May 1909.


XI. INTERMEDIATE INDUSTRIAL SCHOOLS.


368. Johnson, Ben W. Industrial education in the elementary school. School exchange, 4: 338-46, March, 1910. An argument for division of the work, after the sixth grade, into work of intermediate character with elective courses leading to trade or vocational schools or back to high school or out into industry.


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XII. HIGH SCHOOLS.


Also in American school board journal, 45: 8-9, October 1912.


378. Crawshaw, Fred D. What can the high schools do better to help the industries? In National society for the promotion of industrial education. Atlanta, 1908, under title: "Promotion of industrial education by means of trade schools."


This address was read at the high school conference, University of Illinois, November 30, 1909.


Discussion: p. 17-20.

"... aspect of either the vocational or social aims must equally surely result in failure to adapt the school to the real needs of a community."


384. Fant, J. C. A new feature in school work. Mississippi educational advance, 2: 12-14, March 1918.

At McComb, Miss., the superintendent of schools has perfected an arrangement with the master-mechanic of Illinois R. R. Co.'s building and repair shops by which boys may take their high school course with extended practical work in the shops. The arrangement is founded upon the plan of having two boys set as a unit, so that while one is in school, the other is in shop, and vice versa. For their shop work the boys are paid, each making from $15 to $18 per month.


396. Lugg, Charles H. What shall the high school do? South Dakota educator, 26: 12-14, January 1913.


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XIII. RURAL SCHOOLS.


415. Dymond, T. B. Suggestions on rural education... London, Eyre and Spottiswoode, 1908. 54 p. 8°.

INDUSTRIAL, VOCATIONAL, AND TRADE EDUCATION.


420. —— What form of industrial training is most practical and best suited to the country child. Elementary school teacher, 7: 323-28, February 1907.


XIV. TRAINING OF TEACHERS.


428. Columbia university. Teachers college. School of industrial arts. Requirements and course of study leading to a certificate for teaching in industrial and trade schools 12 p. 8°. (Second series, no. 12, February 31, 1911)


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434. Feltley, W. I. The duty of normal schools to provide literary training. Southern educational review, 4: 149-57, October-November 1907.


INDUSTRIAL, VOCATIONAL, AND TRADE EDUCATION.

XV. REPRESENTATIVE INDUSTRIAL SCHOOLS.

ALABAMA.

   Bill passed by Legislature, appropriating $50,000 for the Alabama school of trades and industries at Ragland, Ala., for white boys.

   Describes representative schools of different types.

CALIFORNIA.


GEORGIA.

   Describes the Berry industrial school, near Rome, Ga.

   See also article by C. B. Gibson in American academy of political and social science. Annals, 23: 42-46, January 1908.

   Berry industrial school.


ILLINOIS.


   Describes work of the Jackson school, Chicago.


INDIANA.


   Extracts, reprinted in Pittsburgh school bulletin, 8: 3-4, October 1911.
   The school of William Wirt Cary, Ind.

459. Hover, JoMilton. The problem of the village high school. Western journal of education (Ypsilanti) 4: 253-64, June 1911.
   The course and scheme of work of the Friends' academy, Bloomingdale, Ind.; domestic science and agriculture.

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485. Cleveland, O. Board of education. The Cleveland technical high school. Annual report, 1907. p. 84-99. plans., illus., course of study, boys, p. 98; course of study, girls, p. 99. On the four-quarter plan; four years' work in three years.


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OREGON.


Pennsylvania.


496. Under the name of the American university of applied commerce and trade, the school applied for charter, September 1908.

Philippines.


Wisconsin.


XVI. EVENING INDUSTRIAL AND TRADE SCHOOLS.


Chairman. James A. MacDonald.

Commission of graduates from grammar and high schools, p. 60-67.


503. Nogues, in New York City.


A comprehensive study of evening technical education, the German and English point of view; subjects and methods of instruction.


Calls attention to the necessity for improved methods in organizing and conducting evening industrial schools.


XVII. INDUSTRIAL AND TRADE TRAINING FOR GIRLS.


512. Dodge, Harriet Hazen. Survey of occupations open to the girl of 14 to 16 years. Boston, Mass., Girls trade education league, 1912. 39 p. 8°. "This survey is designed especially to meet the numerous inquiries of teachers, vocational counselors, and social workers as to what the girl can do who seeks wage earning in the earliest years in which the law allows her to engage in it." -Pref.


516. Leaside, Mary A. and Wiley, Katherine E. Vocations for girls, with an introduction by Meyer Bloomfield. Boston, New York [etc.] Houghton Mifflin company [1913] x, 120 p. 12°. "The object of this book is to give to young girls, and those responsible for the guidance of girls, some definite information as to conditions of work in the more common vocations."


519. Marshall, Florence M. The industrial training of women. American academy of political and social science. Annals, 33: 119-26, January 1909. Shows the necessity of industrial education for women. Says: "Not only are unskilled girls workers stunted in their growth physically and intellectually, but circumstances which make this possible too often result in a still more serious situation. The closed door of opportunity ahead, the wage usually too small, to furnish the bare necessities of life, and the apathy resulting from monotonous labor prevent the cultivation of any ethical sense and lead to making girls careless and reckless regarding their moral standards."


521. --- Manhattan trade school for girls. In New York City. Department of education. Fourteenth annual report... July 31, 1912. p. 341-53. Among other items of interest, contains statistics of the earning capacity of graduates 1909-10. "The majority of the girls trained by the school remain in their trade, while it is common knowledge that untrained girls drift from one occupation to another."

522. --- The public school and the girl wage earner. Charities and The commons, 19: 848-51, October 5, 1907. Emphasizes the advantages of trade schools. Advocates the introduction of trade instruction into the public school system. Shows by means of graphic statistics the minimum and maximum wages of girls (from 14 to 20 years of age) without and with training.


527. Snedden, David S. Problem of vocational education. Boston, Houghton Mifflin, 1910. 86 p. 8°. Discusses the relation of vocational training to liberal education; types of vocational education; problems of administration, etc.


531. --- The relative value and cost of various trades in a girls' trade school. American academy of political and social science. Annals, 33: 127-40, January 1909. Gives curriculum of the Manhattan trade school for girls, New York City. Reviews status of various trade schools in this country—equipment, budget, course of study, etc. Gives the wages of those who have been placed in trade, after a course in the Manhattan trade school, showing first, "the bandying of each worker to rise to better positions, and second, the increasing wages at entering the market owing to improved methods of training the workers."

XVIII. CORRESPONDENCE SCHOOLS.


XIX. BACKWARD AND DEFECTIVE CHILDREN.


Industrial education of cripples.


For industrious children of London schools.

538. Craftsman for crippled children. A home school where they are taught to be skilled workers and are made happy and independent. Craftsman, 9: 663-74, February 1906.

Free industrial houeschool, New York.


Discuss the value of manual work in developing the exceptional child, Chapter 14. Chapter 15 contains useful information on wage earning and after-care of mentally defective children.


Schedule p. 110.

Also in American annals of the deaf, 48: 383-88, September 1908.

542. Milligan, L. E. The industrial education of the deaf, blind, and feeble-minded. In National education association of the United States. Journal of proceedings and addresses, 1909. p. 885-89. *All the trades taught have their educational value. Printing helps the pupil probably more than any other trade in gaining a command of language.*


"A period of six years in school appears to give the best average results. Below seven years hopeless in school work."


For education of deaf girls.
BIBLIOGRAPHY.

XX. DELINQUENTS.


XXI. NEGRO.


Contains a valuable paper on industrial education, by Booker T. Washington.


Lays particular emphasis on industrial education of the negro. Describes "demonstration farms." In regard to manual training author says: "It is now pretty generally recognized that manual training does not meet the needs of the situation. Any form of schooling that merely provides discipline and culture is not sufficient." Advocates the fitting of young men and women for some definite vocation.

565. Successful training of the negro. World's work, 6: 3731-51; August 1903.

Describes methods employed at the Tuskegee Institute to train skilled laborers. Emphasizes the value of industrial education for negroes.

Part I consists of papers by the directors of Tuskegee Institute, describing the work, etc. Part II is made up of autobiographies of graduates, who give interesting accounts of results accomplished in later life.

Reprinted from Association boys.
Contains papers by different writers on vocational training, manual training, etc.

Describes work of the Y. M. C. A. in the field of vocational education. Illustrated with 50 charts or graphs: also half-tone showing the various kinds of work in operation. Educational statistics compiled from Government and state reports, books and periodicals, etc.

Shows progress made in vocational training. Work among the immigrants, etc. Reports 30,000 industrial workers in night classes. In 1913, 1,000,000 attended shop meetings. Extension work done.

Reprinted from Information and suggestions.

XXII. Y. M. C. A. WORK.

A plea for each child's education to be fitted to his ability and bent of instruction.

Emphasizes the fact that culture does not necessarily include vocational training, while the latter may include culture.

The writer says: "Is there any reason why we should not profit by the mistakes of England? Can we prevent the state here from finding itself committed to the questionable duty of finding work for children who are not prepared for it?"


The Vocational guidance survey was organized under the auspices of a joint committee of the Junior league and the Public education association. The work upon which this report is founded was started on September 18, 1911. The field investigation stopped on June 11, 1912. The final report is in preparation. The Vocational guidance survey has now become the Vocational education survey, a department of the Public education association.

The survey was organized to find answers, if possible, to the following questions: 1. Why do children leave school in large numbers as soon as they are fourteen? 2. What becomes of them? 3. Will vocational guidance aid them?

The investigation was based on an intensive study of a small group, supported by comparison with a larger group. The large group was made up of the 19,872 children who took employment certificates in Manhattan in 1911. The intensive work was done in Public schools 6, 9, 41, and 2 in District 9, and Public schools 70, 74, and 8 in District 13. Three investigators interviewed children who applied for working papers from September, 1911, to June, 1912. The children were first interviewed in school, then the investigator visited their home before they left school, and again at the end of two to five months to find out what had happened to them in the work. One thousand nine hundred and fifty-seven visits were made to this group and 377 records secured. The total number of cases dealt with was 405. The total number of visits was 2,203. From these children and their families information was secured as to why they left school, the income of the family, the plans for work, and experience in work.

Economic pressure was found to be the least potent and the least frequent cause for children leaving school to go to work. Need for unionism in the trades was very important. Children should not be blindly guided into jobs. Miss Barrows thinks that there are no jobs for children under 16 that they ought to take.


Exhibiting especially situation with regard to vocational education and vocational direction.


An argument for the introduction of vocational training into the public schools. Shows that the loss of pupils in the upper elementary grades is due to the ill-adaptation of our educational organization. Concludes that adequate provision for vocational training, beginning at about the sixth year of school, would tend to prolong the school life and increase the vocational efficiency of the great mass of children.


Appendix B.—What the schools can do to train girls for work in department stores, by Mrs. Lucinda W. Prince, p. 167-68. Appendix C.—Salesmanship classes in the stores of Hale brothers, San Francisco, p. 200-4.


A paper before the educational committee of the Commercial club of Chicago, III., December 14, 1912. Writer says: "To use existing industries, whether they be those of the farm, those of the shop, or those of the factory, as schools of apprenticeship, observation and training while the formal instruction goes on side by side for the one or two years' period provided—this is the essential point in the whole matter."


The city of Buffalo, N. Y., has 10,000 mechanics working in iron and in steel and 5,000 printers. A remarkable work is being accomplished by the public schools in vocational training, emphasizing being put upon the particular trades in vogue in the city.
INDUSTRIAL, VOCATIONAL, AND TRADE EDUCATION.


The first section contains the recommendations of the committee: the second presents considerable information about schools; the third gives facts concerning business colleges and commercial schools; the fourth discusses the results of tests made on boys who left school to go to work as soon as the law allowed, regardless of their advancement in the grades. Boys were examined with regard to their ability in simple arithmetic, civics, history, and English composition. Tests showed that the boys were very deficient in these studies.

The Committee recommends "a plan worked out in some detail, of a type of school in which half of the time in the seventh and eighth grades may be given to vocational work, while during the other half of the school time we are confident that as much can be accomplished in the academic studies as is accomplished to-day. We recommend for those vocational grades a school day of six hours instead of the present five hours and a rearrangement of the time given to different subjects.

"Our great contention is that vocational training be introduced into our school system as an essential part of its education—in no illiberal sense and with no intention of separating out a class of workingmen's children who are to receive trade training at the expense of academic training."

In commenting on this report, the Elementary school teacher for January, 1913, says (p. 246):

"The conclusions to which this committee come are diametrically opposed to those which underlie the Massachusetts plan and to those which Mr. Cooley presents in his report to the Commercial club of Chicago. The position defended in the present report is, however, so typically American, so clearly feasible as a school program, and so simple to put into operation as contrasted with the plans of special and separate schools, that it is certainly worthy of careful consideration before any other course is adopted."


A report to the Educational committee of the Commercial club of Chicago. "It is," says the writer, "plainly impossible to provide in the present system of elementary and secondary schools the instruction recommended. Separate schools are necessary whose equipment, corps of teachers, and board of administration must be in the closest possible relation to the occupation."


"Handicapping the training of the character of the future citizen is the justification for spending public money for schools, the state must enter the entire field of vocational education, and must provide for all—the artisan, the professional man, the farmer, and the merchant."

Writer says that such schools should be "separate, independent, compulsory day schools, supported by special taxes, carried on usually in special buildings." They should be administered by boards of practical men and women, and taught by men trained in the vocations. There should be the closest possible co-operation between the school and the factory, etc.


Suggested possibilities for grammar grade adjustment. Specialisation in the high school, etc. Says: "Put the special work followed by the pupil in his senior year under the supervision of the leaders in the industry represented." But the executive heads in the school system must remain in general control.


"If our schools create these vocational atmospheres even in the culture studies, great improvements must follow... Under no vocational ideal of school instruction could the absurd proposition maintain itself that every child, in every public school, must study every subject."
BIBLIOGRAPHY.

   "Summarizes the efforts which have been put forth by numerous corporations and other large employers of labor to supply deficiencies in public education."


   "Treats of the narrow bounds of early school education; development of commercial prosperity; schools backward in recognizing the scientific trend of the times. Discusses the deficiency in manual training; trade schools, etc.


   Discusses the apprenticeship system; vocational railroad schools; higher education for railroad careers, etc. Appendices contain statistics of railway apprenticeship; and the educational and welfare work on European railroads.

   Based on a study of 1,000 children who left school to work.

   Answers to questionnaire from 100 cities. p. 528-60.


   Describe work of the Albany (N. Y.) vocational schools. Illustrated.


Authors set out in summary form the development of vocational training and its many manifestations in modern and contemporary life and thought.


Discussion: p. 89-99.

"The differentiation ... at the beginning of the seventh school year should be thorough. It should provide (1) shop work, (2) suitable instruction in business subjects and (3) foreign language study."


Advocate vocational training.


A statement of some of the fundamental principles which must control the development of vocational education.


Reprinted from the Aamnals of the American academy of political and social science for January, 1909.

"While trade ... teaching as such can not be advocated for the immature pupils of the elementary schools, preparatory vocational training must come to be seen as a necessary preliminary to the development of what may be termed the clientele of the trade school."

607. — Vocational work for the elementary schools. Educational review, 34: 335-46, November 1907.

Considers the necessity of offering some form of vocational training in the elementary school, and recommends that for certain schools a modified form of the course of study be arranged to permit vocational training in the seventh and eighth years.


The need of industrial schools to supplement the public schools, offering a course of four years with evening instruction for men and women already engaged in the trades.


"Business men can do an immense amount to stimulate and help this development, greatly to the benefit not only of the young fellows who are going into business, but, above all, to the community."


Discussion: p. 139-44.

611. Kerchensteiner, Georg. Three lectures on vocational training. Delivered in America under the auspices of the National society for the promotion of industrial education. Chicago, Published by the Commercial club of Chicago, 1911. 52 p. 8°.

The fundamental principles of continuation schools, p. 1-10.

The organisation of the continuation school in Munich, p. 17-48.

The technical day trade schools in Germany, p. 39-63.
Argues that a system of vocational instruction should include training of both sexes, and makes provision for students between 14 and 16 years of age.

"The movement began in Massachusetts with separate schools under separate boards, both state and local. That has been changed to permit either a separate school or a school as an integral part of the regular school system. Wisconsin has adopted the separate school idea, and with a plan is proposed in Illinois; the states of New York, New Jersey, Ohio, and Maine make the work a part of the school system. Indiana follows the latter group."

Shows the value of "pre-apprentice" or "pre-vocational" work in the schools.

"A comprehensive and readable presentation of the remarkable provision made for vocational opportunities for all the children by a large city school system."

"A discriminating discussion of the way in which our progressive community is attempting to secure the maximum of service from its high school."


Argues that vocational training is not opposed to college. Review: the situation in this country.


"As far as industrial education seeks to be a more efficient means of social betterment, so far will it be welco me; . . . so far as it involves a tendency to stratify American society, it must be held to be contrary to the spirit of our institutions."

Methods pursued in the Boston high school of commerce.

"Declared that specialization in education is one of the necessities in this workaday world, but we should not forget that mere specialization is not the whole of the educational field."

An analysis of the demands made by the various vocations, considering first merely the technical requirements, but especially the deeper inner demands of our occupations and professions. In addition to a presentation of general principles, the following vocations are individually analyzed: Engineer, farmer, business man, teacher, domestic worker, secretary, librarian, journalist, physician, lawyer, and politician, architect.
Advocates vocational training and guidance.

Reprinted. Schools organised under the law of 1906, p. 555.

Discusses provisions of the bill. Emphasizes the importance of vocational education. Says: "It is a question which will, injudgment, settle in great measure the quality of our citizenship in the generation upon which we are now entering. It is a question which will profoundly affect the cost of our food supply as well as the amount which our workers may earn with which to meet that higher cost of living which is upon us. It is a question which involves appropriations from the National treasury aggregating nearly $15,000,000 annually. . . . "I believe I voice the sentiment of hundreds upon hundreds of the more thoughtful educators and publicists of our land to-day, who give it as their opinion that the curriculum of the elementary or graded school is largely impracticable and does not fit for the great struggles of life that are before them the 92 per cent of our boys and girls who never pass beyond the eighth grade."
The appendix contains indorsements of the Page bill from prominent educators, editors, and public men.

Contains valuable suggestions for the teacher in upper grades and high schools.

The movement for vocational training has spread rapidly in Massachusetts since the first law giving state aid and encouragement to practical training was passed in 1906. Says the report: "In the year 1907-8, 5 schools gave, through day or evening classes, training in 4 occupations to about 1,400 persons. During the last school year there were 21 schools instructing almost 6,000 persons through day, part-time, and evening classes, fitting for more than 40 occupations within more than 15 distinct industries. It is probable that for the present school year, 1911-12, there will be a total registration of more than 7,000 pupils in not less than 40 state-aided vocational schools."
Give interesting statistical diagrams showing the growth of state-aided vocational schools; investment and expenditures of schools; and industries for which training is given, as follows: painting, stonewarking, textiles, agriculture, jewelry, bookbinding, printing, electrical working, high power machine work, millinery, dressmaking, household arts, motive power, metal working, and woodworking.

Concerns: I. What is a state-aided vocational school? II. The establishment of state-aided vocational schools. III. The administration of vocational schools. IV. Courses of study and methods of instruction.
Appendices 1 and 2 contain data concerning legislation; Appendix 4, "Information regarding the approval of the qualifications of teachers in the state-aided vocational schools of Massachusetts," p. 183-88.

An account of the first vocational public school started in the South, at Memphis, Tenn.
BIBLIOGRAPHY.


The author of the first paper describes the manner in which the survey, used for many purposes at the present time, may be adapted to educational purposes, especially to the adjustment of the school curriculum to meet the needs of the community. The second paper emphasizes the need for the development in the schools of a knowledge of industrial conditions and the importance of industries in the national life.


Argument against too early differentiation for vocational training.


Discusses especially the report of Mr. Edwin O. Conley, advocating a separate system of vocational schools. The author does not approve of adding a special tax to the heavy burden the people are now bearing in order that vocational schools may be built. He claims that: "If industrial schools are to be erected and equipped, the financial burden of doing should evidently be borne by the interests that would profit most by such a system of schools."


Presents three methods of combining vocational with liberal education, and analyzes same.

637. --- Debatable issues in vocational education. Vocational education, 2: 1-12, September 1912.

"... a few of the problems of vocational education with reference to which there is need of fuller analysis, discussion, and experimentation."


States that "in practical arts teaching the place for drill, systematic approach, and approximation of journeyman's standards, is in the vocational school."


A concise but comprehensive survey of present conditions and prospects. Discusses definitions of liberal education; the need of vocational education; state support, types, and pedagogical divisions of vocational education. Treats of the relation of vocational education to manual training, problem of women in industry, and a variety of related topics. Dr. Snedden is a recognized authority in this important educational field.


Discusses among other topics vocational education, p. 267-47. Shows what the various manufacturing companies have done to further the education of employees.


John Lamb, chairman.

Treats of technical education, home economics, and agricultural education.
INDUSTRIAL, VOCATIONAL, AND TRADE EDUCATION.

643. Senate. Committee on agriculture and forestry. Vocational education. Hearings before the Committee on agriculture and forestry. April 12 and 13, 1910, on the bill (S. 4675) to co-operate with the states in encouraging instruction in agriculture, the trades, and industries. Washington, Government printing office, 1910. 82 p. 8°.


COMMERCE.


652. Brett, George P. The need of commercial education. Independent, 72: 728-30, April 4, 1912. The author says that "for the children of our cities, about 90 per cent of whom leave school at about the age of 15 and enter business, commercial education is vitally necessary."


BIBLIOGRAPHY.


Select bibliography: p. 350-70.

"The kind of education urged in this book, it is believed, will teach men the meaning of business and raise commerce above narrow commercialism. Commerce we must have. Two main sources of this book are the announcements and reports of schools and expressions from business men and students of education."

Curricula set forth in appendix.

656. — and others. The proper place in American education for instruction in commercial and industrial subjects. In Association of colleges and preparatory schools of the Middle States and Maryland. Proceedings, 1905. p. 11-36.


Discusses materials for a scheme of commercial education for Great Britain, also suggested curricula for all grades of educational institutions. Contains chapter on commercial education on the Continent, and the position of the United States in 1901.


Shows the evolution of commercial education in this country, beginning with business colleges, etc., to the introduction of commercial subjects into the public high schools: gives courses of study and statistics of schools.


Discusses every phase of the subject. Among other things, the character of instruction in history, economics, mathematics, statistics, accounting and law needed by students in commerce.


Contains valuable papers on training in salesmanship; high school commercial courses; business organization, etc.


The work of the Boston business men's advisory committee, organized 1906, in connection with the Boston high school of commerce; and its traveling scholarships for students.


Gives historical review; status of existing status of commercial schools, with curricula, etc., illustrated.

INDUSTRIAL, VOCATIONAL, AND TRADE EDUCATION.

HOUSEHOLD ECONOMY.


School is located at Mattawan, N. Y. Founded and developed by Mrs. Wingate Sargent in 1878. Central purpose of school is "to provide essential instruction in the arts and industries belonging to home-making," Gives program of classes, etc.

667. Congrès international d'enseignement ménager. Fribourg, 1908.

"References for study" at the end of most of the chapters.
"A selected bibliography of books helpful in the study of the various phases of domestic art": p. 269-74.

Deals with domestic education in all countries; types of schools, etc. An elaborate presentation of the subject.

A manual intended for girls in the elementary schools of the Philippine Islands.

Contains bibliographies.
Part I discusses the scheme of public education in the United States, with history and development of domestic science teaching. Takes up in detail the methods of teaching, equipment, curricula, etc., in state school, elementary and secondary, and in private institutions. Describes social agencies for the promotion of domestic science instruction. Part II is an elaborate presentation of house-wifery instruction in state-supported schools in Belgium. Part III treats of the domestic training of girls in Germany and Austria.

Describes work at the Stout training for teachers of domestic science and art, Menomonie, Wis. Outlines course of study.

Describes domestic science equipment in a German school. Well illustrated by photographs.

Congress.--(A) From the standpoint of domestic science [by] Mrs. Ellen H. Hillebrand. --(B) From the standpoint of economic interests [by] A. Salabury.

Explanations, descriptions, and suggestive lists given for complete equipment for instruction in domestic science.


Advocates household courses in colleges and universities, and shows the incoherent demand for such instruction.


Contains papers by noted writers on the subject of domestic science. Introduction, by Catherine Schriff, is a brief historical sketch of woman's position in the family.

### XXIV. VOCATIONAL EDUCATION IN FOREIGN COUNTRIES.


Reviews the vocational and trade schools of France. Gives curricula, sources of income, administrative methods, types of teachers, etc.


5. **Consumers' league of Connecticut.** A glance at some European and American vocational schools for children from twelve to sixteen years of age. *Hartford,* the Consumers' league, 1911. 64 p. front., pl. 8°.


"This report undertakes to describe some of the typical vocational schools observed by the author during his year in Europe. The major part of the report is devoted to the educational institutions of Germany. Some special institutions in Austria and Switzerland are described on account of their relations to the general problem of vocational education."


Urges that teachers consider carefully the vocational school idea as a special field of opportunity in the elementary schools.


Contains a brief account of the Swiss societies for promoting commercial education.


A description of the continuation schools of Germany—commercial, agricultural, etc.


Gives an historical review, illustrated by detailed accounts, statistical and textual, of the various classes of schools which constitute the system considered.


Describes vocational systems of Germany and Prussia, shows how these countries have encouraged the educational foundations for trade and industry.
XXV. VOCATIONAL GUIDANCE.


692. Vocational guidance of youth. Boston, New York etc.) Houghton, Mifflin company [1911] 124 p. 12°. (Riverside educational monographs, ed. by H. Suzzallo). "While making no pretense towards a comprehensive analysis or final definition of ways and means, it will perform an invaluable office in drawing attention to the great need of work in this field, in clearing up misconceptions, in guarding against dangerous pitfalls, and in pointing the way towards practical possibilities."—Survey, 26: 464, June 24, 1911.


697. Diggs, Annie L. Bedrock. Education and employment, the foundation of the Republic. Detroit, Mich., Social center publishing co. [1912] x, 70 p. 8°. Based on the proposition that a bureau of employment should be established in connection with each and every educational institution throughout the country.


BIBLIOGRAPHY.


Urges the value of preparation. This preparation should both precede and follow the choice of vocation.


A study of the employment found by 4,386 children who left the schools of St. Louis and took employment certificates.


"Boys find themselves in their vocations as the result of custom, heredity, proptensity, or accident far oftener than through deliberate and conscious choice." Advocates vocational guidance.


Under auspices of the Boston chamber of commerce and the Vocational bureau of Boston. Forty-five cities sent delegates. Manufacturers, workmen, business men, social workers, and educators participated in the discussions.

The activities of vocational guidance, as outlined at this conference, are as follows: First, giving information about vocations in general and about opportunities for work in the immediate vicinity, and also concerning opportunities for receiving vocational instruction. The second group relates to children, when it is necessary to make the transition from school to work, and advising as to the importance of wise choice between temporary employment, however remunerative, and positions which offer opportunity for advancement. The third group relates to the guidance and sympathetic counseling of the young worker subsequent to his entry into his new duties. A fourth group looks to the establishment of vocational bureaus for the collection of information about opportunities for boys and girls in the trades and stores, as well as the provision for vocational training, and the classification of this information in forms available for ready reference.

The opinion was expressed that ultimately this function should be taken over by the public schools.


Topics discussed: Placement; Follow-up; Study of occupations; Scholarships; Vocational analysis; Opportunities for vocational training; Methods of vocational guidance; and Relation of vocational guidance to the employer.

Reviewed at length by W. T. Sawden, in Vocational education, 3: 309-17, January 1913. On the subject of "Finding jobs for boys and girls," the sentiment of the majority of those participating in the discussion was "in favor of making every effort to retain children under 16 in school, in order to train them for more skilled occupations."

The following definite questions regarding vocational training in the schools were raised by the conference:

"Shall industry's training aim at fitting children for particular trades, or shall it educate them in elementary processes and underlying principles?"

"Shall industrty be prevented from compelling the schools to give just enough training to meet industry's immediate needs, and no more?"

"Is it advisable to raise the compulsory school age two years, or with the curriculum in its present state is this simply presenting a larger dose of something already seen to be inadequate and unsatisfactory?"
On the other hand, will raising the age limit, by throwing back upon the schools thousands of boys and girls who now go to work as soon as they can, force the schools to a quicker adjustment of education to life?

It was declared to be fundamentally wrong "that any untrained child, without knowledge of industrial processes or skill in the use of tools, whose aims are vague and attitudes unknown, should be allowed to work. It is an aggravation of this wrong to allow such a child to take a job which will not supplement previous education, or open the way to skill and independence. Yet children are going into just such work to-day. Therefore, we are but tolerating an intolerable situation which we accept school and industry on this basis and try to put each individual into the best job available for him. Our task is twofold. We must reconstruct our system of education so that it will fit youth for the work which it will have to do; we must also study the processes and needs of industry so thoroughly that every child shall have the maximum of information on which to base his choice of work. Then, perhaps, we must go even farther and reorganize industry in such a way that it will hold positive cultural values for those who devote to it their full energies of mind and body."

An excellent résumé of the conference is contained in Survey, 29: 225-28, November 23, 1912. One of the subjects under discussion was "Why children leave school." Attempts have been made to ascertain why so many children leave school as soon as the law permits. The Survey commenting upon this says:

"A recent inquiry of the Federal Government conducted in six cities proceeded upon the basis that any family which had a per capita income of less than $1.50 a week would need outside assistance to keep its children in school. It was found that in 25 per cent of the 524 families studied the income was below this amount, and it was therefore concluded that 25 per cent of the children in this group left school because of 'economic pressure' within the home. Findings of the Vocational guidance survey of New York (now called the Vocational education survey and a part of the Public education association) which corroborated this study were made public for the first time at the conference."


An interesting presentation of the subject of vocational guidance. Shows the importance of the elementary school period. Discusses the problems that confront the teacher. It training "the practical arts is to assist boys "to find themselves in order that at 14 they may make an intelligent choice of their work for the future, it must be varied."


Subjects of talks given the pupils not going on into high school from 8th grade, in Providence. p. 44-45.


Contains history of the movement. Work in New York City and Boston. Statistics of principal opportunities for industrial education in Boston, etc., compiled by the educational department of the Women's municipal league, April 1910. Gives forms, blanks, and records used.


Student aid and vocational advice.

VOCATION BUREAUS.


Describes Edinburgh, Scotland, system.


718. Manhattan trade school for girls (New York City) Placement bureau. Teachers college record, 10: 201-65, September 1906.

Organized, October 1905.

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XXVI. TRADES TRAINING.

726. Apprenticeship and skilled employment association. Trades for London boys and how to enter them. London, New York, Longmans, Green and co., 1908. 170 p. 8°. A very detailed consideration of the advantages of different trades and of the schools which offer courses preparing pupils for these trades.
734. Draper, Andrew Sloan. The adaptation of the schools to industry and efficiency; address, before the National education association, Cleveland, Ohio, June 28, 1908. Albany, N. Y. [1908]. 19 p. 8°. Proposes a plan for factory and trades schools, and shows the relationship of these schools to the public school system.
From manual training to technical and trades schools. Educational review, 35: 401-11, April 1908.

The writer contends that "the rational equilibrium between the exclusively intellectual and the decidedly industrial interests of the country must be restored and can hardly be restored without" the trades and technical schools.


Author says that manufacturers should organize and appoint experts to study the methods that have made Germany, Japan, and other countries so successful. Industrial and industrial-art education must take the place of the system of apprenticeship which has gone or is fast going. The governments—state and national—show more or less interest. It remains only, for the manufacturers to co-operate.


Commends the American type of trade school. Shows the money value of the training in a good trade school.


"The influence of the trade school should be used in bridging the vital gap between fourteen and sixteen years of age."
BIBLIOGRAPHY.

   Discussion: p. 142-47.

2. The school print shop and its possibilities. Elementary school teacher, 8: 265-70, January 1908.

   Professor Richards divides these schools into two classes—the short-course trade school and the long-course trade school. The problem presented is the economic one of support. Describes six of the most prominent short-course trade schools of the country: their means of support, admission requirements, and results obtained by their students.

4. The relation of the trade school to the trade; an address . . . delivered at the graduating exercises of the North-end union plumbing school, Boston, May 15, 1908. Boston, Printed at the School of printing, North-end union, 1908. 14 p. 12°.


   A study of the changes in organization and processes of modern industry. Position of the helper system in highly specialized machine industries. Treats of the decadence of the apprenticeship system.


9. A co-operative industrial course introduced into the high school. A distinctly new and untried feature of high school work. The basis of the plan is the alternating of shop work and school work. The course is of four years' duration. The first year is spent wholly in school, and during the other three years the boys alternate weekly between school and shop.


XXVII. CO-OPERATIVE, APPRENTICE, AND HALF-TIME COURSES.

CO-OPERATIVE COURSE.


   A co-operative industrial course introduced into the high school. A distinctly new and untried feature of high school work. The basis of the plan is the alternating of shop work and school work. The course is of four years' duration. The first year is spent wholly in school, and during the other three years the boys alternate weekly between school and shop.


“The money consideration received for this practical work will be ordinarily sufficient to meet the tuition expenses for the student’s entire course at the University.”


Details plan of co-operation existing between the University of Cincinnati and the manufacturers of the city. Students obtain shop practice in different local industrial plants.


Describes the St. Louis plan of co-operation with factories.

APPRENTICESHIP.


Shows how the modern specialization of industry has brought about a disintegration of the trades.

“Along with this disintegration and the loss of the old system of apprenticeship training, other great industrial changes have taken place calling for skill of other kinds—skilled foremen, superintendents, and workers in the skilled sections of the factories that have supplanted the old tradesman, and also for skill in the new arts and trades created by recent science and invention. Advocates industrial education in schools rather than in factories. Article illustrated with graphic statistics.


Describes the origin, the progress and effect of the Lynn system.

In order to get the best results this company organized “a special department—training rooms devoted entirely to the preliminary practical training of the apprentices. It appointed a superintendent of apprentices... and placed him in direct charge of the training rooms. Furthermore, it made an arrangement whereby such instructive commercial work could be transferred from the factory to the training rooms from time to time as the needs of the apprentices might require.” Finally, classrooms were established in the factory in which the boys might obtain mental training in the related sciences, etc.

The author declares the apprenticeship system of the General electric company to be perhaps the best exemplification of the efficacy of this principle. Similar systems have since been organized by other manufacturing establishments, and the same scheme has been adopted by trade schools founded in recent years.


The educational work of the General electric company, Lynn, Mass.


The education given by the apprenticeship system of the General electric company, West Lynn, Mass., and the uses in the public schools.


List of authorities: p. 241-44.

Deplores the conditions in England.

“The object of this volume is altogether practical—to show what reforms are necessary to prevent the growth of the evil by laying the foundation of a new and true apprenticeship system.”


Describes the day, evening, and part-time vocational schools of London.


Bibliography: p. 253-68.
BIBLIOGRAPHY.

   Describes the educational system of the Westinghouse electrical and manufacturing company for its employees. During the four years' apprenticeship the training costs the boy nothing, and he receives in wages nearly $1,600.00.

   The history of apprenticeship is traced from medieval until modern times. Contains chapters on technical training in 1550, vocational system of industrial training and the difficulties of its administration; the dissolution of the apprenticeship system; cost of technical education; the development of the twentieth-century problems of child labor, etc.

   R. A. Bray, chairman.
   Discusses situation in England, Germany, France and the United States. Advocates the part-time system and evening continuation schools as a substitute for apprenticeships.

   Replies to questionnaire sent to employers and officers of trade unions in Massachusetts regarding status of apprenticeship, its regulation, condition, restriction of numbers, and value for training workmen.

   Describes apprenticeship during the Middle Ages and the period of the Renaissance.

   Indicates that the attitude of trade unions is hostile to attempts to recruit industrial workers through trade schools, but that they prefer and encourage shop training.

   The scheme devised by the Boston business men's advisory committee.


   (U. S. Bureau of education. Bulletin no. 6, 1908)
   List of references: p. 87-89.
   Describes certain ways in which the desired combination of schooling and apprenticeship may be effected, as exhibited by experience in a few of our leading industries.

HALF-TIME COURSE.

783. [Freeport (Ill.)] half-time factory co-operative work for high schools. American educational review, 50: 500-21, August 1909.

   One of the first papers to indicate a feasible plan whereby boys could attend school part of the day and work in a factory the remainder of the working day.

   "We can not give to young girls and boys eight hours of stupifying work and then save them for an intelligent citizenship by adding evening school work to that. It can not conceivably be sufficiently vocational."
INDUSTRIAL, VOCATIONAL, AND TRADE EDUCATION.

Recommends a broad plan of cooperation between the public schools and the industries.

Describes the cooperative education plan of the University of Cincinnati, which is working with the industrial plants, the libraries, the schools, and other agencies.

XXVIII. CONTINUATION SCHOOLS.

Discusses the various types of continuation schools—correspondence, Y. M. C. A.; private, etc.
See also Boston public schools. Circular of information relating to evening and continuation schools. Boston, 1912. p. 67-68.

"The superintendent reports that in his opinion the work of the continuation schools will not be successful unless the merchants, the manufacturers, and the workingmen of the city lend their assistance. Schools of this kind must be thoroughly practical."


Shows the need of a new type of school in our educational system—the vocational continuation school.

References: p. 491.

Cites the general need for similar schools in Switzerland, Germany, and France.

Advocates the need of such schools by statistics showing the rapid decline of school attendance after the age of industrial work is reached. It indicates briefly how much more extensive and efficient German and English schools of this type are than our own. The work of many typical American schools is described, and finally the place and purpose of the continuation school in our system of education are defined.

Also in School review, 19: 623-77, March 1911.

A comprehensive review of the work accomplished in Cincinnati, Ohio. Author says these schools furnish the best illustrations of this type of educational effort to be found in the country. The schools can be grouped, for purpose of study, as "evening schools," "voluntary continuation schools," and "compulsory continuation schools."
BIBLIOGRAPHY.


The subjects of instruction include arithmetic, exchange, bookkeeping and accounts current, commercial correspondence and reading, commercial geography and the study of goods, life and citizenship, stenography, and penmanship. Under the head of goods, "the individual raw products and the manufactured articles are considered as regards their source, manufacture and quality."


Reviews work accomplished in other cities—Chicago, Cincinnati, and Cleveland, etc., and emphasizes the need of industrial education. The writer says: "In Wisconsin, as elsewhere in this country, the greatest present need is for the continuation school..." Vocationalized public schools and well-organized continuation schools will do much toward dignifying all occupations, and thus will create contented and happy classes where discontent now frequently exists.

XXIX. CONTINUATION SCHOOLS IN FOREIGN COUNTRIES.

GREAT BRITAIN.


803. Sadler, Michael Ernest, ed. Continuation schools in England and elsewhere; their place in the educational system of an industrial and commercial state. Manchester, University press, 1907. xxvi, 779 p. tab. (fold.) (Publications of the University of Manchester. Educational series, no. 1)

An important volume, in which are collected careful and competent accounts of the history and present status in Great Britain, of the various agencies for "further education," with brief chapters on such schools in the chief European countries and the United States. The contributions of 18 distinguished authors have been carefully edited by Professor Sadler (obtained a considerable contribution to the result is a veritable encyclopedia of information hitherto widely scattered or quite inaccessible.

GERMANY.


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INDIA.


XXX. COLLEGE ENTRANCE REQUIREMENTS AND VOCATIONAL TRAINING.


XXXI. MANUAL TRAINING.


"References to publications containing statistical data on instruction in the manual and fine arts": p. 152.


Bibliography: p. 97-100.

"Makes considerable originality, but gives in a small compass the utterances of eminent educators on the subject and other practical information not easily accessible. Thus we have an estimate of the cost of materials and fittings for a workshop, examination questions for the teacher's diploma, and a bibliography."—Journal of education (London) April 1910, p. 256.


"The teacher and his reading": p. 63-71.

Suggestions for teaching woodwork, with emphasis on the need that manual training teachers be as well equipped as teachers of other subjects.

Suggests to those of limited experience some practical expedients, which, used in a shop where space and light and the instructor's time are all limited, have proved to be helpful.


Describes equipment, etc.


Reprinted from the 72nd report of the Massachusetts board of education.


This article deals with "the high-school boy in the training he may get in the high school manual arts department to give him either the cultural values which have been accredited to manual training or the vocational values which it is believed the public high school manual arts should have."


Essay awarded the first prize in the "Craftsman" competition on this subject.


Argues that vocational training is the natural basis upon which to build up a large and important section of vocational work.


The writer contends that "the rational equilibrium between the exclusively intellectual and the directly industrial interests of the country must be restored and can hardly be restored without" the trade and technical schools.

843. Fitwill, Sir Joshua G. Hand work and head work. In his *Educational aims*. p. 146-76.

Psychological basis of educational influence and the relation to the value of manual training. Gives accounts of some celebrated technical schools.


A suggestion that manual training and physical culture be united along the lines of the expression of thought and feeling.
845. Great Britain. Board of education. Manual instruction in public elemen-
tary schools. London, Printed for H. M. Stationery off., by Eyre & Spottis-

H. M. Stationery off., by Wyman and sons, limited, 1908. 2 p. F°. (Its Cir-
cular 547)
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