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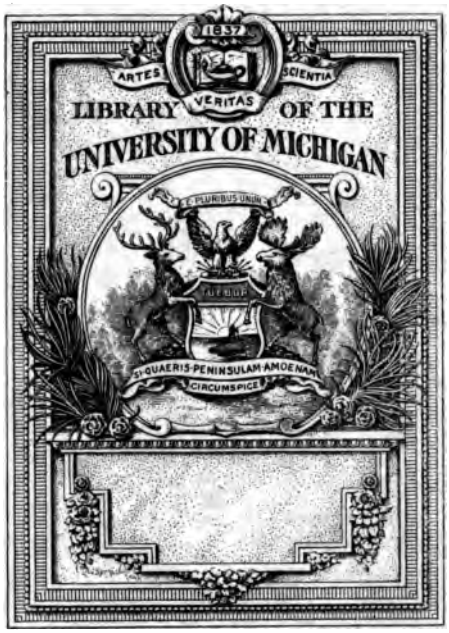
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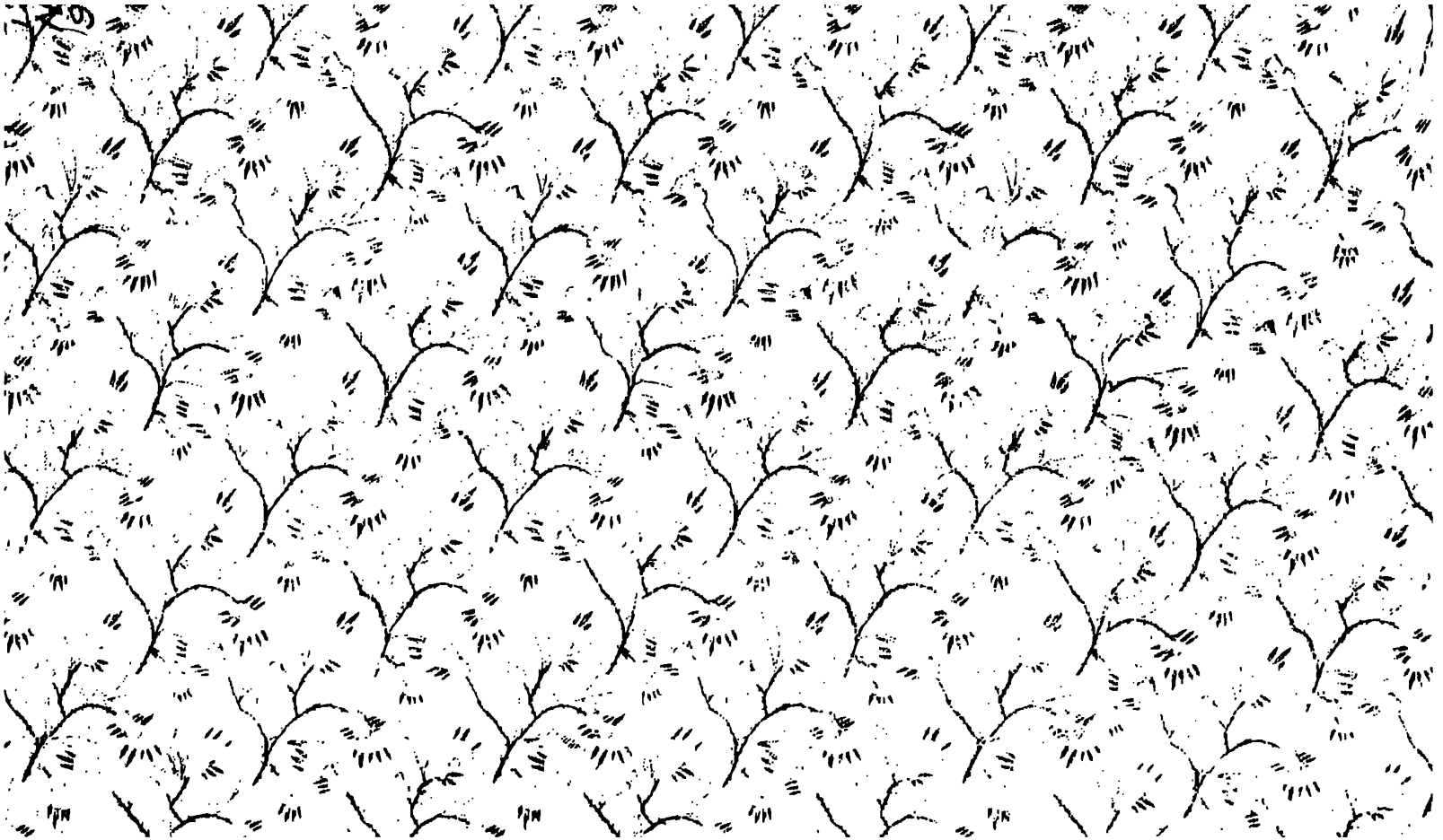
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BUREAU OF EDUCATION
N. H. R. DAWSON, *Commissioner*
CIRCULAR OF INFORMATION NO. 2, 1889

PROCEEDINGS

OF THE

DEPARTMENT OF SUPERINTENDENCE

OF THE

NATIONAL EDUCATIONAL ASSOCIATION

AT ITS

MEETING IN WASHINGTON

MARCH 6–8, 1889

WASHINGTON
GOVERNMENT PRINTING OFFICE
1889



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LETTER.

DEPARTMENT OF THE INTERIOR,
BUREAU OF EDUCATION,
Washington, D. C., March 30, 1889.

The Honorable the SECRETARY OF THE INTERIOR,
Washington, D. C.:

SIR: I have the honor to transmit the proceedings of the Department of Superintendence of the National Educational Association at its meeting held in Washington on March 6–8, 1889.

This Department is one of the most important educational associations in the country. It is composed of men who have had experience in the conduct of popular education, and their discussions relate to the practical problems which everywhere attend this work. The value of their discussions is evidenced by the constant reference to them on the part not only of American school officers, but of those charged with like responsibilities in foreign countries.

The interest attaching to their deliberations is increased in the case of their recent session, on account of the prominence there given to the subject of manual training. At the present time this subject engages thoughtful consideration in all countries in which the education of the hand receives due attention. Its importance is indicated by the fact that it is one of three topics selected, on account of their universal interest, for discussion in the international conference at Paris in August, in connection with the Centennial Exposition.

On this, as upon other matters relating to systems of education, an earnest desire is manifested to know the opinions of American superintendents. On account, then, both of the intrinsic value of the proceedings of the Department and the timely character of their recent discussions, the publication of their proceedings will be found useful to the cause of education.

The annual meetings of this body have also become of national interest by reason of the large number of men prominent in educational work and supervision, who are brought together from all parts of the country, and the high grade of the addresses delivered and of the discussions drawn forth on a great variety of important questions. From such considerations this Bureau, for a number of years, has published

the proceedings and addresses of the Department of Superintendence as a circular of information. Few of the publications of the Government are anticipated with greater interest or by a wider constituency of specialists than this annual monograph. As heretofore stated, the recent meeting was one of unusual interest, and the papers and speeches were of a very high order of merit.

I therefore respectfully submit them, with the recommendation that they be published for distribution by this Office.

I have the honor to be, very respectfully,

N. H. R. DAWSON,
Commissioner.

NATIONAL EDUCATIONAL ASSOCIATION.

MEETING

OF THE

DEPARTMENT OF SUPERINTENDENCE,

AT

WASHINGTON, D. C.,

MARCH 7, 8 and 9, 1889,

IN THE

HALL OF THE NATIONAL MUSEUM.

OFFICERS.

PRESIDENT.

Superintendent FRED. M. CAMPBELL ..... Oakland, Cal.

VICE-PRESIDENTS.

Superintendent C. C. DAVIDSON ..... Alliance, Ohio.
Superintendent GEORGE J. LUCKEY ..... Pittsburg, Pa.

SECRETARY.

Hon. W. R. THIGPEN ..... Savannah, Ga.

ABSTRACT OF PROCEEDINGS.

WEDNESDAY, MARCH 6TH.

FORENOON SESSION.

The Department of Superintendence of the National Educational Association met in the hall of the National Museum, Washington, D. C., Wednesday, March 6, 1889, at 10 o'clock A. M.

The Department was called to order by the president, Fred. M. Campbell, superintendent of schools, Oakland, Cal. President Campbell delivered his Inaugural Address. (Page 23.)

Hon. J. W. Holcombe, chief clerk of the Bureau of Education, was next introduced, and delivered an address of welcome. (Page 24.)

The following committee on resolutions was announced: M. A. Newell, Maryland; George A. Littlefield, Rhode Island; George Howland, Illinois; William E. Anderson, Wisconsin; and John Hancock, Ohio. All resolutions were to be referred to this committee.

Superintendent A. P. Marble, of Worcester, Mass., president of the National Educational Association, offered the following resolution; which was adopted:

Resolved, That a special committee of five be appointed by the Chair, to inquire into the needs of the Bureau of Education, in order to increase its efficiency, and report at a future session of this body a series of resolutions looking to the attainment of this object, to be presented to Congress and urged for adoption; and that Hon. E. E. White, of Ohio, be chairman of this committee.

TRAINING OF TEACHERS.

Nicholas Murray Butler, president of the College for Training Teachers, New York City, read a paper on the subject: Psychology in its relation to Pedagogy. (Page 26.)

This paper was discussed by D. L. Kiehle, superintendent of public instruction, Minnesota. (Page 42.)

The next regular paper was presented by W. S. Jackman, principal of the high school, Pittsburg, Pa. Topic: City Training and Practice Schools. (Page 45.)

The president announced the following committee, in accordance with the resolution offered by Mr. Marble: E. E. White, of Ohio, chairman; A. P. Marble, of Massachusetts; A. S. Draper, of New York; M. A. Newell, of Maryland; and Henry Sabin, of Iowa.

The Department adjourned to meet at 1.30 P. M.

AFTERNOON SESSION.

The Department reassembled at 1.30 P. M.

The discussion on the topic, City Training and Practice Schools, was opened by W. B. Powell, superintendent of schools, Washington, D. C. (Page 52.)

S. S. Parr, principal of the State Normal School, Greencastle, Ind., followed. (Page 60.)

The next paper was read by A. G. Lane, superintendent of schools, Cook County, Ill. Topic: County Institutes. (Page 69.)

This subject was first discussed by Dr. John Hancock, commissioner of common schools, Ohio. He was followed by Henry Sabin, superintendent of public instruction, Iowa, and by E. E. Higbee, superintendent of public instruction, Pennsylvania. (Pages 76–84.)

A paper on the subject, State Teachers' Institutes, was read by John W. Dickinson, secretary of the State board of education, Massachusetts. (Page 84.)

EVENING SESSION.

MANUAL TRAINING.

The Departmemt met at 8 P. M.

The subject for the evening was, Relation of Manual Training to Body and Mind.

The discussion of this paper was opened by C. M. Woodward, director of the Manual Training School, Washington University, St. Louis, Mo. (Page 91.)

The following joined in the discussion: E. E. White, superintendent of schools, Cincinnati, Ohio; W. H. Maxwell, Brooklyn, N. Y.; H. M. Leipziger, New York City; W. E. Sheldon, Boston; W. E. Anderson, Milwaukee, and N. C. Dougherty, Peoria, Illinois. (Pages 102–110.)

THURSDAY, MARCH 7TH.

FORENOON SESSION.

The Department was called to order at 9.30 A. M. by President Fred. M. Campbell.

The following resolution was offered by W. E. Sheldon:

Resolved, That a committee be appointed to wait upon Senator Blair, chairman of the Committee on Education and Labor of the United States Senate, and invite him to visit the meeting and address this Department.

This motion passed, and the chair appointed W. E. Sheldon a committee of one.

W. T. Harris, LL. D., Concord, Mass., presented the first paper. Topic: The Psychology of Manual Training. (Page 117.)

Mr. W. E. Sheldon reported that he had called upon Senator Blair, and had secured the promise of the Senator to be present on Friday evening.

To What Extent and How can Manual Training be Introduced into Ungraded Schools? was the subject of a paper read by Jerome Allen, professor of pedagogy, University of New York. (Page 133.)

The discussion of this subject was opened by George P. Brown, editor of the School Journal, Bloomington, Ill. (Page 153.)

Further discussion was postponed till the afternoon session.

W. E. Sheldon moved that the Commissioner of Education, Hon. N. H. R. Dawson, be a committee of one to wait upon the Secretary of the Interior, Hon. Mr. Noble, and invite him to meet the Department and make an address. Adopted.

AFTERNOON SESSION.

The Department reassembled at 1.30 P. M.

Superintendant M. A. Newell, of Maryland, introduced the following resolution, which was, on motion, adopted:

Resolved, That the Department of Superintendence thank Mr. Cabell most cordially for his courteous invitation, and regret that a regular business meeting of the Department on the same evening will prevent many members from paying their respects to him.

The president announced that President Harrison would receive the members of the Department at the White House on March 8, at 1 o'clock P. M. It was further announced that Senator Leland Stanford would address the Department on March 8, at 11 o'clock A. M.

The next paper was presented by Edwin P. Seaver, superintendent of public schools, Boston, Mass.; subject: Mechanic Arts High Schools. Page 160.)

W. E. Anderson, of Milwaukee, Wis., chairman of the committee on Manual Training, made the following statement:

"*Mr. President, Gentlemen, and Ladies*: I regret to say that I have to take the platform to announce to you that this committee, appointed a year ago I believe, to solve the as yet unsolved problem upon this question, have been unable to agree upon a report: though some effort was made during the year, by correspondence and otherwise, to arrange for a report upon this question, the limited time afforded for conference during our meeting here has not enabled the committee to come to a conclusion which they feel ready to present to this body. I regret very much to make this apology for the committee, and ask that you allow this committee further time."

The resolution appointing the committee was here read by the secretary of the association.

On motion of Mr. Ellis, the request was granted.

The president read the following; which, on motion, was referred to the Committee on Resolutions:

Resolved, That the attitude of President Harrison upon the subject of education, as shown by the noble utterances of his recent inaugural, affords us the greatest satisfaction and encouragement.

J. W. Holcombe announced that the Secretary of the Interior had accepted the invitation to visit the Department, and would be present at 4 o'clock P. M., March 8th.

Second Vice-President Luckey was called to the chair.

The Committee on the Bureau of Education, through its chairman, E. E. White, of Ohio, made the following report:

To the Department of Superintendence of the National Educational Association:

The special committee to whom was referred the need of legislation to increase the efficiency and usefulness of the Bureau of Education, beg leave to submit the following report:

The act of Congress creating the Bureau, passed March 2, 1867, established it as an independent Department of Education, and entrusted its management to a Commissioner of Education, with a salary of $4,000 per annum.

In 1869 a strong opposition to the new Department of Education manifested itself in Congress, and the act creating it was so amended as to reduce the Department to the subordinate position of an "Office of Education" in the Department of the Interior, and to make the management of the office by the Commissioner "subject to the direction of the Secretary of the Interior," and the annual salary of the Commissioner was reduced to $3,000.

Under these unwise limitations the Bureau of Education has been conducted for nearly twenty years, and the fact that it has been able to render such valuable service to the cause of education is due largely to the fidelity and self-sacrificing spirit of the men who have filled the position of Commissioner. Few realize the embarrassments which have beset the duties of the Office, and fewer know how greatly its possible efficiency has been lessened by the lack of official appreciation and adequate pecuniary support.

But in spite of all limitations and embarrassments the Bureau of Education has fully justified the wisdom of its creation. Its great value as an educational agency of the General Government is no longer questioned by any one who knows its history and work. It has not only furnished needed assistance to those entrusted with the organization and conduct of schools and school systems, but it has from time to time responded to the call of Congress itself for valuable information on school affairs.

It is believed that the time has now come when the Bureau of Education should be restored to its original position as an independent Department, and its management be again entrusted to the Commissioner in charge. The salary of the Commissioner should be increased to not less than $5,000—the present salary of the Commissioner of Labor and the recent salary of the Commissioner of Agriculture. The position of the Commissioner of Education never can assume its proper dignity at the seat of Government so long as the Commissioner is obliged to live on the present salary, and it is certainly too much to ask the Commissioner to supplement this salary by his private means.

The Department of Education should receive an annual appropriation sufficient for the efficient discharge of the important duties entrusted to it, and all its reports, cir-

culars, and other information respecting educational progress should be promptly published and distributed. The practical value of the successive Annual Reports of the Bureau has been greatly lessened by their tardy issue and circulation.

It is recommended that a committee be appointed by this body to memorialize Congress to these ends, and, if possible, secure necessary legislation. It is also suggested that this committee make an effort to secure such supervision of the education schedules in the next decennial census by the Commissioner of Education as will result in more accurate and valuable statistics in this department.

Respectfully submitted.

E. E. WHITE, *Ohio*,
M. A. NEWELL, *Maryland*,
A. S. DRAPER, *New York*,
HENRY SABIN, *Iowa*,
A. P. MARBLE, *Massachusetts*,
Committee.

Mr. Campbell moved the adoption of this report, and moved further that the committee presenting it be continued as a permanent committee to bring the matter before Congress and its committees, to the end that the action desired might be had.

The report was unanimously adopted and the committee continued.

The discussion of the subject of the introduction of manual training into graded city schools was opened with a paper by John D. Ford, U. S. N., principal of the Manual Training School, Baltimore, Md. (Page 168.) The second paper in the discussion was read by H. W. Compton, superintendent of schools, Toledo, Ohio. (Page 173.)

W. E. Anderson asked that he be relieved from the Committee on manual training, and suggested that Nicholas Murray Butler, of New York, be substituted. On motion of E. H. Cook, this request was granted, and Dr. Butler was placed on the committee.

Mr. Anderson moved that this committee be requested to define "manual training" in their report one year hence. After a running debate Mr. Anderson withdrew his motion. (Page 179.)

He then offered the following resolution:

Resolved, That a committee of seven members of this body be appointed, to report at its next meeting, what changes are needed in the course of elementary schools, as to subjects taught, as to the elimination of unprofitable and surplus work, and as to the addition of what is practicable and desirable as regards manual training.

Mr. Anderson continued: "I present this resolution in the firm conviction that this is the contestable ground of the whole question, and that it is on this very territory that we are about to declare an armistice, and to appear in one year and fight these old skirmishes over again. It is in the elementary schools, if anywhere, that this fight of the work of manual training lies. I think this association ought either acknowledge the fact that this is the ground, or else take it up and discuss it where it belongs."

The resolution was, on motion, referred to the Committee on Resolutions.

CITY SUPERINTENDENTS.

A paper on the subject, The Work of the City Superintendent, was next read by T. M. Balliet, superintendent of schools, Springfield, Mass. (Page 182.)

The following joined in the discussion: W. A. Blair, Dr. W. T. Harris, Dr. A. E. Winship, Superintendent J. M. Greenwood, S. S. Parr, G. J. Luckey, and Superintendent John Hancock. (Page 191.)

The Department adjourned at 4.45 P. M. to meet at 8 P. M.

EVENING SESSION.

The Department met at 8 P. M.; President Fred. M. Campbell in the chair.

PRINCIPALS.

The School Principal was the subject of a paper read by George Howland, superintendent of schools, Chicago. (Page 195.)

The second paper, The Qualifications of School Principals, was presented by J. M. Greenwood, superintendent of schools, Kansas City, Mo. (Page 209.)

FRIDAY, MARCH 8TH.

FORENOON SESSION.

The Department reassembled at 9.30 A. M., President Campbell in the chair.

M. A. Newell, chairman of the Committee on Resolutions, reported favorably the resolution offered the preceding day by Mr. Anderson (p. 13), and it was accordingly passed.

The Committee on International Copyright, W. E. Sheldon, E. O. Lyte, Henry A. Wise, H. M. La Follette, and W. R. Thigpen, reported progress, and asked to be allowed further time. This request was, on motion, granted.

The Committee on National University (Chas. S. Young, W. E. Sheldon, A. S. Draper, Robert Allyn, and M. A. Newell) reported progress, and was continued.

EXAMINATIONS.

The first paper was read by M. A. Newell, State superintendent of public instruction, Maryland. Topic: Teachers' Examinations. (Page 217.)

Mr. Sheldon read an invitation from Mr. and Mrs. Cabell to the members of the Department for lunch, directly after the visit to the President.

The next paper was by L. W. Day, superintendent of schools, Cleveland, Ohio—a discussion of the paper on Teachers' Examinations. (Page

219.) This discussion was continued by E. E. Higbee, Henry A. Wise, J. W. Dickinson, Darlington J. Snyder, E. E. White, and Wm. H. Maxwell. (Page 222.)

In the course of his remarks the following resolution was offered by Superintendent Maxwell:

Resolved, That a committee of five be appointed to formulate the scholastic and professional attainments that should be required for admission to the positions of class teacher and of principal, and how far diplomas of graduation from high schools, normal schools, colleges, and universities should be taken in lieu of examination, and to report at the next meeting of this Department.

Referred to Committee on Resolutions.

Examination for Promotion was the subject of a paper presented by William De Witt Hyde, president of Bowdoin College, Brunswick, Me. (Page 229.)

Another paper on the same subject was read by William M. Giffin, principal of Lawrence Street Grammar School, Newark, N. J. (Page 236.)

Department adjourned to call on President Harrison.

AFTERNOON SESSION.

The Department, after having visited President Harrison, re-assembled at 2 o'clock.

Mr. George A. Littlefield, superintendent of schools, Newport, R. I., was introduced, and read a paper discussing the subject, Examination for Promotion. (Page 243.)

This subject was further discussed by S. S. Parr, E. E. White, and Dr. Mowry. (Page 250.)

Dr. M. A. Newell, chairman of the Committee on Resolutions, reported for the consideration of the Department the resolution offered in the forenoon session by W. H. Maxwell, and also the resolution relating to the attitude of President Harrison upon the subject of education (p. 12). These resolutions were adopted; also the following, relating to national aid to education:

Resolved, That we re-affirm our profound conviction of the need of national aid to education, and that we recommend to Congress the passage of the Blair Educational Bill, or some like measure, at the earliest possible day.

The Committee on Resolutions submitted the following report:

Resolved, That the thanks of this body are tendered to the several railroads and hotels which have given us their usual reduction of rates.

2. To the officers of the District of Columbia and of the Smithsonian Institution who have aided us in the arrangements for this meeting.

3. To the gentlemen who have read papers and participated in the discussions, and to the press for their reports of our proceedings.

4. To the officers of the Department, and especially to the president, Fred. M. Campbell, of Oakland, Cal., for the programme of this meeting, which has proved to be one of the most interesting and profitable in the history of the Department, and has brought together the extreme East and the remote West—a fitting finale to the

boundless hospitality which the general Association experienced at the hands of the people of California last summer.

M. A. NEWELL (*Chairman*),
GEO. A. LITTLEFIELD,
GEO. HOWLAND,
WM. E. ANDERSON,
JNO. HANCOCK,
Committee.

President Fred. M. Campbell read a paper. Topic: The State and the Higher Education. (Page 254.)

Dr. H. B. Adams, Johns Hopkins University, was introduced, and read a paper on The State and Higher Education. (Page 262.)

The following resolution was offered by Superintendent W. B. Powell, Washington, D. C.:

Whereas, The Bureau of Education has begun a systematic inquiry into the higher education in the United States, and has already published a series of valuable monographs upon the history of colleges and universities in various States of the American Union, and

Whereas, The Bureau has extended its inquiries into the higher educational history of the Northwest, and into the historic relation of the Federal and State governments to higher education,

Resolved, That the Department of Superintendence cordially approves of this work, so successfully begun, and recommends its continuance throughout the American Union, and its extension to the history of secondary education, as well as the speedy publication of the monographs now in hand.

After some remarks upon the work and needs of the Bureau by Hon. John Eaton and others (page 277) the resolution was passed.

The president announced the following committees:

Committee on Manual Training (Anderson's motion): E. E. White, Columbus, Ohio; J. W. Dickinson, Boston, Mass.; Wm. N. Barringer, Newark, N. J.; M. A. Newell, Baltimore, Md.; Henry Sabin, Des Moines, Iowa; Geo. Howland, Chicago, Ill.; John Hancock, Columbus, Ohio.

Committee on Maxwell's Resolution: Wm. H. Maxwell, Brooklyn, N.Y.; D. L. Kiehle, St. Paul, Minn.; W. E. Sheldon, Boston, Mass.; E. E. Higbee, Harrisburg, Penn.; John L. Buchanan, Richmond, Va.

General John W. Noble, Secretary of the Interior, was introduced to the association and spoke as follows:

"*Mr. President and Members of the Association, Ladies and Gentlemen:* You will pardon me from endeavoring at this time of the day, so late, and this period of my administration, so early, from expressing to you any convictions I may have upon the great cause upon which you are assembled. I come merely to give you the assurance that so far as my advice may go in the Department that I have been honored with an appointment to, it shall be in support of the great principles for which your organization is established. It has been my education from the earliest period to believe in the great principles you adopt. It would be superfluous now for me to speak in advocacy of education in general;

but I may say that I believe as sincerely as you do, that in the organization of teachers and in the development of those principles upon which education may be advanced, depends the prosperity of our country. It is not only that education is needed in order that the republic may be preserved, but that education may be attained and advanced properly it is necessary that there should be organization amongst the teachers, that the best and most effective methods be adopted. I have no prepared speech to make. I have thought it not only my privilege, but my duty, to present myself as the representative of an administration that has already announced its strong adherence to the principles of your association. I may say that so far as the bureau over which I am called to preside is concerned, that I will most heartily carry into effect the dictates of its chief."

A. P. Marble, president of the National Educational Association, addressed the members regarding the next meeting of the Association, to be held at Nashville, Tenn., as follows:

"*Mr. President, Ladies and Gentlemen, and Members of the Association:* I have not prepared an elaborate speech upon this occasion, and my remarks will be in the nature of an announcement, and I shall refer you to the printed documents, which will appear in the course of two weeks, for the details; but I will at present give you a very slight outline of what we intend to do.

"Railroad rates to and from Nashville have been secured from, first, all the lines in the Southern Association south of the Ohio; second, lines belonging to the Central Traffic Association, which includes all lines between Buffalo and Chicago; third, of the Western Passenger Association, which includes lines between Chicago and the Missouri River; but we do not expect that reduced rates will be secured from the Pennsylvania, Coast Line, and from the Trunk Line Association. The people of Nashville sent a delegation to the meeting held in San Francisco to secure the holding of a meeting at Nashville, and the board of directors voted that a meeting should be held there. A committee visited Nashville and decided that a meeting should be held in accordance with the vote. We have had delegates from Nashville attend our meetings and they have told us of the wonderful products in their section and desired us to come there, both to see what they have accomplished and to furnish still further inspiration for the teachers and friends of education in that part of the country.

"It was objected to, when the subject was first broached, that the city was far south, that it would be too warm to go there in summer. I investigated that subject and found it would approach much more nearly to the heat that we experienced in Chicago two years ago, and anybody who has been through the Chicago fire in connection with the National Association need not be afraid of Nashville. The fact is, that in Worcester, in Massachusetts, we have as hot days as they have in New Orleans; but the difference is, our hot days are few, but in Nashville the warm

weather is continued for more than half the year. I think there is no need of any apprehension of the heat in Nashville. I found also that some people fear that in going to Nashville we should run into yellow fever. Now, there never was a case of yellow fever in Nashville, and when it does come it always comes later in the season than the meeting of the National Association, and I doubt whether it would come at all after the association had met.

"As I stated in an educational journal, there is an epidemic in Nashville of which you ought to caution your lady friends. In one week there were about twenty weddings. Besides our own pleasure, which will be announced by the provisions that will be made in visiting the people, they will look at Mount Lookout, Mammoth Cave, and a collection of people the most delightful on earth; besides that, there is a duty which we owe to that portion of our members who live in that part of the country. They have visited us. They have gone to San Francisco, Chicago, then came to Saratoga, and now invite us down there with open arms to see what they have done and tell them what we have been doing. They will provide entertainment at the hotels, excursions to all parts of the country, and among other things, a distinctive feature will be a Southern barbecue, which will take place on Tuesday, July 16th, and which will be a novelty to those who have never seen anything of that kind.

"In the neighborhood of Nashville is one of the most delightful scenes in this country, called Belle Mead. There is a deer park with three or four hundred deer, which can be seen roaming about among the trees, and the most magnificent stock in the country is raised there, and this is the property of General Jackson, whom I visited. All people who to go Nashville go out to that place. General Jackson told me he was a reconstructed rebel, and I can tell you he is a much better man than I considered him twenty-five years or more ago. I visited several schools in that city, and it was a surprise and a wonder to hear the sentiments expressed. I had read in various newspapers of the feeling which survived the late unpleasantness; yet the children in the schools sang the same Star Spangled Banner that ours do. I visited the colored schools in that city, and was surprised to find one colored school with appliances for building and apparatuses superior to one or two of the white schools which I visited. They have a custom down there of not mixing colors.

"But I have not time, neither do you wish to stop to listen to the detail of all this; but from time to time in educational journals, and through the bulletin, which will be issued to the extent of a hundred thousand copies, you will learn of the details."

Hon. John Eaton spoke regarding the meeting to be held at Nashville as follows:

"I wish to add further. Residing at Nashville two years in organizing the free schools of Tennessee after the War, I had very good oppor-

tunity of knowing what may be expected in the way of welcome, and I wish to bespeak for the meeting at Nashville the largest possible attendance on the part of educators at the North. It has been my good fortune not only to be there at the National Convention of Educators, but also at that of the scientific men of the country, and to know how cordially both associations have been received and how readily the railroads and other means of facilitating an interesting convention will use their opportunities to add interest to the meeting, and I hope it will be early manifest to the people of the South that there is to be a large attendance. Let it be a great love-feast of the most intelligent classes of the country."

Dr. E. E. White moved that a vote of thanks be tendered General Noble for his presence, and for his words assuring his support in educational work. Passed by a rising vote.

The Department adjourned till 8 P. M.

EVENING SESSION.

The Department met at 8 P. M. in the hall of the National Museum, pursuant to adjournment.

The CHAIRMAN: "I beg to announce to the Department that all the committees have reported but one, that being a committee of one, consisting of myself. I desire to say a word in acknowledgment of the great help I have had from the associate officers of the Association, the vice-president, Mr. Davidson, of Ohio, and the secretary, Hon. W. R. Thigpen, of Savannah, Ga., and I want to acknowledge in particular the obligations of myself and of this Department to Mr. W. E. Sheldon. The success that has attended this meeting is due to the assistance I have had on all hands. I make this acknowledgment with heart-felt thanks. [Applause.]

"I beg to announce to the meeting that I received a dispatch this afternoon from the Canadian gentleman who was expected to address us this evening stating that he regretted exceedingly his inability to be with us on this occasion.

"I now take pleasure in presenting to the audience, Hon. W. R. Garrett of Nashville, Tenn. The next meeting of the Association is to be held in Nashville. Mr. Garrett is president of the local executive committee which has been organized there for the reception of that great body of people."

Mr. Garrett then proceeded to read a paper on Education in the South. (Page 280.)

Senator Blair was introduced and spoke on National Aid to Education. (Page 297.)

On motion, the meeting adjourned to meet in Nashville, Tenn., in July next.

ADDRESSES, PAPERS, AND DISCUSSIONS.

INTRODUCTORY ADDRESSES.

ADDRESS BY THE PRESIDENT,

FRED. M. CAMPBELL,

Superintendent of Oakland (Cal.) Schools.

As president for the year, I have the honor to call to order for the spring session the Department of Superintendence of the National Association of the United States, the officers and representatives, in convention assembled, of the grand army of 312,000 public school teachers of our country; those whose office it is to conserve and to direct that most important factor of our national prosperity, the American system of free, non-sectarian, non-political public schools.

The scene witnessed two days ago in this city may well have drawn hither the great concourse of people who thronged the halls and thoroughfares of the nation's capital. Nay, more than this; it is a scene which may well have centred the gaze of the world. Petty monarchs of petty kingdoms attained by strategy or by bloody wars, ascend their thrones with pomp and retinue and the gilded glitter of display. But grand in its simplicity is the ceremonial that quietly transfers the government of sixty millions of people from the hands of one of their chosen rulers to another. Like the ever-recurring miracles of the spring-time and the dawn—mighty in its results, quiet in its processes—comes to our nation at stated times the crisis which, in other less favored lands, is looked forward to with anxiety and foreboding.

It might seem that in the importance justly attached to the scene which has brought hither so many thousands of eager observers, a meeting like the present would sink into comparative insignificance.

But, gentlemen, it is the interests which we represent that have largely made this scene possible. Long before the spring-time shows any visible sign to the outward eye, far down in the depths of the valleys, away over stretches of prairie, high up on the slopes of mountains, hidden in the heart of tiny seed, quietly moving in the veins of northern oak and southern vine, are those mighty forces noiselessly at work that shall by and by bring forth in perfected beauty the full-born glory of the year.

And so, all over our happy country, are the influences silently working that make a free government possible. In the hearts of little chil-

dren are sown the germs of virtue and patriotism; in the veins of buoyant youth are flowing the enthusiasm of loyalty and the ambition of lofty ideals, which have their source only in a wise, and true, and universally diffused education.

In thousands of school-houses all over our land, wise and conscientious manhood, tender and loving womanhood, have been devoted to the task of nursing these seeds of virtue, of directing these currents of enthusiasm.

The cause must ever be greater than the effect. Under the dome of the Capitol and in the chamber of the cabinet the machinery of legislation does its work. But the real force lies far back, in the development of brain force, and the training of will power, that gave us men capable of regulating affairs so complex and so vast.

Viewed in this light, our assembly is one of no small import; and its deliberations assume a dignity that can not easily be overrated.

The convention is to be congratulated that it meets under such happy auspices. Its presiding officers are to be congratulated that the willing response of the able men (and women, too) whose services they have solicited, makes it possible to present a programme containing such rare promise of interest and of profit.

ADDRESS OF WELCOME.

By John W. Holcombe,

Washington, D. C.

Gentlemen of the Department of Superintendence, and Ladies (for there are women superintendents of cities and counties, and we hope some of these are present): I think you will agree with me that Washington is the most hospitable city in the Union. Have you not seen the evidences all around you this wonderful week? You have seen her receive and entertain and make comfortable—more or less—people numbered by the hundred thousand. You have seen an enthusiastic welcome extended to all sorts and conditions and colors and races and trades of men, women, and children—to apprentices and Presidents, to smiths and millers, to carpenters and cabinet-makers, to bureau-builders, wire-pullers, and organ-grinders, to pleasure-seekers, office-seekers, self-seekers, truth-seekers—with hopeful auguries, also, to an old political party returning to power, chastened, it is believed, by defeat, and its virtues renewed by contact with the purity of life and character of the eminent citizen whom the Republic by happy good fortune has secured for its President. But hospitality does not end with the entertainment. The parting guests must receive God-speeds and farewells, and these have been given with hearty good will to many thousands, but to none more heartily or with more good will than to the brave, strong man who,

while guiding the destinies of this great nation, has for four years borne himself in his exalted office with the unaffected simplicity of a citizen among fellow-citizens.

This character of hospitality fitly distinguishes the Federal city, the national city, the city belonging not to herself, but to the entire Union, and here every child of the Republic may properly feel himself something more than a guest, may feel himself at home and among his own. But whether ye, superintendents, principals, presidents, teachers, be held as best-loved guests or as favorite children, the heart of the nation bids you welcome in this her especial seat, and rejoices in the cause of your coming and your stay. She recognizes you not as pleasure-seekers, though wishing you all possible enjoyment within her gates, not as office-seekers, though ready to sympathize with you even in that pursuit, but as truth-seekers winning and diffusing knowledge for the common weal. In that character she feels honored by your presence, and repeats to you her warmest welcome from year to year. She bids you enter into her temples, her courts, and chambers, as your own; to contemplate her priceless treasures and make them yours, in the enduring possession of the mind; to examine and learn to know the many and varied agencies assembled here for promoting as well the intellectual as the material advancement of mankind.

Of these agencies it is permissible in this presence to speak particularly of one, for to the enlightened foresight and the active influence of this Association the United States Bureau of Education owes its existence. At your meeting in Washington, February, 1866, resolutions were framed and adopted, and a committee was appointed to memorialize Congress for the creation of such an office. The work was speedily accomplished, and the office, at first called the Department, and afterward the Bureau of Education, was established. For a time its fortunes seemed uncertain, but gradually the public confidence was won. Throughout its existence the alliance of the Bureau with your association has been the closest, you it has striven to serve, to you it has looked for aid and encouragement.

To-day it acknowledges the great indebtedness of the past and asks your continued interest for the future; it invites your candid and careful consideration of the work it has already done, and your frank suggestions toward improvement and increased efficiency hereafter. In addition to the general welcome I have tried to speak, I would express in behalf of the Commissioner of Education the hope that no member of the Department of Superintendence will leave Washington without visiting the Bureau which has so intimate a connection with his work.

TRAINING OF TEACHERS.

PSYCHOLOGY IN ITS RELATION TO PEDAGOGY.

By NICHOLAS MURRAY BUTLER, Ph. D.,
President of the New York College for the Training of Teachers.

If any one were formally to undertake to demonstrate that a root is necessary to a tree, a pedestal to a statue, or a knowledge of machinery to an engineer, his arguments would attract but little attention—not because of their possible lack of soundness, but because of the self-evident nature of the proposition to be proved. The proposition that a knowledge of the science of mind is in like manner necessary to an understanding of the science of education possesses for the vast majority of persons no such self-evidence; it is by no means accepted as an axiom. It can not be said that its truth is rigorously denied nor even seriously impugned, but it is either neglected entirely or else accepted in so halting and half-hearted a way that it fails to carry its full significance as well as to suggest those numerous and important consequences which follow in its train. Now, if there is such a thing as a fact of science and if it is worth knowing, it is worth knowing thoroughly. We can not afford to shrink from the consequences of any truth, even though they entail the abandonment of some favorite practice or the giving up of some pet theory. My object this morning is in a brief and hurried way to prove, largely by illustration, the truth of the proposition that a knowledge of the science of mind is necessary to a knowledge of the science of education; that psychology bears to pedagogy the same relation as does the root to the tree, the pedestal to the statue.

Psychology is the basis on which pedagogy is built and the source of its life and strength. Even if proved, this proposition may not on that account become self-evident, though it is to be hoped that it will. Self-evidence, however, is not the same at all times and seasons, nor for all persons. It is a very familiar fact that certain things whose connection or relation was once a matter of demonstration, afterward come to seem of necessity related or connected. Kant's famous division of all judgments into analytic and synthetic, those which add something to our knowledge and those which simply throw what we already know into a new form, is from one point of view only relative. A judgment which

in infancy and youth is synthetic becomes in adult age analytic. The physicist and the chemist make statements self-evident to themselves, but to the rest of the world novel and wonderful. To De Morgan's clear mental vision a logical process which to the student seems involved and doubtful, presented itself as self-evident. Leibnitz admitted as a simple and self-evident law of thought a principle for which Hamilton and Mansel could find no warrant. Perhaps it is not too much to hope that the time will soon come when all teachers and persons interested in education will admit, on a par with the axiom that a straight line is the shortest distance between two points, the fundamental pedagogic truth that an accurate knowledge of the nature, powers, and processes of the human mind is essential to those whose profession and duty it is to train and develop that mind. It must be assumed for the present discussion that a science of education exists and has presented itself in ever increasing definiteness and conformity to its environment. My purpose is to indicate how this science of education, pedagogics, may be traced back to its natural and logical foundation in psychology, and then to point out the general character of the consequences which result from the accepted connection of the two sciences in question.

Education we know to be a process that is much more easily described than defined. It is the unfolding of all the powers and faculties—physical, mental, and moral—latent in man. It begins with birth and ceases only when the faculties fail. But the most important part of education is that which takes place in the early years of life, when a formative influence with a definite end in view is exercised by the teacher on the pupil. It is this portion of education, including the important factors of instruction and school-life, that falls within the scope of pedagogics. We must emphasize the fact that this education, no matter what its particular form, deals directly with the mind, and with the mind only. Even physical education is imparted through intelligence. It is the mind that is appealed to directly and at once. The training of the muscles even is through the mind, and the action on the muscles themselves is thus secondary and indirect. Moral education, the training of character and the formation of habits, no matter how objective it may be, is still education through the pupil's intelligence, and is so far mental. Sometimes, indeed, we hear an education of the senses spoken of, as if it were something that required no purely mental effort or co-operation. Any such doctrine, it must be pointed out, involves gross psychological error. The training of the eye, the ear, the touch, the taste is mental training. The eye can not see; it is only an optical instrument. The lens may be perfect, the retina healthy, the optic nerve intact, yet no sight results unless the optic centers of the brain are present and in organic connection with the optic apparatus. The same is true, *mutatis mutandis*, of the ear, the touch, and the remaining senses. The senses are indeed "the windows of the soul," but they are only windows, and not, as some would seem to regard them,

souls. It is the mind, then, which is immediately affected and appealed to in education. The ways of approach to it may be many and various, and the ends for which it is approached widely different in character and importance, but the mind remains the only essential element in the process. The effect of an intelligent appreciation of this fact is very great. Those who are accustomed to look down upon certain forms and phases of education because they employ means of approach to the mind conventionally held to be less dignified than others, must be driven to inconsistency and incoherence or else to a revision of opinion by the recognition of the fact in question. Let him who considers carving and molding, for example, non-mental operations, endeavor to produce a sphere or a cube from the untrimmed block with his knife, and it may safely be asserted that whatever the success of his attempt may be, he will arise from it with an increased respect for the mental ability of one who can rapidly and dexterously carve spheres and cubes. And this is but one of an hundred instances which might be cited. Furthermore, the acceptance of this truth and a knowledge of the psychology of habits bring into prominence the importance of every step in mental life and development. It forbids us to set aside as insignificant details all those actions and operations usually known as minor and unimportant, but which we now recognize as influencing the mind directly and as bearing their share in the formation of character. What right have we dogmatically to assert that some mental processes are more dignified and worthy than others? Where is our warrant for the *imperium in imperio* that we have set up? It will be granted at once that some forms of the mind's activity are superior to others by reason of their difficulty, the character of their results, and their importance for the highest life of the soul. But that is quite another thing from permitting them to arrogate to themselves a superior ethical quality which is denied to their fellows. The one can not become the other, but it can be perfect in its own sphere, humble though we may choose to regard that sphere to be. This and numerous other ethical truths are clearly seen when once the fundamental proposition on which they are based is grasped. But the two aspects of it with which we are just now concerned are the psychological and the educational.

Stated as bluntly as it stands above—a knowledge of the nature, powers, and processes of the human mind is essential to those whose profession and duty it is to train and develop the human mind—our thesis sounds like a truism. Every friend of education could wish that it were acted upon as such. We can imagine, however, that it might be said, "Stated theoretically that is all very well; but how can a knowledge of psychology be used practically by the teacher?" That word "practically" keeps sounding in our ears, and the demand it voices must be satisfied.

Perhaps it is easier to turn to the negative side of the question first and show what is the practical effect of an ignorance of psychology on

the teacher's work. For this purpose no expression of opinion can be clearer, stronger, or more emphatic than that of Herbert Spencer. He says (Education, American ed., p. 60.):

Grant that the phenomena of intelligence conform to laws; grant that the evolution of intelligence in a child also conforms to laws; and it follows inevitably that education can be rightly guided only by a knowledge of these laws. To suppose that you can properly regulate this process of forming and accumulating ideas without understanding the nature of the process is absurd. How widely, then, must teaching as it is differ from teaching as it should be, when hardly any parents and but few teachers know anything about psychology. As might be expected, the system is grievously at fault, alike in manner and matter. While the right class of facts is withheld, the wrong class is forcibly administered in the wrong way and in the wrong order. With that common limited idea of education which confines it to knowledge gained from books, parents thrust primers into the hands of their little ones years too soon, to their great injury. Not recognizing the truth that the function of the books is supplementary—that they form our indirect means to knowledge when direct means fail—a means of seeing through other men what you can not see for yourself—they are eager to give second-hand facts in place of first-hand facts. Not perceiving the enormous value of that spontaneous education which goes on in the early years—not perceiving that a child's restless observation, instead of being ignored or checked, should be delicately administered to and made as accurate and complete as possible—they insist on occupying its eyes and thoughts with things that are for the time being incomprehensible and repugnant. Possessed by a superstition which worships the symbols of knowledge instead of the knowledge itself, they do not see that only when his acquaintance with the objects and processes of the household, the streets, and the fields is becoming tolerably exhaustive—only then should a child be introduced to the new sources of information which books supply; and this not only because immediate cognition is of far greater value than mediate cognition, but also because the words contained in books can be rightly interpreted into ideas only in proportion to the antecedent experience of things. Observe next, that this formal instruction, far too soon commenced, is carried on with but little reference to the laws of mental development. Intellectual development is of necessity from the concrete to the abstract. But, regardless of this, highly abstract subjects, such as grammar, which should come quite late, are begun quite early. Political geography, dead and uninteresting to a child, and which should be an appendage of sociological studies, is commenced betimes; while physical geography, comprehensible and comparatively attractive to a child, is in great part passed over. Nearly every subject dealt with is arranged in abnormal order, definitions and rules and principles being put first, instead of being disclosed, as they are in the order of nature, through the study of cases. And then, pervading the whole, is the vicious system of rote learning, a system of sacrificing the spirit to the letter. See the results. What with perceptions unnaturally dulled by early thwarting and a coerced attention to books; what with the mental confusion produced by teaching subjects before they can be understood, and in each of them giving generalizations before the facts of which they are the generalizations; what with making the pupil a mere passive recipient of others' ideas, and not in the least leading him to be an active inquirer or self-instructor; and what with taxing the faculties to excess, there are very few minds that become as efficient as they might be. Examinations being once passed, books are laid aside; the greater part of what has been acquired, being unorganized, soon drops out of recollection; what remains is mostly inert, the art of applying knowledge not having been cultivated, and there is but little power either of accurate observation or independent thinking. To all which add that while much of the information gained is of relatively small value, an immense mass of information of transcendent value is entirely passed over.

This indictment is clear, concise, and comprehensive, and for that reason it is quoted with tolerable fullness. What considerations are more familiar to us than those advanced by Mr. Spencer? We have all seen time and time again that curious perversion of judgment which prefers book-knowledge to fact-knowledge—what some one says about a thing to an acquaintance with the thing itself. Happily this false tendency in our education is now being checked, and will in time be replaced by a sounder theory of education values; but a few years ago this was not the case, and superficial book-knowledge was almost everywhere given the first place.

Again, a very rudimentary acquaintance with psychology would make clear the fact that imagination and memory can create nothing; they merely combine in forms commonplace or more or less grotesque, the products of our previous sense-given knowledge. Consider what this means in connection with knowledge gained from a book, or at second-hand, instead of from contact with the object itself. The image of the object which is before the mind is not that of the object as it really is, but as it is thought to be according to the description. The description has been given in language, and the words have called up parts of images of objects previously known—it was impossible for them to call up anything else—and the mind has framed for itself a concept which may be wholly untrue and unreliable. And this it is which has to do service for accurate knowledge. I recall an excellent story which illustrates the way in which ignorance of psychology on the part of the teacher brings about confusion in the mind of the pupil in this respect. A primary teacher had been endeavoring to make clear to her arithmetic class what was meant by the word "dozen," and concluded the exercise by calling up each pupil to frame a sentence or a problem in which the word should be correctly used. She was surprised—though unnecessarily so—when the first child called upon gave as his example, "I dozen know my lesson." The explanation had been given wholly in words, similar sounds had become confused in the child's mind, and this ludicrous example was the result. Had the explanation been illustrated by blocks or marbles or anything visible and tangible in which the child was interested, the instruction would have been valuable instead of valueless. Perhaps these examples will suffice to show the ill results attending education attempted in ignorance of psycological principles. We may now consider a few representative topics in education, the proper treatment of which is at once and only pointed out to us by psychology.

The first and most important of these I take to be the conception of mind as an organism which grows and develops. The implications of this conception are numerous and important. Growth and development while allied, are not identical processes. Growth, as increase in size or bulk, may be distinguished from development, as increase in complexity or function. In the order of time, growth must precede development

and furnish the latter with new material to be worked over and cast into new forms and combinations. Development comes later, and is of higher intellectual quality. In childhood and early youth growth predominates. There is a continual and continuous accession of new facts which enter the mind as facts simply and not as factors in a thoroughly digested scheme of knowledge. This comes afterward, and constitutes mental development. Of course both processes, growth and development, go on together, but development only gradually forces its way into the foremost place. This it attains in early manhood, and the adult life is rather a time for digesting and adjusting and co-ordinating into an organized whole the knowledge previously gained, than for the acquirement of new data. Though, just as in early life development in some degree accompanies growth, so in adult life growth accompanies development. Development is only possible to an organism, and the growth of an organic is very different from that of an inorganic body. The latter takes place by accretion, as the snowball grows by being rolled through soft snow, the former by assimilation, as the plant or animal extracting nourishment from its environment, assimilates it and grows. The two growths are entirely different, the one external, mechanical, and artificial, the other from within, organic and natural. The educational significance of this is very great. For we now learn that the mind is not a sort of box or case wholly distinct from its contents, and which may be filled and emptied at will, and into which any sort of knowledge may be placed temporarily and then taken out again if found to be injurious or unpleasant. This is an old conception which is now passing into oblivion. We know mind as an organism, as feeding and living upon the nourishment absorbed by it, and, moreover, determined both as to form and character by that nourishment. Assimilation of nourishment is necessary to mental development. The mind must make what it receives its own. In other words, word-knowledge, whatever form it may take, is not nutritious. The mind is but little better off for being put through a sort of stuffing process, during which mere symbols are forced into it. A slight residuum of real knowledge may remain, but it will be utterly disproportionate to the time and expense of the process. Psychology demands, then, that mind be treated in education as the organism which it is, and not as an inanimate thing which it is not.

The development of this organism, mind, is continual and increasingly complex. There is no break, no sudden leap, no astonishing transition. The unfolding is gradual, and the same fundamental powers are evidenced throughout. Some teachers seem to think that the child-mind is an entirely different phenomenon from the adult mind. This is a mistake. In each is mind present by virtue of the exercise of the mental powers of discrimination and assimilation. The distinction is that the materials with which these processes are busied grow increasingly complex as the child becomes a youth and the youth a man.

Sense-perception, the mental activity predominant in the child's life, is discrimination and assimilation of particular stimuli. Conception is discrimination and assimilation of percepts. Judgment is discrimination and assimilation of concepts. Reasoning is discrimination and assimilation of judgments. It is this increase in the generality of knowledge, in abstraction and complexity, that is indicative of mental development.

This psychological truth at once finds application in pedagogics. It warns us that the child must first be brought in contact with singular and easily apprehended objects, that laws and formulas should follow, not precede, examples. So much has been said and written on this subject of late that extended treatment of it is unnecessary. It is to be observed, too, that few violations of this law of mind are any longer to be observed, so far as the general arrangement of studies is concerned. School-masters have learned to place the easy before the difficult, the simple before the complex, the concrete before the abstract. One of the few violations, however, which still exists is so important that it may well be pointed out. That exception is the teaching of geography. It is not too much to say that in the vast majority of schools in Great Britain and the United States geography is not taught at all. To the average English-speaking teacher—and I am obliged to use this designation, for happily on the continent of Europe they know better—geography means the stuffing into the pupil's mind a number of isolated facts, such as the height in feet of so many mountains, the length in miles of so many rivers, the names of so many cities and towns, the depth and area of so many lakes. Geographical text-books constructed on this plan have been called "miniature gazetteers," a phrase which describes them excellently, for they are certainly not books on geography. As Dr. Edward Channing has pointed out (Science, Vol. IX, p. 49)—

> Geography, properly studied, gives one a clear and accurate knowledge of the physical conformation of the earth's surface. * * * [The child] should be taught to observe phenomena. * * * The flora and fauna of each region of the earth's surface should be properly associated in the child's mind. * * * Geography aims also to teach the influence of geographic factors upon the development of the human race. This influence is frequently exaggerated. But the working out of such problems, even on insufficient data, must have a stimulating effect upon the mind. * * * [The aim of geographical education] is to make men understand what is going on around them, * * * [to be able] to converse intelligently upon the present crisis in Bulgaria, or on the economic changes which will be wrought by the Panama Canal, if it is ever opened; to travel abroad with some degree of comfort to one's self, and to one's readers if one writes a book; to read with interest and appreciation articles on campaigns, like those now appearing in the Century Magazine.

As we all know very well, geography in this sense—and it is the true one—has but small place in our educational system. Political geography, a subject really meaningless save in connection with the historical and sociological studies, is usually given a prominent place as well as brought very early into the curriculum. This is a direct violation of the psychological law which we are illustrating, and a violation which

should be speedily corrected. The spread of sounder educational ideas will correct this in time, in fact is correcting it slowly now, but even to-day it is safe to say that papers like those included in the educational reports of the Royal (English) Geographical Society for 1886 would sound strange enough to the great majority of American teachers.

But, as was said above, it is not so much in the general arrangement of studies that psychological laws are overlooked and violated as in the method of teaching the various branches of the school and academic course. Here tradition is lingering longer than anywhere else, and the modern expounders of methods of teaching find a difficult task before them in the removal of what is antiquated and false as a preliminary to the inculcation of what they deem to be timely and true. Now, in so far as these modern methods of teaching mean the basing of pedagogics upon psychology, the insisting upon a study of mind for those who train it, they are to be unreservedly commended. And it is but fair to say that this is what they generally do mean. In some quarters, however, there is a disposition to go too far, and not only to use but to abuse methods of teaching. You will find that over-organization—for there is such a thing—and the pushing of methods too far are usually found together. Some of the French and German books on pedagogy exemplify this. They prescribe how the teacher should look, what he should wear, how every minute detail of the subject with which he is entrusted should be presented. Nothing is left to his judgment; no allowance is made for difficult or exceptional situations; everything must be the same. A dead level of mediocrity is aimed at. The teacher's independence is destroyed and he becomes a pedagogic machine. It was in France, you will remember, that the amusing incident occurred which is related on the authority of Mr. Matthew Arnold, and which illustrates admirably how far organization may be carried. The French minister of public instruction, while engaged in conversation, once drew his watch from his pocket and said, "At this moment in every school in France the children of the same grade are being taught the same subject in the same way." And the last book of instructions to Real-School teachers issued by the Government of Austria indicates an amount of organization and method even surpassing those of the French. These instructions not only provide that all over the Empire pupils of the same grade shall be taught the same lesson at the same time, but they even go so far as to say that the teacher must enter school with a pleasant expression of countenance so as to show that he has his work at heart and to impart a spirit of cheerfulness to his pupils. Such nonsense as this—for it certainly seems to me nonsense—is too artificial and too superficial to accomplish its purpose. The child readily detects the sham, and as a result loses confidence in his teacher's sincerity. In the United States, where our educational organization is not and never can be a bureaucracy, any such excesses as these are out of the question as

a part of a system, and they are too little in keeping with the national character to appeal to many individuals.

It is thus made apparent that there is such a thing as method run mad, as well as a lack of it. And here again an appeal to psychology would aid our notions on the subject. For from psychology we learn that no two minds are alike. It may be a difference in original capacity, in hereditary tendency, in natural or in social environment, but it is always something. Even twins show remarkable points of dissimilarity, as Mr. Galton and others have shown, despite the fact that there is as much sameness as is possible in the circumstances attending their hereditary disposition and early training. To no one more than the practical teacher, accustomed to face daily a class of growing boys and girls, is the marked dissimilarity of intellect, character, and temperament patent. What folly, then, to say arbitrarily that the same methods of instruction and training must apply discriminately to all. There is one Procrustes in literature, and the fate of his victims, who were either cut off or stretched until they fitted the single bed he had prepared for them, should be a sufficient warning to any who are disposed to transplant his uniform method of treatment into the field of nineteenth century education. Methods we want and must have, but they must be such as are based upon the general laws of mind and its development and upon the teachings of experience. They will be norms rather than rules, approximations rather than closely calculated formulas. They will admit of variation to suit particular cases, and of being set aside entirely when any higher end is to be subserved.

Pestalozzi and his followers have told us that the most general and fundamental law of method is, "Proceed from the known to the unknown," and this law has now obtained wide acceptance. A recent educational writer (Prof. H. W. Payne, Contributions to the Science of Education, p. 168), however, has vigorously attacked this maxim as a "bit of educational cant that passes current to save the labor of thinking." He objects to it as being unpsychological, as vague, and as framed for special cases and then unduly extended until it became a general law. Unquestionably the principle has been pushed too far and even brought into ridicule by its overzealous advocates. But it seems to me that this criticism of it must rest upon some misconception; for certainly bringing the mind in contact with a new and wholly unknown fact seems very like dashing the fact against a stone wall. If there is no item of information, no curiosity or interest with which the new fact can connect itself, it must fall to the ground unsupported and remain unknown. It is a cardinal principle in teaching that any new topic or subject must, when introduced, be brought into relation with what has gone before. The preliminary chapters of rhetoric, for example, connect it with grammar, those of algebra with arithmetic, and so on. In so far the new subject must be known. It must be understood sufficiently to permit an appreciation of its relation with its

predecessor, and since this is made the starting point of instruction the process is certainly from the known to the unknown. This seems perfectly clear, and it is difficult to understand how any practical teacher can attempt to invalidate the principle when taken in this sense.

Now, our psychological knowledge will not only teach us to look upon mind as an organism that develops according to fixed laws, to take account of those laws in the arrangement of a curriculum and in the imparting of any and every subject of study, and to frame our methods upon those laws, but it will teach us to introduce each subject at its own proper time, not to appeal to faculties yet undeveloped, and not to carry instruction in a subject too far—for there is a time to stop with the average mind just as there is a time to begin. The continuance of instruction after what we may call the "saturation point" has been reached is not nearly so harmful as is commencing it too early; it is rather wasteful of time and effort than positively injurious to the pupil. But it is none the less to be avoided.

The very first mental faculty to be reached and controlled in education is the attention. It is the first because it is the condition of all the others. A child whose attention has not been developed and trained can not be efficiently reached through any of his faculties. This is explained as soon as we have recourse to our psychology and learn that attention is focussed consciousness. It is consciousness directed to some special object of knowledge. It is not a new and strange faculty; it is merely a phase of consciousness. As such it has its laws, and our study of mind quickly shows that non-voluntary attention, or attention in response to some attractive stimulus, precedes voluntary attention. An example of involuntary attention is our quickly turning to catch a strange sound; of voluntary attention, our application to a particular task, because we will to do so in response to a consciousness that such application is either necessary or is our duty. Then, too, we learn the laws governing the transition of attention as well as the curious and numerous effects of expectant attention. We come to look upon attention as stored in a reservoir, and its activity and intensity at any one time as depending on two things: first, the capacity of the reservoir, represented here by the amount of nervous and mental energy at our disposal, and, secondly, the size of the outlet, represented here by the stimulus which attracts the attention. In fact, the psychology of attention is one of the most interesting parts of mental science, and it certainly contributes as much to pedagogy that is practical as does any portion of the science of mind.

It reminds us, first, that the pupil's attention is continually solicited in various directions by physical stimuli, by new sights and sounds and odors; to gain control of his attention we must offer some stimulus of sufficient interest to counterbalance these. An arithmetic lesson becomes inconsequent while a procession is passing; an exercise in parsing fares ill if there is a fire in the vicinity. And to punish a young child

for his inability to refuse attention to the procession or the fire, is absurd. The control of the attention is only acquired gradually, and perfect control over it is the rarest of accomplishments. Even so calm and self-regulating a mind as that of Kant required assistance in this respect, and when engaged in profound meditation he used to fix his gaze on a neighboring church-spire which was very familiar and therefore not likely to excite him or distract his attention from the train of ideas that was before his mind. It is perfectly natural for the child's attention to flow outward, and it is a great tax upon his powers of self-control to ask him to turn it inward upon some subject of imagination or thought. Similarly we must not expect the child to keep his attention fixed on any one thing for any considerable time. This entails mental fatigue and lassitude, and he must have some new stimulus presented which will call his attention in some other direction and act as a mental tonic. The child needs a certain amount of novelty, and is repelled, not attracted, by a stereotyped phrase or a much-used illustration. Volkmann, one of the most acute of German psychologists, has pointed out that the new education has done away with the maxim of the old—"Make your instruction interesting"—and has substituted for it, "Instruct in such a way as to awaken an interest that will remain active for life." No part of the training of the attention is more important than this. For attention awakens interest, and it is an essential part of the teacher's work to arouse interest in a number of directions and to start the mental activity along those lines in which it is best and most profitable for it to continue in after life. This power of attention cannot be implanted by punishment and force; it must be trained and encouraged to grow of itself. John Locke has some excellent remarks upon Attention (Thoughts concerning Education, 167), and among them one on this very point. He says:

'Tis, I know, the usual method of tutors to endeavor to procure attention in their scholars and to fix their minds to the business in hand by rebukes and corrections if they find them ever so little wandering. But such treatment is sure to procure the quite contrary effect. Passionate words or blows from the tutor fill the child's mind with terror and affrightment, which immediately takes it wholly up, and leaves no room for other impressions. I believe there is nobody that reads this, but may recollect what disorder hasty or imperious words from his parents or teachers have caused in his thoughts; how for the time it has turned his brain so that he scarce knew what was said by or to him. He presently lost the sight of what he was upon, his mind was filled with disorder and confusion, and in that state was no longer capable of attention to anything else. * * * The great skill of a teacher is to get and keep the attention of his scholar; whilst he has that, he is sure to advance as fast as the learner's abilities will carry him; and without that, all his bustle and pother will be to little or no purpose. To attain this, he should make the child comprehend, (as much as may be) the usefulness of what he teaches him, and let him see, by what he has learnt, that he can do something that he could not do before; something which gives him some real power and real advantage above others who are ignorant of it. To this he should add sweetness in all his instructions, and by a certain tenderness in his whole carriage, make the child sensible that he loves him and designs nothing but his good, the only way to beget love in the child, which will make him hearken to his lessons and relish what he teaches him.

Having trained the pupil to substitute ideas and subjective states for external stimuli to his attention, the next step is to develop his ability to attend closely to that which is in itself unimpressive and uninteresting—in other words, to train his powers of application. No power is more helpful to him in after life than this. Proverbs and folk-tales in many languages have shown us that there is a popular recognition of the fact that persistent application will in the long run win as against greater ability indifferently concentrated. For this training the puzzling problem in mathematics or logic and the translation from Greek or Latin are unsurpassed. The hours spent in laboring over a lexicon to determine the exact significance of a difficult construction in Homer or Sophocles, the time and patient thought consumed in working out an original demonstration in geometry or an involved problem in algebra, are not wasted. Every minute of painstaking exertion leaves its imprint upon the character. It is stronger and more self-reliant for each victory gained, just as certainly as it is weaker and more irresolute for every struggle given up in impatience or despair.

The training of the senses is a topic on which psychology suggests much, but on which a great deal of that much has been said. We know that all the material of our external knowledge comes to us through the senses, and therefore the more extensive and accurate that sense-given knowledge is, the richer and truer will our mental life be. Dr. Fitch says something about this in his excellent "Lectures on Teaching:"

> The child who has learned in infancy to look steadily at the forms and aspects of things near him, is later in life a better observer of nature and student of physical science. He gets more enjoyment and more culture from seeing pictures or fine scenery than if he had been accustomed to gaze aimlessly and vaguely at the things around him. He who has been taught, by exercises ever so childish, steadiness of hand and precision of touch is better fitted hereafter to be a good draughtsman or musician. And no training of ear to the finer differences of vocal inflection and expression is without a very important bearing on literary perception and taste. * * * We know that the development of greater sensitiveness to sight and sound is accompanied almost necessarily with the development of intellectual power; that outward expression is a great help to inward clearness; and that whether we call the quickening of physical sensibility a part of lower or of higher education, it is too important a factor in the life and usefulness of a man to be disregarded by any teacher, whether high or low.

Inasmuch as the range of sensibility is fixed by limits but slightly variable, the principal part of sense training will consist in increasing the power of sense discrimination. To do this the young child must be surrounded by objects of varying sizes, shapes, and color, from which he can select those which agree in certain particulars and place them in separate heaps. This is the initial stage, and by increasing the number and complexity of the objects and diminishing the number and prominence of their points of difference, the process may be carried on indefinitely. After a comparatively short exercise of the senses in this way, the mind will be found more observant of detail, more acute and accurate in discrimination and classification. In a well-organized sys-

tem this training begins systematically in the subprimary or kindergarten period and may be afterward carried on through the medium of the object-lesson, concerning which Professor Bain has a useful chapter (in Education as a Science), and with the use of some of the models and charts that the Germans have devised for the purpose. While a sound theory as to sense-training may be said to prevail, yet it is certain that our practice in this respect is still deficient. The importance of sound and psychologically justified procedure in this department of mental training can not be overestimated and should invariably be insisted upon. It has been shown that the study of botany is of great value for the training of the senses, for flowers and plants are easily obtained and they present many minute points of difference and resemblance, the detection of which is a sense-training in itself. Entomologists also claim that their science is of great value as a means of training the senses.

The training of the faculties which next develop—conception, abstraction, generalization, judgment, and reasoning—connects itself naturally and easily with the training of the senses. When the child has observed individual tables of various forms, sizes materials, and so on, he will readily point out what qualities belong to this table as "this table" and what belong to it as "a table." The latter are the material for a concept. Every-day life, the ordinary furniture, and objects in the home or school-room, will supply the ingenious teacher with all the material he can use in a month or two. The centring of the attention on specific qualities and the considering of them apart is the basis of abstraction and generalization, which proceed very rapidly as soon as the pupil has learned to look for causes. The fact that every event has an adequate cause should be kept unceasingly before the learner and illustrated for him again and again with every possible subject and from every possible point of view. History affords examples which are at once interesting and easily traced. Mr. Courthope Bowen (Science and Education, Vol. I, No. 4), in touching upon this subject recently, has given a suggestive illustration. He says that, starting from our modern agricultural troubles, we may attempt a more elaborate chain of reasoning and accumulation of causes in explanation of the peasant revolt in the latter part of the fourteenth century. The demands of the peasants, the actual occurrences of the rebellion, and the events which immediately preceded and followed it, will suggest sufficient causes to the teacher and his pupils, and into these causes investigation may then be made. The analogy between this outbreak four centuries ago and recent events in Europe and America is very striking, and would be a most instructive study for a class of somewhat advanced pupils.

When a student is once impressed with the necessity and value of determing chains of causation between phenomena, whether they be of language, mathematics, natural science, or history, he has come in contact with the true scientific spirit and will never again pass wholly

beyond its influence. Direct search for causes on the part of the pupil himself is the best exercise in this, but a strict adherence to chains of causation by the teacher in his teaching is invaluable. In this, as in moral training, experience has demonstrated that more may be accomplished by the power of example than by direct instruction. As a matter of fact, this teaching by example is now recognized as the most efficient means of imparting elementary instruction in morals. It takes advantage of the imitative instinct, which, all-powerful in some of the lower animals, is still very strong in man, and especially in children.

Having acquired a habit of close and intelligent observation, the child must next be encouraged to describe what he sees and hears, and to do so with thorough accuracy. This is a difficult thing to induce a young child to do, because of his vivid imagination and his fondness for exaggeration. These tendencies can be held in check, however, by keeping before him the object of which he is giving an account, and comparing each statement as it is made with the object. It is also desirable that his account be clear, concise, grammatical, and coherent. Verbal correction is, of course, useful, but nothing will develop the above desirable characteristics so rapidly and effectually as composition writing, when the child is old enough to begin this, under careful supervision.

That this early exercise in careful observation and its accurate expression is of genuine importance to the subsequent mental development receives additional proof from the study of the early training of men who have afterward made their mark in the exact sciences. Very positive testimony may be found in the life of Agassiz (Houghton, Mifflin & Co., 1886, Vol. I, p. 3, *et seq.*). We read there that that love of natural history which marked the great naturalist showed itself in very early life, and that while yet a small boy he had his collections of fishes, birds, rabbits, and other animals, whose families he raised with the greatest care. "His pet animals suggested questions, to answer which was the task of his life, and his intimate study of the fresh-water fishes of Europe, later the subject of one of his important works, began with his first collection from the lake of Morat" (p. 4). Agassiz was also given to amusing himself with all manner of handicrafts when a little fellow.

> While yet young he could cut and put together a well-fitting pair of shoes for his sisters' dolls, was no bad tailor, and could make a miniature barrel that was perfectly water tight. He remembered these trivial facts as a valuable part of his incidental education. He said he owed much of his dexterity in manipulating to the training of eye and hand gained in these childish plays. (Pp. 4, 5.)

The several intellectual processes, it must be remembered, present themselves in infinite complexity, and they are intimately connected. No state of consciousness, even in the pupil, is absolutely simple. It contains an admixture of two or more processes of knowledge. And this fact makes the teacher's work more difficult than ever. It would be comparatively easy to lay down rules first for the training of the attention, then for the training of the sense-perception, and so on, if we

could presuppose their individual and unimpeded development. Some writers on pedagogics express themselves as if this was the case. But the facts are very different. Mind develops as a whole, though various phases of it predominate at various times, and it is not pulled out like a telescope, each section of which takes its proper place before its successor is set in motion. The teacher has therefore to thread his way cautiously through the ways of mental phenomena presented to him and make provision for all the separate influences which he finds at work. Since the development of mind is gradual no date can be set at which the power of conception or judgment will emerge from some fancied prison and begin its course. The more complex phenomena appear very gradually and quietly from the simpler. Yet experience shows that certain periods may be roughly determined, during which some one mental operation with its peculiar capacities and impulses is in the fore-ground. One of the most suggestive of these mappings out of periods in the pupils is that of Beneke. He finds four periods. The first extends to the end of the third year; during this time instinct and the sense activity are prominent. The second period extends from the end of the third to the end of the seventh year; during this time the internal, mental activity asserts itself and increases until it about balances the activity of sense-memory, and imagination develops and conscious design takes the place of instructive impulse. The third period extends from the end of the seventh to that of the fourteenth year; now the purely mental activity increases rapidly, it frees itself more and more from sense, and develops a tendency to abstraction and thought. The fourth period extends from the end of the fourteenth year to the close of school life, and sees the completer development of the higher powers and forms the transition to adult life and independent intellectual and moral activity. Pfisterer, in his Pädogogische Psychologie, proceeds on a division of mental life somewhat more elaborate than that of Beneke. He distinguishes the suckling age, the age of childhood, the age of boyhood and girlhood, and the period of youth. The suckling age embraces the first year of life, and is characterized by the ascendency of instinct, bodily life, and sense. The age of childhood ends at seven, and in the beginnings of self-consciousness are manifest though the outer world is still engrossing. The period of boyhood and girlhood closes with the fourteenth year, and is the period of elementary instruction. The period of youth, corresponding closely with the fourth period of Beneke, follows. Brief experience or a moment's reflection will show that these schemes are valuable, not for what they assert, but for what they suggest. They are based on psychology, but a theoretical psychology. They approximate the truth, but laws to which no exception is allowed must not be founded upon them. The thoughtful teacher will use and not abuse the suggestions which they convey.

But is intellect all of mind? Are there no other sides of psychical

activity? Psychology answers: You have taken no notice of feeling and willing, of the emotional and the active sides of mind; you have spoken only of the cognitive. Of course, feeling and activity exist, and indeed far surpass in importance the cognitive powers, during the early years of babyhood and childhood. They enter into every fibre of our being. No cognitive act is without its pleasure or pain, nor without its influence, remote it may be, on some future activity. The training of the will is the forming of character, the chief end of all education. It occupies the first and foremost place in all pedagogy. The training of the emotions is only less important. The sense feelings, the egoistic and altruistic sentiments, the intellectual, moral and religious sentiments, the æsthetic emotions, the cultivation of taste, fall under this head, and the mere mention of these topics is sufficient to indicate how impossible it would be to treat them in our present compass.

It remains, then, to ask what hint psychology gives as to the ideal in education. What is the aim of it all? What is its deepest significance? To this question psychology gives a two-fold answer, one direct, the other indirect. The first reply is that man must be developed as an end in himself and to participate in the fullest life of the race. The second reply is indirect and comes through ethics, for which psychology furnishes the foundation—sound judgment, proper feeling, right action. But the same psychology that places this same goal before us all, tells us unmistakably that we can not all reach it in the same degree. Our endowments are qualitatively alike, quantitatively different. No perfect human mind is without the power to know, to feel, and to will, but no two minds have these powers in equal degree. Mathematics takes four elements and proves conclusively that the number of their permutations and combinations are limited. Each one of them can be determined. Nature's methods are far different. The four influences of the original capacity, hereditary tendency, natural environment, and social environment combine to form countless millions of minds, no two alike. We may be born free and equal before the law, but we are not born free and equal mentally. Each has his own talents and each his own corresponding duties and responsibilities. That each is accountable for his abilities and for no more and no less than his abilities the parable of the talents illustrates. He who had five talents was not required to return the product of ten, nor was he who had two punished because he returned less than he who had five. Each was accountable for his own. And this is the teaching of psychology, and of ethics through psychology, as to the aim in education. It is the best, alike for all, and yet to no two the same. We are not to envy others, not to despair because we cannot reach their level. Our proportionate ideal is within reach of each of us.

When we are hearing so much of the power of reason and mind, and when the one goal of perfect knowledge and absolute command over nature is being emphasized by some philosophers as that which is to be

reached by all men alike, it were well to remember that there are limits to what the mind can accomplish. It were well to recall the fact that in the eighteenth century the extreme claims made for the reason resulted in exposing the whole fabric of knowledge to the bitter attack of the most thorough-going skepticism that the world has ever seen, and that in consequence the most powerful thinker of modern times made it his chief aim to demonstrate, not the power, but the weakness of human reason; for in this way could he perform the greatest service alike to philosophy and to science. Amiel, whose mysticism is remarkable for its subtle psychological analysis and its profound philosophic insight, emphasizes the moral and religious aspects of this truth in his Journal Intime (p. 83). These are his words:

> We must learn to look upon life as an apprenticeship to a progressive renunciation, a perpetual diminution of our pretensions, our hopes, our powers, and our liberty. The circle grows narrower and narrower; we begin with being eager to learn everything, to see everything, to tame and conquer everything, and in all directions we reach our limit, *non plus ultra*. Fortune, glory, love, power, wealth, happiness, long life, all these blessings which have been possessed by other men seem at first promised and accessible to us, and then we have to put away one dream after another to make ourselves small and humble, to submit to feel ourselves limited, feeble, dependent, ignorant, and poor, and to throw ourselves upon God for all, recognizing our own worthlessness, and that we have no right to anything. It is in this nothingness that we recover something of life; the divine spark is there at the bottom of it. Resignation comes to us, and, in believing love, we reconquer the true greatness.

Psychology is Amiel's warrant for this beautiful passage. It teaches a lesson too little incorporated in education. But no education can be complete which, dwelling on the strength and power and capacity of mind, fails to point out its weakness, its dependence, and its limitations. The well-trained intellect, and the well-moulded character are no longer dogmatic, and they are no longer skeptical. Least of all, are they positive. The truest strength of mind is found in the recognition of its limitations.

DISCUSSION.

D. L. KIEHLE. *Ladies and Gentlemen:* If I were to fulfil the appointment made for me on this programme, I would feel bound to ask the president to make a supplementary explanation, and that I be allowed to discuss a question that has not been presented in the paper. However, I shall not insist upon that; I shall merely say that I will not discuss the subject as assigned to me on the paper. I shall only take occasion to make a few remarks suggested by the paper and by such experience as I have had in the department of education. I agree with and heartily approve the doctrine laid down in this paper. I believe no system of education worthy the name unless it be based in intelligent and learned psychology.

Now, with regard to the application of this doctrine, I observe first, that we are undertaking a discussion in the subject of education some-

what like that in medicine, for there have been those who question whether there is a science of medicine. Yet we agree, that while there is some empiricism there is a science. So in the subject of education, while there is empiricism, there is more and more a re ulation of the laws of education. We have observed this in the laws of medicine, that a man may be well informed in the department of anatomy and medicine, and yet be a miserably poor doctor. He may know all about the anatomy of the patient, and when called doesn't know what to do. It is equally true with regard to the subject of psychology. There is such a thing as knowing all about the science of psychology, and yet when the learned psychologist is brought into the presence of the children, he doesn't know what to do with it any more than he would with a sick baby.

I have known of teachers who, when discoursing upon the subject of psychology, before a class of students, showed themselves utterly oblivious to the forty or fifty boys who were listening to the maxim under discussion. What is true of medicine and true of a man who may be learned in the subject of psychology may be also true of a teacher. He may have learned a vast amount of psychological science, and yet know nothing about teaching or the application of it. The psychologist who will know something about the psychology of a boy must look a boy over and not a book about a boy. Therefore I urge this point, that our normal schools, or whoever else has anything to do with the training of teachers must see to it that they must instruct in the thing itself and not in the book about the thing. Our young teachers in our normal schools who are receiving instruction must be trained in the alphabet at least in the subject of psychology. I have seen the work done in normal schools in such a way from a text-book, that it never occurred to those teachers that there was any object that corresponded to the word "lesson" and "recite."

Now in regard to the work to be done: the leaders of education certainly ought to be psychologists; they ought to lay out the lines broad and see that the training is in the right direction. With regard to our elementary teachers, the rank and file, I don't think I would make psychologists of them. I would have them given some good common-school ideas, such as has been suggested in the paper, in the alphabet objectively, in the alphabet of psychology, so that they will teach intelligently and yet not professionally. I expect some day we shall have a science of hygiene, which every mother and every boarding-house keeper will be required to understand. I suppose that they ought to understand what the tendency of food is, and just about how much food a person should have, but in the mean time Providence has so arranged it, in order to continue the race at all, that the body itself assimilates about as much as it wants, and throws off the remainder. And it is also provided in the home, that the mother, without very much scientific knowledge, has a spiritual instinct when the baby has

a cough, and knows about what the matter is with the children, if the doctor don't; so that the children do grow and a good proportion of them live. Now if the main body, under the care of a loving, intelligent, observing, unscientific father and mother, can grow and assimilate enough to make a man and a woman in the end, I think it possible that there may be a good teacher who is not very far up in the sciences, if he has got the love of the work in him, and is devoted to it, and is fairly observant. Within the last year, having a little girl in school, eight or ten years old, I was on the point of rebellion with the teacher about the manner in which he taught arithmetic. Yet to my astonishment the girl is learning arithmetic. I almost gave it up, but she is going to know something about the science. Well, now, there are two sides to this question. We must not magnify the pedagogical; but I think we must not lose sight of the other side, that the soul of the child, as well as the body, has moral capacity and can get along with a pretty poor teacher if even fairly intelligent and careful.

Now with regard to the character of the teacher: there are some things which a mere discussion in psychology may overlook. It is true that the mind does not aggregate to itself as a snowball. We want more in the illustration; we want a plant, a spiritual plant with a spiritual consciousness, reaching up toward something, with an eye that looks upward; and a begetting of that spiritual purpose and ambition is the very secret of the best kind of education.

Therefore, in our normal schools the most important part of the work is the begetting of the spirit of the teacher. We rebel at taking these young people into our normal schools when they can read well, and it is objected that we keep them there so long. Now, notwithstanding all that, the good normal school, the ideal normal school, is the one that has an atmosphere, a spiritual atmosphere about it, that loves the pupils, gives tone to the taste and the spirit of the teacher, independent of all these intellectual pursuits, so that if the student don't know any more about the books than he learned in other schools, he is a good teacher. Give me the teachers that can beget and foster a high spiritual and intellectual taste. When the doctor comes to your house and looks at the boy and sees that his tongue is clear he says that the boy doesn't need the doctor any more, if he is pale; feed him because his taste is right; he wants rest. And so the teacher that can cultivate a taste for that which is good, good in literature, noble in purpose and ambition, the love by which he shall forgive, is yet a great teacher, and he belongs to that class whose names are enrolled in the scroll of the world's history and will always be remembered.

So much for this side of the matter of education. Therefore I should say, insist upon psychology as a true intellectual basis, but remember that individual character, taste, and high purposes are the essential and highly important characteristics of all good work among teachers.

CITY TRAINING AND PRACTICE SCHOOLS.

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Pittsburg Central High School.

We live in an active utilitarian age. It is pre-eminently an age of applied thought. Its spirit pervades every field of human action and seeks to destroy all that it can not bring into accord with itself. Our school system is not to escape this general test of utility, and if it is to remain, it must prove itself capable of a development which will keep it abreast of the rapidly advancing times. There was a period when teachers were permitted merely to discuss the problems of life and character in temples; but now, by living, by acting, they are called upon to show their teachings true.

We may, perhaps, congratulate ourselves to-day upon the general excellence of our schools. At no previous time have so many things contributed to their welfare. The log cabins of old have given way to well constructed, healthfully located buildings that are justly the people's pride. The personal interest of patrons, the more liberal appropriations for apparatus and libraries, and especially the increased attention given to the careful and systematic training of teachers for their duties are unmistakable indications of the high favor of our schools in the public eye.

But notwithstanding these substantial evidences of prosperity, there exists a wide-spread dissatisfaction with the work accomplished in the schools. When the pupil leaves the care of the teacher and passes over into the hands of the man of affairs, the latter complains that the results of school-room education, for some reason, are not proportional to the time spent in acquiring it; that the pupil is not only unfitted for the practical tasks of life, but he often finds implanted in the boy vicious ideas of honest labor which sooner or later injure or ruin the man. Complaints of this character are not new to the teacher, but with great self-complacency he has hitherto passed them by almost unheeded as unworthy, irrational efforts to estimate the value of his high calling in mercenary terms. This dissatisfaction, however, can no longer be charged to the chronic grumbler or the ignorant opponent of popular education. It is expressed everywhere and by men whose opinions we are bound to respect. It is further emphasized by the significant fact that parents remove their children from school to the farm, the workshop, or the counting room at the earliest opportunity, believing that time spent with books is precious time lost in fitting for the real duties of manhood and womanhood. If it were shown that this preparation can be more thoroughly made in our schools, the necessity for compulsory education laws would not exist. Private schools also are but another partial measure of the lack of confidence in the public schools.

But the most decided expression of discontent is found in the great tendency everywhere apparent to replace much of the old curriculum with other and so-called practical studies under the collective head of Industrial Training. In short, the world has invaded the school-room. It has taken an inventory of the entire outfit and has stamped its price in terms of utility upon all that is done. Whether or not the teacher will be permitted to retain his exalted place in public favor depends upon his energy and intelligence in adapting his work with the pupils to the demands of the practical world.

Evidently the cause of this disturbed condition is either that the studies themselves are poorly suited to develop the mind of the child so that he may successfully assume the duties of the future man, or it must be sought in the imperfect methods employed in teaching them. Judging from the strength of the present movement in the direction of manual training, it is safe to say that there is even a dangerous inclination to the former view. It is a dangerous inclination because it sets up all that is usually understood by industrial training as *practical* against all that we now have as *not practical*, which is a most unfortunate distinction. It must be the first and greatest work of the training school to demonstrate to its pupil-teachers the radical error of this notion, and through them to educate the public to a broader conception of the necessities of the developing mind of childhood and youth. Upon this point let there be no misapprehension. Appropriations for buildings and apparatus for manual training are perfectly proper; but, that education may be symmetrical and complete, similar and equally substantial provisions and training are needed for imparting practical instruction in the rest of the curriculum as well. Practically educating our pupils means much more than pinning them down to the details of a trade. Their education must be made worth more to them than the dollars and dimes they can earn by it. They must be taught that they can leave the world a legacy of character that may be of greater value to it than a legacy of money. We may bring a laboratory, a workshop, a bank, and all the rest into the school-room and still the pupils may receive an education of a most unserviceable nature. If the teacher has failed in the past to mould character with history and literature, he may fail to do it in the future with an anvil and hammer. If pupils now leave the school helpless with their science and mathematics, they may leave it hereafter equally helpless with their handsaws and chisels. Manual training may become one of the greatest "fads" (excuse the word) that has ever tried our schools in this age of "fads." It is even powerless of itself, without improved instruction all along the line, to inspire the young with that respect for honest labor the lack of which is now so deeply and justly deplored. If honest labor has been despised, it is not because it is honest, but because it is unremunerative and the laborer is illiterate. The laborer himself detests it the most, for its grinding demands have prevented that acquisition of general intelli-

gence and intellectual power which alone can command the respect and admiration of men. The most complete and elaborate training in the workshop, if it can be associated with nothing better than many of our present unnatural methods of instruction with books, will not make the mechanic an intelligent man, but will make what might become an intelligent man a mechanic.

The pressing need of the times is that methods of instruction be completely revised and reconstructed, with due reference to the demands that the future may have in store for the pupils. A boy or girl can get a practical education only by having the lessons of the school-room presented exactly as the lessons of life will be presented. They need not be the same lessons—they can not be the same lessons. But anything, everything, all things *actually done* in the school-room give the pupils a sound lesson as to how anything, everything, all things, will be done in after years. It gives them a glimpse of the realities of life which is never forgotten. It is, in fact, a lesson in the realities of life. Everything *practically taught* in the class-room helps to close that unnatural chasm which now separates the realm of books from the world of business. Our schools are said to be in a transitional stage. This is an ever-present fact. They change because the world outside changes, it is to be hoped, to higher and better things. In adapting the training of the one to the requirements of the other lies the heaviest labor of the thoughtful, conscientious teacher. If long experience has given skill in this direction, he must still feel that it has been gained at a fearful expense to the pupil. It is to these tedious experiments of the teacher learning his art by a sacrifice of the child's mind that the present condemnation of our schools is due. The age of experiment for the teacher in the public school-room is happily passing away. Academic training prepares no better for the profession of teaching than it does for the profession of law or medicine. It has at last dawned upon the public mind that if it is important for those who care for a child's body and have charge of its legal rights to have professional training, it is not less important for those who train its mind.

In large cities, now the chief centres of industrial interests and activity, in the bitter struggle between capital and labor, in the severe competition between man and man, people more fully realize that relief must come through popular education. Opportunity is here presented for the training school, if properly managed, to do effective work. In response to the just demands for more practical results in the schools, it must equip teachers who will by improved methods, rather than by new subjects, work the reform. To the mechanic who now deplores as wasted the time he consumed in parsing Paradise Lost it must be shown that the fault lies not with the immortal Milton; to the tradesman whose arithmetic has been of but little assistance it must be demonstrated that it was the arithmetic not taught that is to blame; to all, that if science has not given skill to the hand and keenness to the eye the fault rests not with nature.

If the demands for practical education are most urgent in cities, here may also be found the conditions most favorable to meet them. The function of the training school is distinct from that of the high and normal schools, but it is by no means independent of them. They are invaluable—nay, indispensable in their systematic and uniform academic and professional instruction, and graduation from them may with fairness to all be made the accepted requirement for entrance to the training school. Academic work must be completed and thoroughly done. The individual who can teach what he does not himself know or understand is a creature of fancy. In the high school and college a student studies a subject with reference to his own instruction; in the normal school it is considered with a view to imparting that instruction to others; while in the training school opportunity should be given him to work out those ideas in practice and to improve that practice by a systematic study of the mind development of those who receive the instruction. If entrance to the training school be established upon an academic basis lower than that of graduation from the high school, the tendency will be for the latter to unload upon it its weaklings and the immature, and the stream will be polluted at its source.

An indispensable adjunct of the training school is the practice school. The name "practice school" is somewhat unfortunate, but it should be in fact exactly what its name implies. In it the inexperienced teacher must make his first blunders and learn his own weakness. Here must come the first rude shock between his methods of teaching and a child's methods of learning. Those with experience understand that even the best text-books can be but imperfectly adapted for practical instruction in individual cases. The amount of energy wasted by inexperienced teachers in attempting impracticable things, or in presenting the different parts of a subject in an unnatural order, is simply enormous, while the loss of time thus entailed upon the pupil is irreparable. No more difficult task confronts the teacher than that of arranging perhaps hundreds of lessons so that his pupils may advance regularly without waste of time. Every teacher has his moments of inspiration. To every one comes at least an occasional day when he feels that his work has been well done. A quick wit may be able to prepare here and there a practical, stimulating lesson which will brighten the eye and quicken the heart-beat of the pupils, but this alone does not constitute good teaching. Enthusiasm one day and dullness the next not only lowers the average of general interest but presents a subject in a fragmentary and unprofitable way to the child's mind. Each lesson of the hundred or more must have its clearly defined purpose. That is the absolute test by which it may be determined whether the lesson shall be taught or not. To so select, arrange, and present all the parts of a subject equally well, the difficult as well as the easy, demands a skill which no theory, no lectures, nothing but actual trial and observation can give. It requires trained genius and a mature mind.

That the training school may afford the teacher ample opportunity to formulate and by actual trial discover proper methods of teaching the different branches, it must be an ideal school in its equipment of apparatus and appliances for rendering instruction concrete. The teacher should be trained in the manipulation of ready-made apparatus and should be stimulated to invent additional means of illustration suited to his special need. To this end, if a work room were provided and supplied with suitable materials many a lesson might be made clear, interesting, and useful, which otherwise would go down on the list of things not practical. Above all does he need practice in the management of a class when each member of it is engaged in using apparatus for himself. The peculiarly trying difficulties of this situation are undreamed of by those unaccustomed to such work. Pupils in grammar and high schools are dependent to a much greater extent than is supposed by most teachers upon concrete illustrations for actual instruction. With this in mind, it is not difficult to account for unsatisfactory results when it is considered how meagrely most schools are supplied with illustrative apparatus. Science alone offers almost unlimited opportunity for the teacher to make his instruction of the highest practical value. Here he may teach the pupil to see, to think, and to do. From the lowest grade throughout the whole course, observation and experiment may be carried forward and refined until the pupil's hand acquire the cunning of the accomplished artisan, and his mind the discernment and judgment of a sage. Above all, and best of all, in the apprehension of nature and her laws through his experiments his mind is lifted to things eternal as he finds himself beside that mighty ocean on the shores of which Newton stood.

Perhaps the most grievous lack of young teachers is practical knowledge of the child-mind at work. This knowledge can be gained only by systematic observation and careful study of the child itself. Memory serves the teacher but poorly in recalling the effects, adverse or otherwise, that lessons and objects made upon him in childhood. His training has hitherto been largely a theoretically professional one. The child's mind has been described in the text-books and its peculiarities jotted down as so many shoals and reefs upon the teacher's chart. Stuffed with the psychology of old minds and impressed with the dignity of his profession, the luckless teacher has too often entered the schoolroom in that unfortunate condition of having "put away childish things." In the inevitable and distressing conflict between his methods wrought out in the study and the child's mind instinct with nature, it too frequently occurs that the child and not the methods is thought to need revision. Every child in the practice school must be an object lesson in psychology for the teacher. Especially ought he to be trained in the psychology of the failures, and in the art of developing strength in the weak. In improving machinery it is naturally the weak and imperfect parts that receive attention, but a common failing of young

teachers is to devote themselves, through a misguided ambition, to the strongest portions, which may need assistance least.

Without a model practice school a well-equipped training school can not exist, but it is a feature requiring great tact and skill in its management. Its size should be governed by the number of practice teachers employed, and its grades be such as will afford sufficient range of work. The chief difficulty in maintaining it lies in the well-grounded dislike that parents have to furnishing their children to the inexperienced teachers as subjects for experiment. The difficulty may be removed naturally by the training school proving its worth through its excellence of instruction. The chief responsibility of this rests upon the faculty. The training teacher should combine qualities of mind and heart that are, however, but seldom found in any one. With a broad basis of ripe scholarship he should have professional skill derived from a close study of pedagogics and actual experience in the details of every day class-room work. It is in such details that the inexperienced teacher most needs his assistance. Nothing is more bewildering and discouraging to young teachers than the criticism and instruction commonly typed by the glittering generalities of the ubiquitous professional institute "talker" who possesses the singularly happy faculty of telling others just how to teach subjects that he has never "campaigned over" himself. As a critic, by kindness, sympathy, and rare good judgment he should win the confidence of his pupil-teachers, and yet be so keen, candid, and forceful that a repetition of their mistakes will be impossible.

There lies outside the training school and somewhat beyond its province a condition upon which its ultimate success largely depends. It is the question of the teacher's tenure of office and his salary. The teacher is but human; if considerations of food, clothing, comfort, luxury, wealth, and ease in declining years affect others they must affect him also. It is these human qualities that fit him to be the teacher of humanity's children. But nothing has contributed more to the degradation of the profession than the uncertainty of position and the unremunerative returns. This question is so complex and far-reaching that its consideration requires the soberest judgment. The most singular misconception of the problem is expressed by those who advocate the policy of providing the teacher after a given term of service with a pension from the State or some other source. The unpleasant features of the teacher's life at best, are numerous and humiliating enough. Too often he finds himself at the mercy of ignorant and unscrupulous men who for personal or political reasons may cast him off ruined; it may be without the decent formality of a public charge or trial. His salary, generally meagre and given with begrudging hand, is barely sufficient for his present needs, leaving but little for the inevitable "rainy day." If there be added to these the hateful idea of a pension, it will tend to drive every energetic and self-respecting man and woman from the

school-room. If, after spending a round sum and all one's youth in preparation for a kind of work for the State, which practically cuts him off from other avenues of business, if after long and arduous service in a cause which lies at the foundation of a people's prosperity and a nation's strength, there can be nothing better in store for him than a beggarly pension, then rather than this, let the beggars teach the schools. In this wonderful land of ours, where so many avocations are offering rich investment to nature's capital of self-reliance, energy, and thrift, no calling can thrive or ever be respected whose followers must in the end become pensioners. The safety and perpetuity of the State depend upon the enlightenment of its citizens, and that must be cultivated as their first and highest duty. But this is a strictly business age, and the teacher's calling has its business as well as its professional side. The intelligence of a nation cannot be picked up in the streets for nothing, nor can it be bought as a commodity at so much per pound in the market. It must be secured at whatever cost requisite to support its teachers upon an equal footing with their provident but independent and prosperous fellowmen. There is no demand to-day for martyrs. The individual may understand that popular education is demanded by the principles of our Government, but the country is not so poverty-stricken that it becomes necessary for him to sacrifice his life and the comforts of his family in providing it. Our profession cannot engage and retain men and women of the highest order unless it offers inducements equally attractive with those of other successful lines of business. If this be a mercenary view of the matter, it does not follow that under the operation of the plan suggested only the mercenary will teach the schools. The conscientious man feels that he owes it to himself and family to make the most of the short time allotted to him by nature to provide for the necessities of old age. It happens more frequently that a man, because he is conscientious, is driven out of the profession from a due regard to those dependent upon him than that he is constrained to remain from a sense of duty to mankind in general.

It would be manifestly unwise at this time to bestow upon all teachers the gift of a permanent position. It would be equally unwise to greatly increase the salaries of those positions while it remains so easy for the unqualified to obtain them. It is as important to protect the public coffers from the mercenary as it is to retain competent teachers by good pay.

The natural way out of this difficulty lies through the training school. Its course should be made so comprehensive and thorough that the city would feel fully justified in assuring its graduates the reward of a permanent position, as vacancies occur, and at a salary sufficient for independence through life, and from which a thrifty teacher may lay up a competence for a green old age. These inducements will, on the one hand, attract to the teachers' profession its share of the highest talent that the country affords and direct it through the best channels of

instruction and training that may be offered. On the other hand, it will debar those who from lack of brains or perseverance will not submit to the ordeal of patient, conscientious preparation for a noble work. In the end, this plan will prove the most economical to the State, the most beneficial to the people and the most honorable for the teacher.

DISCUSSION.

The discussion was opened by the reading of the following paper:

TRAINING SCHOOLS.

By William B. Powell,
Superintendent of Washington (D. C.) Schools.

It is of the first importance that teachers do intelligent work at every point of educational effort and that, in turn, they secure work on the part of pupils that is intelligent. Such work is attractive and, if directed aright, is always profitable.

If every effort of the learner were made for the purpose of adding to information, understood and classified, that is, for making the next step into the unknown to secure a broader view or to get more accurate information,—information that is needed, information that is classified when obtained, because sought for a purpose,—the supervision of schools would be made easy. No means on the part of the management of schools should be spared to secure teaching that will result in this kind of effort. Among the means employed to secure such teaching is the normal training school.

The first work of the city training school, and, as I believe, of all normal training schools, is to lead the candidate for teacher's duties to an appreciation of the purposes of the school as an instrumentality in organized society for the development of man to a higher plane of duties and activities. As a learner in school, it has not been necessary, previous to this, to know why the school exists as a factor of social, civic, and moral economy. Every endeavor to broaden the field of his horizon has been to extend the economic application of power gained or of information acquired to the business affairs of life and to secure better self development. All of this variety of application, however, has served to give him preparation for a re-studying (or review) of his acquisitions, in a new light and for a new purpose.

The use to which the young normal student is now asked to apply his knowledge differs widely from all previous applications that he has made of it. He is brought to an understanding of this new use and an expertness therein, however, by processes not unlike those previously employed in his education. The new field in which he is to use his knowledge or acquired skill, or the material upon which he works, is

the child—the human soul. As in the past, when new applications of his knowledge were required, he must make a special and careful study of this new field for such application.

For convenience and clearness of presentation, the work of the normal training school is considered under four heads:

First, the learner or child;

Second, the body of facts to be learned or the course of instruction;

Third, the appliances, processes, and methods;

Fourth, the means of increasing the information and broadening the view of the teacher.

The first requires the study of the human being and the laws of spiritual and physical growth and refinement.

The second requires a new study of academic knowledge or body of facts to be used, involving a new arrangement that will give to this knowledge a quality or attribute not before seen by the learner, namely: that of agent or factor.

The third requires the acquisition of skill in the use of means to the end.

The fourth requires a study of the knowledge taught in the school, on other and broader lines of sources and uses than those on which the teacher has heretofore viewed them.

These four categories of mental and physical processes are given in the order of their relative values and in pedagogic sequence, the first three of which constitute the basis of the science and art of pedagogy.

These are not three co-ordinate parts upon which the superstructure rests, but rather three broad foundation groups of activities in column, the first controlling the kinds and conditions of the second, while the third is easily determined by the conditions, kinds, and requirements of the other two.

For the normal student to begin with the study of the third of these groups is to begin his professional column at the top, or (to leave the figure) to put him in possession of a few or many artifices of whose purpose he knows nothing, and of whose results he can form no correct judgment. This is done by much of the effort of recent years to improve our schools by visiting to observe good teaching, by institute work in which model lessons are given, by the study of methods in training schools, from which pupils go forth in possession of plans for hearing lessons or for doing things of whose educational value they have little or no knowledge.

Scholastic information or academic knowledge, acquired for its own sake or for its economic value, when applied to the business of life, does not properly fit its possessor for the duties of teacher. Teachers thus prepared have done much to improve the race. The world's progress and present condition show how much. A failure to appreciate the work of the schools of the past would betray an ignorance of the growth of civilization and of the factors producing it. Teaching has,

at all times, developed methods for the accomplishment of its purpose. These have been good relatively, because they have been consistent with the ends sought.

But the teaching of the past has done more; it has, here and there in places innumerable, made a study of itself, and has held itself up, as it were, on props, without the apparent interruption of its work or duty, until, by a study of the child, a purpose has been determined consistent with its true mission, whereon has been built a superstructure which is at once a gratification to the practical man and the admiration of the idealist.

It is not to be understood that these three groups of activities are to be developed and taught exclusively in order. For the sake of clearness, however, it will be necessary to so consider them in this paper.

A thorough understanding of psychology can not be given to the normal student at this stage of his development. Fortunately, a thorough knowledge is not necessary for intelligent work in his chosen calling. A few broad principles may be made plain to him and he may be led to understand the application of these to the teaching of the different branches named in the course of instruction, and may be made to understand also those processes and methods by which these branches of information are made to do duty in giving to the child cultivation and information.

Most of the intricate mazes laid down by psychologists are to be scrupulously avoided.

The student can be made to understand in a general way the three great categories of mind-action,—cognitions, emotions, and volitions.

He may be made to understand the three methods of gaining knowledge,—by perception, by induction, and by abception.

He can understand the mental processes employed in gaining information by each of these methods, and may be made to know the channels of knowledge employed by each of these methods, whether original or symbolic, and, if symbolic, whether primary or secondary.

He can understand what classes of facts may be learned through original channels and what classes must be learned through symbols.

In the application of what he knows of mind-action, he can be made to understand that it is necessary to establish in the mind, by means of the first method and in original channels of knowledge, facts or data with which comparison is made when knowledge is to be gained by either of the other two methods, and may thus be led to appreciate the importance of a broad, systematic, and careful training of the perceptions.

After this much is understood, he will readily see the necessity of a corresponding primary training of the emotions and of the volitions, by use of original channels—the establishment of standards for comparison by objective teaching.

He may be led to see the value of example in conduct and environ-

ment for the establishment of facts and standards for comparison by which the child's moral nature is to be trained, and to see also the value and to know the proper methods of induction and conclusion in moral training.

The student at this age may be led to see the value of methodical acquisition and careful classification of knowledge in the training of memory.

These mental processes are so simple as to be readily understood by the ordinary high school graduate, and are so broad in their application as to serve as a safe guide in all the work of the school.

A thorough study of the necessity and use of standards of comparison, gained by means of the senses, through original channels of knowledge, leads directly to the determination and establishment of the first steps in each branch of study.

This statement leads to the consideration of the next division of my subject.

The second work of training the teacher is to lead him to understand the course of instruction in all its parts and purposes. The student is not prepared for this work unless he possesses a good knowledge of each branch named therein, academically considered. All knowledge of the subject and its applications is not necessary.

Now, he should be led to view from the standpoint of an educated person, by turn, each subject considered as a whole, to select therefrom the essentials or framework, that he may see the lines which his teaching must follow in the development of that subject. This analysis requires, first, the ability to distinguish between the principal and the subordinate, which proceeds from an intelligent comparison; second, the courage and good sense to reject for the time being, that unity may be preserved, the numerous interesting facts and processes that are but applications of the knowledge sought to the business, duties, and pleasures of life, and embrace at once that great body of processes and applications called practical that confuse both teacher and pupil, and too often prevent the systematic training of the mind as well as the proper understanding of the subject taught.

Having discovered the outline of essentials, which shall serve as a chart for all the teaching of a subject, the learner next investigates his subject in the light of his knowledge of psychology to determine the order in which his selected parts can be taught. Now he decides that, if the child is to be taught number, he is to begin with numbers of things and not with symbols of numbers of things, and, having been trained in the relation of things numerically compared, he is next to be made proficient in seeing relations of numbers, as represented by their symbols, after which only may he lead the child to make application of this knowledge of relations to the business transactions of life.

Now, in this logical and psychological study of the subject under discussion, the student will find in the application of numerical processes

to business transactions many points at which it will be necessary to leave for a time the work in number and establish in the mind of the child facts as standards of comparison by objective teaching, that is, the establishment of a known from which to lead by training the senses in original channels of knowledge; for he sees that leading from the known to the unknown has a broader and sometimes a different application than leading from the known of the subject teaching to the next higher step in logical sequence.

If the study outlining or of which an analysis is making is geography, the pupil sees, after making his logical outline and determining the lines or departments of knowledge by application of the laws of mind-growth, that there must be established in the mind of the child, before he can do intelligent work, by the study of book or map or chart, *data* as standards for comparison, as diversified as are the kinds of facts to be learned. These, he knows, are established by means of the senses, through original channels of knowledge, and that these channels must be sought in field and valley, on the mountain side, in the mine, in the factory, in the kitchen, in the parlor, in the art gallery, by observation of processes and their effects, by observation of changes, by comparison of material before and after processes.

Not only does the young teacher learn by this analysis of the subject the logical arrangement of the parts thereof, but he learns also the psychological sequence of the parts; not only does he learn the place of each part, but he learns the relative importance of each part of the study and decides upon the relative time and emphasis to give to it when teaching it, and thus learns that a symmetrical short course is but a part of a symmetrical long course of the same subject. While learning what to teach and deciding the proper sequence of what he teaches he should be led to investigate anew the sources of information and to determine the practicable means of presenting it, and should be made to prepare much of the material necessary for the proper presentation and development of the subject.

By means of this analysis of the subject and of the processes employed in teaching it (I distinguish between processes and methods of class instruction) the student learns to distinguish between the means by which the subject is developed and the product for which the subject is taught. He learns to make maps and charts, not as an end to be exhibited for prizes, but as a means for the development of relative size and position, and takes no pride in sand-maps and product charts, except to show them as a means by which he has trained his pupils to study methodically and understandingly.

The normal student learns by this careful study of relations, values, and purposes, by the classification and arrangement of knowledge, the place and purpose of objective work, and decides that object teaching is not a branch of education by itself to be taken up as a separate study, but that objective work must form a part of the means by which

every branch of information is taught the child during the formative years of his life.

From the standpoint of him who logically views a subject, every department or branch thereof is seen in its relation to the whole, and every part of information connected therewith is so classified that its value is known and its connection to the subject as a whole is understood. The best teaching is possible only with such a view in mind.

But the teaching contemplated by this paper and demanded by the schools of to-day does not proceed from this logical view, however clear and perfect it may be by partitionings and definitions and illustrations. A re-arrangement of facts must be made, suited to the possibilities of the learner and the requirements of the growing mind.

If a tree felled before the learner were the object of investigation and study, or if the tree were to be reduced to stovewood and carried away in armfuls, the thought would be but imperfectly illustrated by it.

The master hand could and would begin work at the base of the tree; the child, however, can begin only at the extremities of the different branches. The treatment of the work by the master is that which proceeds from a logical view, but that which the child can do must proceed from a plan which affords him work suited to his strength and skill. This demands an entirely different arrangement. But only he who can see the logical arrangement is competent to make a new arrangement that is adapted to the growing abilities of the child, and that will ultimate in the mastery and logical arrangement of the whole; or, to broaden the application of the figure, the tree with its great branches and its many smaller ones shall represent the whole body of facts, by means of which the child is to be trained. Its outer parts, those tender twigs which alone the child can break and carry, belonging to all the different branches or limbs, so formidable where they unite, are the parts with which the child must begin.

He only who sees this great work in its entirety can properly direct the work of the child that it may always be possible and interesting to him, always profitable and always leading to those combinations and unions of parts that are places in his progress that mark the limits of units of work and also the combinations of units of work into higher units.

No teacher who has studied methods alone can do this work, however proficient he may be; no teacher who has academic information alone can do this work, however broad and diversified that information may be; no teacher with academic information alone, though possessing skill in class management, can do this work aright.

He only can do this work who has a logical view of the information and can make and understand such natural arrangement of it as is suited to the needs and possibilities of the child and as will ultimately lead to and result in a knowledge of the facts and a logical arrangement of them.

This viewing and arranging of the body of facts and processes, called a course of instruction, can be made intelligently only by him who understands at least as much of the philosophy of mind-growth and development as has been suggested before in this paper, and these two studies—the study of the child and the study of the body of facts and processes to be taught—developed in parallel lines, the study of each aiding in the study of the other, under skilful direction and by careful and adequate observation of children in training, should constitute the chief work and demand the main effort in the normal school course of him who would be a teacher.

I emphasize this part of the work of normal training, because, after varied and close observation I am persuaded that poor work in the schools is due mainly to the absence of an intelligent knowledge of its purpose and value, and I am further persuaded that an enthusiastic chasing up and down the land for institute processes, or for summer school methods, will not result in better work, if they are to be practised by teachers who know not their application and are wholly unable to test their results.

Methods, natural methods, proper methods, intelligent methods, efficient methods, proceed naturally, easily, and inevitably from this intelligent view of work to be done whenever opportunity offers for its doing.

With this heterodox statement I proceed to the third part of my subject.

It is now necessary to require the pupil to study and arrange smaller units of work by the employment of the same philosophy and the same mental processes used in the analysis of larger subjects. The object of all this is that the pupil-teacher shall know why he does this work in every instance. This *why* includes the psychological *why* and the academic *why*. The pupil-teacher is made unwilling to do work whose double purpose is not seen; unwilling to do work whose parts are not arranged; unwilling to do work that is unsymmetrical; unwilling to do work unsuited to the capacities of the child. The teacher is thus trained to form an intelligent estimate of his own work, for each point developed is a test of the strength of the pupil, which, in turn, is a test of his own success.

The pupil-teacher must learn to teach by teaching; few can learn well by observing the teaching of others. As well attempt to teach a person to sing, or to play an instrument, or to preach a sermon, or to plead a case at law, by observation.

This teaching should be done under circumstances and conditions as nearly like those with which he will be confronted in his regular work of teaching after leaving the normal school as it is possible to make them. He should be put in charge of an entire school, and should be held responsible for its conduct and general management, as well as for the teaching, long enough at one period to develop and teach at least one unit of work in each branches of study, and

should have one or more periods of practice in each of many grades, and, if possible, in each of all grades of school.

It is practicable and profitable for a class of twenty normal students to teach four or more schools. It is found at the close of the year that schools so taught have been better taught and have made more advancement than other schools in the system of corresponding grades taught by good teachers.

The poor teaching at the beginning of the year must be met by ample supervision.

The work of the training teacher now is, *first*, to know that the pupil-teacher understands definitely and broadly what he is to accomplish, *not* what he is to do; second, to inspire and encourage him to work intelligently, honestly, and earnestly. The student should not be burdened with formal methods, suggesting questions and answers, or any other "toggle-and-link" contrivance that weakens or destroys originality and represses spontaneity. With the outline of work to be done well in mind the teacher develops strength more rapidly if he is allowed to invent his own methods of giving it. Just criticisms after the work has been done will result in more successful methods the next time, and the teacher will thus learn to criticise his own efforts respecting unity, method, symmetry, completeness, and style.

The kind and just criticisms of the training teacher during the year (all just criticisms are kind), as well as those made by associate members of the class, will free the teacher's efforts from all radical error and trim from them much of their crudeness and give to them method, accuracy, and efficiency.

The pupil-teacher by this work does not prepare for his future use a book full of sample lessons, but he acquires the ability and strength to analyze a unit of work, to arrange the parts in proper order to be taught, and to know the values of the parts, and acquires an original way of developing them, which is good, because it has been developed by trial and proved by criticism, but its chief merit is that it is his own. The same reason exists for developing the individual when a teacher is made as when a child is taught in the schools. Imitators do not do good work. Their work requires too much supervision, too much readjusting and setting right.

It now remains to speak of another work in the preparation of the teacher. This should begin in the normal school. The teacher will find it desirable to continue this as long as he finds it desirable to teach. I refer to broadening the view of the student by bringing him under the influence of mature and well-developed minds. In addition to teaching at least one unit of work in each branch of study in each grade of school, he should be required to visit the various grades of school, following a prescribed plan. Each visit should be made for a definite purpose. The visits will therefore be systematized and reported. The results must be criticised. The pupil-teacher, during the last half of the year, should attend all grade meetings, held either for

specific or general purposes, should be made to report these, and should have his reports criticised. He will not understand grade meetings at the beginning of the year; they will serve only to confuse him. He should hear lectures by specialists toward the close of his normal school year—the artist, the scientist, the successful business man, the historian, the traveller, the physician, the lawyer, the school superintendent, the college specialist. I don't include in this list the institute lecture fiend. These lectures, too, may be reported and the reports criticised. I would have these lectures for the purpose of giving the pupil a broader general information, a broader view of a general application of knowledge, not expecting that everything heard would be remembered, but believing, if the lecturers are properly chosen that everything heard would be understood and classified, for the student's work of the year has been to train him to understand and to classify.

The teacher's mental horizon must ever recede, his plane must broaden. I would have these lectures that this thought might be impressed on the young teacher and habits consistent therewith fixed. The teacher should ever work with that nascent inspiration belonging to new growth and new achievements.

I would have the normal student listen to the words of successful men for another reason, namely, that his work shall be imbued with and inspired by the latest thought, the latest process, and the latest application of knowledge; that his teaching, whether literary, scientific, historical, or other kind, shall be in harmony with the latest developments of those subjects.

How many a myth is thus dispelled, how many an error is thus corrected, how many a formula is thus eliminated, which otherwise poor childhood must learn only to be forgotten.

I would have the pupil-teacher visit art galleries, museums, libraries, public works, business houses, factories, police courts, asylums, by direction and for a purpose, to see the results of effort, to catch the spirit and know the ways of life, and to learn the tendencies of man under the varying conditions of development.

The pupil-teacher must be made to know early in his career that true education lies along those lines that lead to the highest culture and the broadest economic value.

The following paper was read in continuance of the discussion:

THE PURPOSE AND MEANS OF CITY TRAINING SCHOOLS.

BY S. S. PARR,
Superintendent of Schools, St. Cloud, Minnesota.

Ladies and Gentlemen: Before beginning some points of the paper which I have prepared, I desire to review briefly, thinking perhaps by so doing I could have the attention of this meeting to some of the remarks which have been previously made upon this question. I think the gentleman who preceded me missed the f[illegible]each exercise has

been preceded by an apology. Now I think I have not missed that fact. I want to apologize that I missed the subject in thinking of the first paper. It seems to me that it was directed to manual training. There is running through all these papers a vein of curious criticism. I want to quite agree with what the gentleman said in regard to definition, only I want to push that thought one step further and define the normal school itself. The definition, like charity, begins at home, and the normal school can do no better than apply that definition to itself.

The historical origin.—The city training, or normal school, is an American institution. There is nothing like it in purpose and organization in any European country. Normal schools there are either state or denominational instrumentalities. The American city normal school is unique. It is the creation of the municipality to which it belongs, and is intended to supply a local demand. Schools of this class are commonly founded under the special or general act empowering the corporation to organize and maintain schools of various kinds.

According to the reports of the Bureau of Education[1] the first training school organized in this country was that of Philadelphia, in 1848. Boston followed in 1852; St. Louis in 1857; and Indianapolis in 1866. According to the latest report there are about twenty-six such institutions now in operation.

City training schools are a part of the general movement to secure intelligent and trained teachers. This movement originated in Germany, at the close of the seventeenth century, and has spread from there to all civilized countries. The distinct impulse to which we owe our American normal schools is that inaugurated by Horace Mann and Edmund Dwight in Massachusetts, in 1839. The New York and Pennsylvania schools are a fruitage of the Massachusetts movement. The normal schools of the three States mentioned have inspired those of the remainder of the country.

The principal cause which has called city training schools into existence is the fact that in thirteen[2] of the States supplied with State, city and other normal schools, the ratio of teachers instructed at such schools to the whole body of teachers is only eighteen per cent., and that in six[3] States among those best supplied with normal schools of all kinds the ratio of yearly graduates to the number of new teachers demanded is only about sixteen per cent. of that number.

Another influence which has led cities to organize training schools of their own is the quality of State normal school work. These schools pitch their work mainly to the needs of the rural districts, from which their pupils come, and to which they as teachers return. The pupils

[1] Report of the Commissioner of Education, 1883-87.

[2] California, Connecticut, Kansas, Maine, Massachusetts, Minnesota, New Hampshire, New York, Pennsylvania, Rhode Island, Vermont, West Virginia, and Wisconsin. See Report of Commissioner of Education, 1886-87.

[3] New York, Wisconsin, Massachusetts, Pennsylvania, California, and Kansas. *Ibid.*

derived from these localities are deficient in the commonest elements of technical academic knowledge, and require that by far the greater part[1] of the instruction given shall be applied to supplementing this deficiency.

If we take into account that each locality selects its teachers mainly from among its own citizens, in connection with what is true of the quality of State normal school training it will at once be seen why cities, which draw the largest supply of material for teachers from high school, academy, and college graduates, have organized normal schools to supply their own special needs. Omitting the professional subjects from the curricula of our State and private normal schools, their training belongs to the high school or below. Persons of the classes named are already possessed of the common technicalities of academic knowledge, and can not be induced to subject themselves to a course of training of which this kind of knowledge is the staple.

Cities sailing on the sea of politics, as a ship sails on the main, says Plato, in the "Laws," have to be watched night and day. Yet they are always centres of educational intelligence and progress. They are ever ready to give new ideas a trial, and to adopt and use whatever has proven itself good. This spirit has made them the first localities of limited extent to demand special training for their teachers. Their population and wealth have made it possible to realize this demand.

Sailing on Plato's sea of politics has introduced another element into the educational life of cities that has undoubtedly had much to do with the founding of the class of schools we are considering. Influential members of city school-boards of city councils, and of the controlling political element, have relatives and friends and the dependents of their supporters and followers, who must be provided with opportunities for place. High school graduates have their friends at court to urge their claims for place in the teaching force of the schools through which they have come. The country towns and smaller cities send up their sprinkling of experienced and aspiring teachers who wish to push their way into the teaching force of larger places. To offset the claims of this class, high school graduates and those who are advanced by personal favor must, in decency and deference to public sentiment, claim for themselves the advantages of professional training. City training schools provide such persons facilities to this end, and afford a line of escape from crudity and inexperience to the schools themselves.

In brief, such appears to be the historical genesis of the city training school.

The purpose of the city training school.—The purpose of all normal

[1] The Report of the Commissioner of Education, 1886–87, pages 398–399, shows by actual count twenty-two academic studies or terms, and six professional studies or terms, in the type of curriculum given for the Pennsylvania schools, as representative eastern schools; and twenty-five academic and six professional subjects or terms, in the California schools, as representative western schools.

school work is the same. Schools exist in different environments. Pupils present themselves possessing the most divergent kinds of intelligence. The demands of the localities for which particular schools train teachers are variable. But in all this diversity there is a recognizable constant. This is the quality which forms the dividing line between academic work—that common to high schools, academies, and colleges—and that which, by contrast, is called professional training, and has as its specific end intelligence, skill, and efficiency in the art of teaching.

The purpose of anything determines its nature. The quality of professional teaching-knowledge is fixed by its design or end. It relates to certain specific activities of the human mind, concerning which it deals with definite and chosen relations, selected to suit the organizing idea of educational science. The science of education finds its significance in the art of teaching, which is a process of doing intended to produce a succession of foreseen changes, each of which holds definite relations to the other changes of the series. Each change is produced by the application of means which are consciously chosen to accomplish their work.

The fundamental thought in teaching is that of conscious purpose and conscious means. Teaching does its work by studied steps. It is not a game of chance, in which the end is not seen, or, if seen at all, appears as through a glass, darkly. Means are not selected at random, the hand using the first tool it falls upon. In these conceptions lies the difference between teaching done on a foundation of academic knowledge, however lofty its quality, however high the grade of institution which bestows it, and that which rests on the fundamentally opposite basis of true normal school training. The academic teacher wields his pupils' minds and his subjects at random. He is like the marksman who fires at the target with his eyes shut. Such a teacher is wanting in systematic insight into the effects his means produce; he does not distinguish between the essential and the accidental; and does not perceive the successive steps necessary to the end sought. He is an arbitrary and capricious manipulator of subject and pupil.

Such teaching is the polar opposite of what professional training seeks. The goal for which it strives is *conscious, intelligent wielding of the pupil's powers and of the subjects of their exercise.* For the accomplishment of this end, development is a process in which the place and value of the various means must be recognized. In conceiving the school as an agency for growth, the difference between spontaneous education and school-training is a distinct and well-defined conception. The aims of the school, direct and remote, are discriminated. Training is a process involving definite forms of activity. The modes of adapting particular minds and particular subjects to each other are, to the end we are considering, matters of conscious thought. Whatever it may be called, the school-process has true professional quality when it has these character-

istics; but, under any circumstances, however broadly it may be labelled normal school training, if the quality of conscious action is lacking, that is what it is not.

We can not reasonably argue that the normal school must not do any academic work. Taking into account the classes of persons from whom teachers must be drawn under present circumstances, a large share of the training of most teachers' schools must be academic. Institutions of this class do not become culpable until they crowd out the professional work they may justly be expected to do and allow the opposite quality of training to supplant it.

We must hold clearly before our eyes the fact that the difference between academic and teacher's training is a qualitative and not a quantitative one. There is a qualitative difference between general psychology and educational psychology; between a general knowledge of the nature-sciences, language, history, or mathematics, and a teaching knowledge of them; between the history of education for general intelligence and the same facts organized to enlighten the process of teaching, and between that view of organization, government, recitation, and other sub-processes of the school which serves all classes of people, and that view of them necessary to wield the school as an instrument. Whether the course extends over a week or over four years, whether it trains in but one subject or in the whole curriculum of subjects, this qualitative difference is the organizing principle of all normal school work.

The normal school exists to make its pupils conscious of this difference, conscious of the sharp contrast between the action of mind in the one kind of exercise and its activity in the antipodal kind. Such schools find their lasting reproach and disgrace in allowing their pupils to step back and forth between academic knowledge and what they call professional training, without any consciousness of the fundamental distinction in the quality of thought in each. The moment the normal school fails to realize this end, it may be a teachers' school in name, but it is not so in fact. Its halls may be filled with academic specialists, who are stars of the first magnitude; it may be equipped with libraries, laboratories, museums, and every other form of appliance, but the presence of specialist and appliance serves only to emphasize the all-pervading poverty in the essential elements of teachers' training.

In schools in which the two kinds of work must go on side by side, the destruction of the professional quality by academic training is prevented by rendering the pupil conscious of the difference, whenever he comes within the field of either, in their purpose and means. He must understand that both forms of knowledge are modes of thinking objects as ideas. In academic thought the powers of the mind are applied to dissolving facts in the crucible of understanding. Consciousness is directed toward the objects upon which thought is exercised, without direct reference to the mode by which means may be used to reproduce the train of thinking which constitutes this consciousness. The pro-

duct of such action is a series of conceptions which, as Hamilton says, is logical in point of form and possesses that correspondence of idea and object which we denominate truth. It is formed without any thought as to how the process which creates the conceptions may be reproduced in another mind. But in all teaching knowledge the question is constantly present, How can this train of thought be used to reproduce itself or its related counterpart in the mind of another person? What is the value of this series of ideas in stimulating a given class of minds to realize their possibilities of action? How can the value of this form of mental activity be expressed in terms of the development of mind?

Finally, to reduce teaching knowledge to the simplest form, it is a kind of introspection. Perhaps the thought is nearest the truth when we say that it is a special application of what Porter calls the philosophic consciousness to the problem of mental growth under stimulation. A good name for it is the teaching consciousness. The presence of this form of consciousness is the essential characteristic of normal school work. The purpose of the normal school is to confer the habitual and studied power of this phase of introspection. Its presence constitutes growth of any kind professional teachers' training. Its absence decides beyond question that the thought in which it is lacking is academic in quality. Psychology, method, school-economy, and the history of education are as thoroughly academic as chemistry, astronomy, and the calculus, without they are accompanied by this form of introspection and by the thought of the conscious use of subjects and faculties as means for the production of definite and ordered development.

The city normal school exists for the purpose of conferring the teaching consciousness on its pupils, or, at least, advancing as far toward this end as its circumstances will permit. If this principle be admitted as a fact it is plain that its end is to secure thinking and power of a certain quality. The amount of exercise the school can bestow must be fixed by the environment in which it exists.

The means of the city training school.—The conception which is complemental to the idea of purpose is, of course, that of means.

Definite conception of the purpose for which anything exists is itself a means to enable that object to realize its design. Purpose is a general category and must be carried into the details of exercises, lessons, and subjects, no less than into the thought of the nature of education. It is the major of the two great organizing conceptions of training, its complement being the category of instrumentality. As an organizing idea it demands quality of thought as its predominant element and quantity of ideas as a secondary consideration to this.

The principal means in school education of whatever kind is the free action of the pupil's powers. Everything else is subordinate to this. It is the agency at the centre of the process. Results flow directly from it. The teacher is a director of these powers. He supplies occasion for their exercise by wielding them upon the subjects of instruction.

The secondary instrumentality that conscious teaching uses most directly is the stimulation of the pupil's powers by some ideal of action, which is possible to the will, presented as a thought to the intellect. The pursuit of this end furnishes activity, out of which come habit and growth.

The teacher is a primary means in another sense. Through him the pupil is furnished conventional forms for his activity and thus saved the effort of repeating the tiresome toil of the race in discovering culture.

The guidance of the course of study and the use of text-books, libraries, laboratories, seminaries, classes, etc., are secondary means. Through them the teacher wields the pupil's powers upon subjects and moral acts. They are convenient devices for fixing lines of action for the pupil's thought and effort and for the teacher's direction.

As the purpose of the city training school is qualitatively distinct from that of other schools, so must be its means.

In academic study the powers are exercised on the general relations of things for the purpose of understanding them. These relations are the ones that give insight into the place of their objects in the world of nature or of spirit. Through them the object is classified, generalized, and explained. Its relations of time, space, cause, substance, part, contrast, and design are traced with a view of reducing it and the way it acts and reacts on its environment to terms of thought. The result is a knowledge of the thing as a reality possessing possibilities, which plays a part in the infinite warp and woof of material being or of spiritual existence. This mode of exercise of the human powers is designed to give what Rosenkranz calls a view of the world. In its acquisition consciousness is directed toward objects in its single or undivided form. The mind is not concerned with the processes by which results are reached, but with the results themselves.

In the training of the city normal school the faculties are exercised on the same objects and the same general relations as in the graded school, academy, and college, but the knowledge and power sought are different. They are to serve another end; they are to give special intelligence in the directing of one mind by another for the purpose of school training. In the particular nature of this exercise of the powers of body and mind is found the qualitative difference between the means of normal school and academic instruction. The quality of the means is in the way the act of thinking or doing is performed. The subject studied or the deed done may be the same as that employed for graded school, high school, or college work, but the mode of thought or action differs according to the purpose which it serves. In the fact that every lesson studied and every exercise participated in must be consciously examined in its bearing on the school process is the most comprehensive conception involved in the consideration of the means of the city training school. If this relation is lost sight of, the study or act at once lapses into the means of the high school or other institution of that *kind.*

In the exercise of the faculties for their training in teaching power, as in the act of teaching itself, there is involved a double consciousness. On the one side this consciousness thinks the idea as a thought or truth, on the other it looks at the activity involved in it as a means of developing the mind of another. This duality of consciousness is, without exception, characteristic of all normal school means. It is as distinct from the consciousness of ordinary thought as perception is from memory. Its use goes into every lesson and every exercise of the teachers' training school, and gives it, as a means, a quality its ideas did not before possess.

As the purpose of the normal school is to bestow this form of consciousness, so its presence in every part of the curriculum is the most characteristic means employed. These two facts—the purpose sought and the presence of this purpose in every exercise of whatever kind—are the organizing laws of the normal school. They constitute the governing chart for its conduct and furnish the true criteria of its success.

Criticism of existing schools on these principles.—The author of this paper regrets that the time was too short to collect information as fully as seems desirable. This fact will excuse any generalizations that seem hasty.

Out of twenty-five courses of study inquired into sixteen were one year in length, five were one and one-half years, one two years, one three years, and two four years long. Schools having a one-year course, as a rule, spend one-half this time in practice teaching. This reduces the time given to professional study to something like twenty weeks. In this short period the student is expected to acquire a working knowledge of educational psychology, method, school economy, and the history of education. That amount of time is not sufficient for any one of them.

In fourteen out of the twenty-five schools examined, after subtracting from the faculty the teachers in the schools of practice, the professional instruction is given by one person, a condition which renders specialization of teaching impossible. This arrangement virtually reduces what is denominated a school to a chair of didactics, with a practice school attachment. The chair of didactics is not adapted to the wants of high school graduates.

The shortness of the course in most of these schools is due to two causes. In all except three of the twenty-five schools, graduation from high school, or its equivalent, is the condition for admission. Owing to the confusion which exists in even intelligent people's minds concerning what constitutes preparation for teaching, and in consequence of the belief that high school training constitutes preparation for the duties of the school-room there is no demand for a long course of teacher's training. Further, the persons who enter city training schools are women, who take up the business of teaching for a time, but not with the expectation of making it their life-work.

Those schools having courses three or four years long[1] are more properly high schools than normal schools. In one of these, out of a total of fifty-two subjects, eight are professional, and forty-four high school academic. In another of them, in a total of 3,648 exercises, constituting the course, 364, or 10 per cent. of the whole, are of a professional nature. Indeed, these schools, for those who become their pupils, take the place of the city high school.

The general belief in the efficiency of practice, or experience, as an agency for fitting teachers is attested by the fact that eighteen out of the twenty-five schools, whose workings have been examined, have practice schools as part of their equipment; seventeen of these are of the number of schools which have courses of training not to exceed one and one-half years long. Thus in nearly all cases, fully half the time of preparation is devoted to the practice of the art of teaching. As previously pointed out, practice and criticism are alike empirical. Perhaps the explanation of the presence of this large element of unscientific effort is due to the failure of didactics as a science to assert itself with authoritative force, owing to its own indeterminate and empirical nature. Much of the want of direct connection between the theoretical and the practical elements, plainly apparent in most city training schools, may, we think, be traced to the same source.

In the curricula of the twenty-five schools examined there is a great variety of terms applied to what is called professional work: "Science and Art of Teaching," "Theory of Teaching," "Educational Science," "Didactics," "Pedagogic Method," and the like. These terms show the curricula to which they belong to be wanting in an organizing idea; they are characterized by the diffuseness which springs from lack of organization.

Educational science, looked at quantitatively, falls into four kinds: 1. A study of the mind as an activity developed by conscious means—Psychology; 2. A study of the modes by which the pupils' faculties and particular subjects are adjusted to each other—Method; 3. A study of the school as a process involving Organization, Government, Study, Recitation, Play, and Æsthetic and Religious Training—called, for want of a better name, School Economy; 4. A study of the historical development of the teaching consciousness—History of Education. The subjects named are the special applications of the principle of the teaching consciousness to the process of training, and comprise the entire scope of the normal school curriculum. They represent the systematic means of teaching organized about one comprehensive and dominant thought.

The gradual increase of city training schools shows a rising barometer of popular appreciation of the conception of trained teaching, and an awakened consciousness of the value of professional training, among

[1] Examples of these are the Girls' Normal School, of Philadelphia, and the Normal College, of the city of New York.

superintendents, principals, supervisors, and other classes of directive school people. In this they are an earnest of continually better successors, until their places shall eventually be filled by institutions which give professional training of the highest type.

COUNTY INSTITUTES.

By Albert G. Lane,
Superintendent of Cook County (Ill.) Schools.

During the last ten years numerous meetings of teachers have been held, for various periods of time, and under several different names. The terms "teachers' meetings," "conferences," "institutes," and "conventions," are commonly used to denote the meetings, continuing from half a day to one week, in which the time is devoted to general lectures, papers on theory and methods of teaching, school economy and management, followed by a general discussion of thoughts presented.

Institutes, assemblies, teachers' retreats, summer schools, and summer normal schools are names applied more generally to gatherings that continue in session from two to six weeks, in which continued instruction is given in academic and scientific subjects, in psychology, theory and practice of teaching, and methods and principles of education.

The verb *to institute* signifies to begin, to set in operation, to fix, to appoint, to prescribe, to train, to educate, to discipline, to form by instruction.

Then *institute*, the term most commonly applied to teachers' meetings of every kind, signifies that which begins to set in operation at a fixed time, according to appointment, a prescribed outline of work, the subjects to be so related, presented, and taught by an expert that the teacher may learn how to train a mind so that its unfolding powers may be quickened and led out systematically by the discipline of repeated correct action and thought.

In Illinois, the statutes provide that the "county superintendent of each county shall hold annually a teachers' institute continuing in session not less than five days at such times as the schools in the county are generally closed. The superintendent is authorized to secure such assistance as he may need, but the instructors must hold certificates of approval from the State superintendent."

There were 13,660 teachers in attendance in 1886 out of 23,000 teachers in the State. The total cost of these institutes in 1886 was $27,550. The expense is met by a fee of one dollar paid by each applicant for a teacher's certificate or for a renewal of a certificate. Counties are authorized to make additional appropriations. This law was modelled after the Iowa law. In that State there were 18,000 who attended in-

stitutes in 1886, out of a total of 24,232 teachers, the expense being $49,781. New York reports 18,295 in attendance out of 31,000 teachers. The expense was $19,000, which was paid by the State.

Pennsylvania 18,000 out of 24,000; cost $38,000, paid by the counties.

Ohio 14,000 out of 25,000; cost $20,500, paid by the counties.

Indiana 13,734 out of 14,006; cost $9,000, paid by the counties. The Banner State!

According to the last report of the United States Commissioner of Education, out of 28 States reporting an entire teaching force of 276,000, one-half, or 189,000, attended institutes.

Some of the States, New York and Pennsylvania, provide by law for the dismissal of the schools for not over one week, and teachers receive their salaries if they attend the institute. The Illinois law provides that the schools may be closed not to exceed five days in the year, nor more than three days in one term, and that teachers shall be paid if attending an institute. This is intended to provide for special extra meetings of teachers beside the regular county institutes.

The great body of teachers are employed in rural and small village schools; their education is limited; their means of acquiring special knowledge of school work by association with others at their homes is restricted; their possession of books and periodicals relative to teaching is inadequate; their power to train children is undeveloped and deficient.

About one-third of all the teachers of this country are attending the meetings which are held for special professional improvement. The statistics showing that about 140,000 teachers attended institutes in 1886 indicate the pressing demand for the most skilful, wise, and efficient management of institutes that can be devised, so that this army of men and women who mould and shape the lives and characters of millions of children for weal or woe, may be aroused, inspired, instructed, and fitted to perform the important duties of their high calling.

Teachers' gatherings have been common in many sections of the country for forty years, and have been instrumental in making some teachers realize that their work was one demanding the highest order of talent and the broadest preparation. They have raised in the public mind a limited sentiment of appreciation for skilled teaching, but *skilled teachers are scarce.* The demand exceeds the supply. The best evidence of advance and growth in professional training for teaching is found in the efforts of teachers to meet the demand for broad, comprehensive work in training child mind. Many of the institutes are very limited in their work, confining the instruction given to the branches upon which examinations are held. In fact, they devote most of the time to a review of the common branches. There are undoubtedly localities where this kind of work is most needed; but the instruction should be given by experienced teachers, who have power to present the work so as to develop *true educational* principles.

The greatest demand, then, is for a better knowledge of the objects and purposes of an education, and of what constitutes real power in school training.

Institute work, as arranged and conducted in many places, does not meet the requirements of the active, progressive teachers; hence they do not attend the meetings.

Many teachers lack a proper appreciation of their real needs. They are able to satisfy a people equally ignorant of the possibilities involved in the training and education of children; therefore they become indifferent and do not avail themselves of the opportunities offered for their improvement.

State superintendents are limited by a failure of legislators to comprehend the far-reaching consequences and value of the educational work of the State. Smaller appropriations are made to supervising school officers as a rule than to any other department of the Government. This is true also in counties or districts outside of cities, where officers examine, supervise, and direct teachers.

How shall the institute work be made more effective?

By securing as institute instructors the best teachers that can be found in the land. By recognizing that both subject-matter or direct instruction in the branches to be taught and the laws and principles of mind growth in a child must be presented; that the teacher must see these facts and principles developed in children, and that he must be able to observe true mental laws in presenting work to them. By enlarging the powers of the State superintendent, providing additional assistants, who, with the superintendent, shall be able to systematize, develop, and encourage the institute work of the State.

How create a demand?

By legal enactment, as has been done in States where officers *are required* to hold a county institute for at least five days. By petitions of teachers to legislators and county authorities asking for legislation and appropriations. By united action on the part of the leading educators in a State or county, organizing and conducting an institute, using the best local talent, and demanding skilled instructors from the State superintendent or State normal schools, where there are any.

How shall expenses be met?

No more equitable method has been presented than that required in Iowa, Illinois, and Nebraska, and some other States, where each person examined pays a fee of one dollar, the fund thus raised being devoted to institute purposes, and the State or county, or both, aiding by special appropriations when necessary.

In New York, Pennsylvania, and, under limitation, in Illinois, where the time of the institute is during school terms, and the law provides that salary shall continue, by all means let attendance be compulsory. When competent institute instructors have been provided and all arrangements made to give teachers instruction, let attendance be a neces-

sity to those who may desire to teach. The officer charged with the duty of examining teachers and issuing certificates has the power to secure a full attendance by recognizing and aiding those who manifest professional skill and ability, but an arbitrary use of power would be unwise. Make the institutes of positive value to teachers and they will attend.

There must be a classification and arrangement of work that will enable teachers to obtain the kind of instruction they need most. Teachers in graded schools should have work bearing specially on the grade in which they teach. Where the number of teachers in graded schools is sufficient to arrange for a classification by grades—as in all large cities, and in counties where there are many graded schools—let there be one or more divisions of primary and of grammar grade work. Where the teachers are mostly from rural schools where one teacher is employed there should be a division into sections so that fifty or sixty teachers shall be in one room under an instructor. Those teachers whose schools are largely made up of children in the first, second, and third reader should constitute one section, and those having schools of mostly advanced pupils should constitute another section. This would apply to meetings of one hundred to one hundred and twenty teachers. If a larger number are in attendance, then a closer division can be made, having three sections, making the classification according to the special conditions, needs, and experience of the teachers. In an institute of two hundred teachers from graded schools there should be at least three divisions—primary, intermediate, and advanced sections. In the primary grades the foundations are laid for a child's training. There the work should be the very best that can be given. There the elements of mental philosophy can be applied and their action observed. There more depends upon the plan, thought, and purpose of the teacher, because oral instruction is predominant, and the child must be directed in his efforts. There the habits of observation, memory, and expression are formed. There children begin to obtain thought from books, and they must be skilfully trained that words may bring to them vivid pictures. There most of those who begin the work of teaching are assigned, and they need a foundation of correct educational principles. In the primary section should be presented the practical methods based upon true psychological principles, which may be used in teaching a child reading, language, number, and the employment of the hands in various kinds of constructive work, that shall finally be an essential element in his education.

In the intermediate grades are introduced the beginning of geography, the first steps in history, and the applications of number. While the same general laws must be observed in teaching, as in the primary grades, the special application of those laws varies, and the character of the institute work changes.

In the advanced grades all the maturer powers of mind are to be

aroused. Teachers must be taught how to lead pupils to independent investigation and thought, how to search for information from the storehouse of others' work, how to work more skilfully in applying general principles to specific things, and in developing greater power of expression.

The superintendent or chief officers who are vested with the power to license teachers should have the general supervision of institutes, that they may—

(1) Exert authority or power in securing attendance.

(2) Classify with authority.

(3) Learn most of each teacher.

(4) Be able to recommend to school officers the best teachers.

(5) Bear the full responsibility of the failure or success of the work.

Who shall teach in institutes?

The efficient and successful instructors in normal schools, because they are supposed to be doing constantly the very work that should be done in an institute.

The most successful and practical teachers in the schools of the State or county, who have by education and experience demonstrated their power to direct and instruct others. Such persons as shall be authorized by the State superintendent of schools.

A distinctively American system of education has not yet been unfolded. We still study with profound interest the efforts and thoughts of educators of other countries. In many things we are striving to pattern after systems of education born and matured under vitally different conditions and surroundings. The kindergarten and the manual training represent different phases of an educational system. To be understood this must be seen in all its relation to other work. Work is the inheritance of mankind. How to work in the world's material, how to apply forces already known, and how to discover unknown powers, then to analyze and utilize them, is a part of the mission of life. This power of seeing, investigating, knowing, and creating is an inherent faculty in childhood. To a great extent the teachers have ignored these first and natural laws in mental growth.

A great part of our schools are destitute of apparatus to illustrate any subject, and in many of them the teachers are incapable of using properly the charts and apparatus which enterprising agents have been able to sell to the school officers, who knew the school work was deficient and thought these appliances could feed hungry minds.

The workshop should be connected with the institute to enable teachers:

To construct forms and solids to be used as the basis of language, number, and arithmetic.

To learn how to prepare charts for reading, language, number, etc.

To prepare relief and outline maps.

To collect, classify and preserve plants, insects, birds, etc.

To construct simple apparatus, to mould forms, to dissect objects, and to use the microscope.

To learn to use all means and appliances that the most enterprising and progressive teachers have developed and tested as an aid in the science of teaching.

To appreciate the great value of illustration and construction, or industrial training, in the education of a child.

In making preparation for the annual county institute of Cook County, which was attended last August by seven hundred and thirteen teachers, over six hundred of whom were teachers in graded schools, the work has been divided into seven sections.

The teachers in graded schools are classified into five sections according to their grade of work in school, as follows: (1) First grade section. (2) Second grade section. (3) Third and fourth grade section. (4) Fifth and sixth grade section. (5) Seventh and eighth grade section. (6) All high school teachers constitute the sixth section. (7) The seventh section includes teachers in rural schools who have had some experience. Those who have never taught, but expect to teach in country schools, will be assigned to second and third sections of graded school work, because such persons coming directly from high schools or grammar schools, although poorly qualified to teach anywhere, are better able to teach the older than the little children, consequently their greatest need is a knowledge of the principles and methods in primary instruction.

The instructors are selected from the teachers of our county normal school, our State normal schools, and from the best primary and grammar school teachers that can be found anywhere.

The work outlined for each section is based entirely upon the general outline of study used in the county schools, consequently each teacher has an opportunity to study and investigate the work, methods and principles involved in the work of her own grade. Teachers of first and second reader pupils are not required to spend a large part of their time in learning how English shall be taught in high schools, how graphic history may be presented, or what subjects shall be omitted from arithmetic or geography, however valuable as a mental discipline, or desirable these special subjects may be to teachers in the higher grades of work. The whole effort of the institute is to present the grade work to teachers in such a way as to illustrate the best methods, based on correct pedagogical principles, that can be used in teaching.

One week immediately preceding the opening of the schools in September is given to this grade work. The teachers go directly to their schools aroused, enthused, and inspired to do better work, and ready to put into practice what they have acquired.

For one week preceding the general institute, arrangements were made last year for special instruction in the sciences, botany, physiology, zoölogy, and chemistry. Teachers learn something of taxidermy, dissection, collecting and mounting insects, plants, moulding relief

maps in putty, constructing charts, etc. About one hundred teachers took up this extra work, many being the best teachers in the county.

The same general plan will be followed for 1889.

The following was the full programme for the institute of 1888:

COOK COUNTY TEACHERS' INSTITUTE.

(August 27 to August 31, 1888.)

At Normal School Building, Englewood, Ill.

DAILY PROGRAMME.

Time.	First grade section.	Second and third grade section.
9.20 to 10.15	Lectures in	Assembly Hall.
10.15 to 11.10	Kindergarten Instruction..	Language.
11.10 to 12.00	Language	Number.
1.00 to 1.40	Music	Music.
1.40 to 2.30	Number	Reading.
2.30 to 3.00	Reading.....	Drawing.
3.00 to 3.45	Moulding and Paper Folding.	Botany.

Time.	Fourth and fifth grade section.	Sixth, seventh, and eighth grade section.
9.20 to 10.15	Lectures in	Assembly Hall.
10.15 to 11.10	Reading.....	Geography.
11.10 to 12.00	Geography	Civics.
1.00 to 1.40	Language	Arithmetic.
1.40 to 2.30	Arithmetic	Language.
2.30 to 3.00	Music	Music.
3.00 to 3.45	Drawing	Psychology.

Time.	Country School section.	High School section.
9.20 to 10.15	Lectures in	Assembly Hall.
10.15 to 11.10	Language	Zoölogy and Physiology.
11.10 to 12.20	Arithmetic	History and Literature.
1.10 to 1.40	Geography	Mathematics.
1.40 to 2.30	Reading.....	Botany.
2.30 to 3.00	Science.....	Physics.
3.00 to 3.45	Civics	Dissection and Microscopic Studies.

3.00 to 4.00 Special work in dissection, moulding maps, wood-work, botany, chemistry, zoölogy, water-color painting, etc.

Since Horace Mann traversed the State of Massachusetts appealing to the teachers and the people to recognize the momentous results that were to be the outgrowth of the right or wrong training of children, organizing institutes and conventions in which he set forth the methods and the fundamental laws and principles of education, there has been a sure, steady growth in public sentiment in favor of thoroughly trained, competent teachers. The institute has done much to supply and sustain the normal schools, and has brought the colleges of our land to recognize teaching as a profession by the establishment of departments of pedagogy.

Three-fourths of all the teachers in this country are working faithfully for the most part, but with little or no adequate idea of the results which should be attained or of the correct ways to reach them. These teachers, millions of children, and the people of this country still need Horace Manns to travel up and down, warning, entreating, arousing, inspiring, *demanding* that the children be properly educated.

This end must be reached. The destiny of this nation hangs upon the issue of universal education. The attainment of this result depends wholly upon the high aims, right methods, true principles, and real power of educated, trained teachers.

The institute is one of the great agencies through which these results are to be reached.

DISCUSSION.

JOHN HANCOCK: I come from a State that has no such normal school, from a State that has no county supervision—that central thing in all public school education. You might ask what State it is that is in this lamentable condition, that lacks these two great forces, the normal school and supervision. I won't tell you. However, while a State may be provided with normal schools, it is not certain that they as an instrumentality will not reach the great body of teachers. The State Normal School may furnish a few trained teachers; I had almost said well-trained, but that is not always true; but it will furnish a few teachers better trained than those who have no training at all. But the county institute is the people. The teachers in the county institutes must learn, what they are to learn at all, of the principles of education. The State Normal School may send out a few teachers who will be centres of influence and will very much elevate the whole body of teachers, perhaps meeting as a circle going out and out and touching each other; but when they get down to the real normal school work it must be done in the county institute.

Now the question arises, What sort of instruction shall we give in the county institutes? I don't know whether the gentleman who preceded me gave the average time of these institutes. I believe the usual

time of the institute in the year is one week; in some places the session may be two weeks; but if it goes beyond that it is a sort of academic school for answering questions. It is a very poor kind of school. But let us suppose that the institute is one of one week and is designed for professional instruction largely. Now, how is this to be done in one week; what can we do in one week? Shall we have a series of schools reaching from year to year? I think they have it in Iowa, a regular graded institute work, which I suppose to be graded academic work largely. Shall we do that? I have been teaching in institutes for a great many years and I have found that when I have been in one institute for a time, if I intermit two or three or four years and go back, the teachers are largely instructors to me; that is, there is a constant change going on, so that they seem to have a graded system of work going on, some beginning at the middle and some at the close.

Now, ladies and gentlemen, I don't mean to say one word about psychology this afternoon, as my friend Kiehle, from away off in Minnesota, seemed to say some very wise words on that subject. Those of you who have read Coburn's Autobiography will remember what he said. He said:

> When I went up to Edinburgh I found there a man, and he was a teacher of natural philosophy—Dugald Stewart—and that man got hold of me in some way and I began to take interest in things that I had not been interested in before, and I became a young man very different from what I had ever been before. His presence was with me always, a transforming sort of influence.

If we had the right kind of teachers we could get some of that influence in our county institutes. I remember going into an institute one time, and I attempted to get them interested in things that laid outside of their accustomed channels of thought, to broaden those channels and lift them out of those ruts, and in the afternoon of the second day we had the subject for discussion: What shall we do to make our institute more practical? And one young man got up and said, "We want to learn something about the branches we teach; we want to go over our grammar and geography and get ready for a certificate." After they got through with it I got aroused. I don't often get that way, but I was aroused, and said, "These are not the things you want at all. You need something very different from that; you need to leave off your narrow ways of thinking and doing; you have come up here one week to learn broader ways, to get some spirit of inspiration; that is what you come up for." I said it so earnestly that I convinced many of that institute that it would be a good thing to be done, and what, as I might say, if they could not, to carry out a torch with them to kindle a little blaze in the different districts in which they went to teach.

I sometimes believe our whole scheme of education is false. I believe we teach against nature. We are the sum of all our antecedents, largely; our minds and dispositions are formed by hundreds of generations back of us, and when we come up to be taught we must be taught in ways

counter to these mighty influences. We have gone counter to this nature that we have within us. Let us teach according to that and we shall have splendid results. Our friends console us when one man says, "I have forgotten all the mathematics I ever knew." The power is with you still.

It is an episode that I drew around the word "inspiration." If man can do what man has done, I don't think his definition is broad enough. If he is brought in contact with the best thought and best things that have been done in the world, that is all a man wants in this world in the higher education. The higher education is *the* education. That higher education is the product of having ourselves moved mightily from within. Now, that is what the institute can do if you have the right spirit of instructors; otherwise, an institute is of no value whatever.

Now, how shall we get these good institutes? Shall they all come from the normal schools? Shall they be appointed as in New York, and license a band of State institutes as instructors? Several years ago in the city of Cincinnati, when we had an institute there, we sent out every year the very foremost men in this country to go and teach our institutes, and their very presence alone was sufficient to work up the teachers and make them live, as it were; and in the course of a few years that institute had become in itself a liberal education. Some of my friends here will bear me witness to the fact that the teachers have the pick of all this country to talk to them, a man of high thought and high endeavor, when he does not say a word. I am one of those little fellows who like to bask in the sunshine of these men whose lives have been devoted to thinking good and noble thoughts and doing good and noble things. Their inspiration comes to me, and so they come to these young men and women in the city.

Much depends on the institute instructors. In Ohio we have no system of institutes. In Indiana we stand on spontaneity. Our institutes are managed entirely by the teachers themselves. They do not always employ the instructors wisely.

While I am all at sea how these things shall be done, I am rather inclined to the "no plan," if we may so term it. In Ohio we get pretty good results as to work. I believe the thing to be done in the week institutes is simply to stimulate the teachers and get them into broader ways of thinking and into kinder ways of feeling. I remember of going out from an institute and hearing one girl, whose eyes had always been bright during the whole week, remark, "I have had inspiration enough to last me a whole year."

One other thought: Perhaps there are two classes of teachers who attend institutes, those who already have an interest in professional work. There is another class who go over the work of examination. The first class will be benefited by the higher kind of institutes; the second class may catch a thought that will do them good; but if their mind is on the coming examination, it will not do them much good. I

would eliminate the academic work from the county institute. The few hours which the teachers have to spend ought to be given to the higher work. That mere academic work, it is doing work over twice. There are other schools provided for doing that work and which can get better results than can be got out of teachers' institutes.

HENRY SABIN: Mr. President, Ladies, and Gentlemen—I am not here to represent any particular State. I do not claim the merit of representing the great Northwest, which my friend from Boston twits me on. I find at least ten of us representing that section. But I would if I could—if I had the language and the ability to do it—I would put before this Department to-day a plea for the teacher in the common schools. I would put before you to-day a plea, if I could, that would move this Department to do something in behalf of the schools in our rural districts; for it is there that we are making American citizens, my friends, and it is in those schools to-day that there is the greatest need of persistent hard work. I don't know that the normal institute reaches there as it should, or that there is any other means by which we can reach the common school teacher except through county institutes. In the position which we occupy we can feel something of the great throbbing wave of educational advancement which is going through the country; but the only means by which we can reach them is through the annual gathering of these rural school teachers.

Some of the gentlemen have made reference to the State I have the honor to represent. We expended last year in our normal institutes over $52,000, and when we closed we had in the treasury of the State over $14,000 of funds unexpended. We expended of the $52,000 over $43,000 for instruction alone. We have no disposition to abandon the normal institute; but we do feel year after year that we ought to get a great deal more out of it than we have been able to. The State gives each county $50; all the rest is raised by an assessment upon our teachers. Every teacher pays a dollar for his certificate; the same in the institute; and my friend from Chicago will excuse me when I say it is an exceedingly unfair way to conduct an institute. I think the State of Iowa is great enough and rich enough to expend $50,000 every year on her school teachers; and I think the time is coming when she will do it. The gentleman from Ohio says, in regard to the length of time our institutes last, that it is on an average two and seven-tenths weeks. The fact is, we were in session four weeks. The original purpose of the county institute has very largely been lost sight of in many parts of the State. I fully believe with the gentleman from Ohio that it was their design that the normal institute should be turned into a cramming school; and that has been the case in some counties in our State, and is the case in various parts of the Northwest. I had an institute under my care a few years ago. I gave an advanced class some very practical hints in regard to school management. After the lecture was

who have never taught. Before they are enrolled they should be required to pass an examination the requirements of which have been known to them for at least a year. Then their work at the institute should be to review points in which they are deficient and to receive instruction in organization and management of schools, and in such matters as will tend to guard them against mistakes arising from their inexperience.

At the close, before they leave the institute, they should be definitely informed as to the amount and kind of work, both academical and professional, which they will be expected to finish during the year, and in which they must be examined at the beginning of the next institute, and before they are permitted to pass into the next higher grade. Care must be taken not to require too much of them; the amount must be very reasonable so as not to overtax their time and strength.

Having passed the second examination, the work of their second institute should be devoted to elucidation of points connected with that year's work. Then they should be ready to take the work of the next year, which should be largely devoted to professional subjects and to reading professional books.

The examination at the end of this period should be not technical, but rigid, calculated to show how thoroughly they have digested and assimilated the books which they have read.

The work for the succeeding and last period of twelve months should be wholly professional, devoted to elementary psychology and the history of education.

Here we have the preliminary examination, followed by the work of three successive years, not very extensive, but thorough; each year's work, the ground and base of the institute instruction, following it. At the close of such a course of institutes those teachers who have attended through the whole (series) and who have shown their fitness and ability to instruct and govern children and youth, might be granted a certificate good for three years, renewable at the end of that time for ten years, if the holder could show continued improvement in his profession.

Something of the kind here indicated has been tried, but not with that thoroughness which enables us to say anything of its success or failure.

I believe that the plan which I have sketched, however, contains the elements out of which, or rather the basis upon which, the future institute will be constructed. That feeling along these lines of thought, we shall eventually reach a conclusion which will render the institute the most important and most effective factor in our educational work.

E. E. HIGBEE: How is it possible for us to come to any conclusion in regard to county institutes in such an endless variety of suggestions? I give up any prospect for having any general law for institutes. All that I have attempted to do has been confined simply to three things:

(4) The professional work, if it is to reach the highest degree of success, must be given by those who are (*a*) adepts in methods of imparting knowledge; (*b*) who have that enthusiasm which begets enthusiasm, who are to the teachers in the classes as the steel is to the flint; (*c*) and whose instructions are guided by that wise philosophy which induces a spontaneous, yet lasting, self-activity on the part of the learner. Tell me with any degree of exactness the worth of the instruction, and I can foretell with equal exactness the worth of the inst[illegible]self.

(5) The institute as first devised exerted a wide influence on the tone of public feeling in relation to the schools. The institute of to-day is very often as isolated from the public as the high school. It is looked upon by the community as something with which they have very little to do. The evening lectures, of which there should be several, should be devoted very largely to arousing an interest in the schools, and to disseminating among the people true ideas of education, what it is, what it is worth, and how it is obtained. The fact is, the schools are losing their hold upon the public, not because the public do not appreciate their work, but because they do not understand it; they look upon the schools very much as we look upon a piece of complicated machinery—it is very intricate, and therefore very wonderful.

The institute ought to afford us a very ready means of bringing the schools and the people together once more. It is right to say here that the institute, if it is to be a permanent force in our educational system, should be controlled by the State. Those who are employed to aid in its administration should be compelled to give proof to some authority of their ability and fitness for the peculiar work intrusted to them. Institute workers must be recognized as specialists, and be largely treated as such.

I am thoroughly convinced that we are approaching a period when the normal institute must choose between a new departure in its management or being abandoned as worthless. If it is to remain as a factor in our educational system, then some degree of permanence must be attached to its work so that it will no longer be looked upon as the end, but as the means to an end.

(1) In the first place, some amount of academical knowledge should be required as a prerequisite for enrolment in an institute. It may be only enough to entitle the holder to a low-grade certificate even, but it should be something fixed and definite, and known to the teachers in the county. The effect of this plan would be to shut out a certain amount of worthless material; as the conditions of enrolment were gradually raised, the institute would take higher rank in the public mind, while at the same time there would be room to make a marked improvement in the character of the instruction given. I believe this step would change the whole tone of the institute.

(2) The institute must be graded upon a different plan from that generally pursued. The lowest grade should be largely formed of those

who have never taught. Before they are enrolled they should be required to pass an examination the requirements of which have been known to them for at least a year. Then their work at the institute should be to review points in which they are deficient and to receive instruction in organization and management of schools, and in such matters as will tend to guard them against mistakes arising from their inexperience.

At the close, before they leave the institute, they should be definitely informed as to the amount and kind of work, both academical and professional, which they will be expected to finish during the year, and in which they must be examined at the beginning of the next institute, and before they are permitted to pass into the next higher grade. Care must be taken not to require too much of them; the amount must be very reasonable so as not to overtax their time and strength.

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E. E. HIGBEE: How is it possible for us to come to any conclusion in regard to county institutes in such an endless variety of suggestions? I give up any prospect for having any general law for institutes. All that I have attempted to do has been confined simply to three things:

First, to arouse a public interest in educational matters. The minds of men generally are not trained to it because there is no profit in it; it brings no dollars and cents. So it becomes necessary that public sentiment should be aroused, and I find county institutes to be a very fine organization for that purpose, to gather the men in—the physicians, the lawyers, the ministers—to get them all in and there have the opportunity at least of challenging their attention to school work. We have county fairs of the same kind in Pennsylvania to get an exhibit of the county in its material interest, and I have no doubt it does farming good. But here is the chance of showing off the teachers of the whole county, challenging the community at least to look at them, to see them in a body. I want the institute to serve that end, and therefore I made them, so far as I could, mass meetings of education.

There was another thing I had in view. Our teachers are of necessity young. In the profession of teaching we cannot expect the age that we find in the profession of law, medicine or in the ministry. It is idle for us to expect that, with our present system. We have them in the old country. I met them in Belgium; the majority of them were sixty years of age, the great minority were twenty to thirty years of age. It will be years and years before we can reach any system such as that; and we must expect therefore that our teachers will be young girls and young boys, many of them simply teaching to get spending money, or to open the way to get to some other point, some other method of living. Now, such being the case, I found it very necessary to arouse an interest in the work. I wish to cultivate the *esprit de corps*, that teachers might at least see a large body of teachers around them and begin to feel that they are teachers, that they belong to a body of men called to an individual work. I never aimed at having instruction given definitely, like the driven ox. I don't believe you can do it in the two or three weeks or six weeks. It is hard enough work to do it in the normal school in a year or two years; and that instruction can't be given in our institutes with any degree of satisfaction. But what I did desire is that our teachers should know something outside of their profession that would be an advantage to their profession. The teacher must be broad in culture; he must stand before the pupil with breadths of knowledge to answer and feel what the child desires; and it is only by broadening his knowledge that he will be a good teacher. I don't mean that he should understand the whole theory and art of teaching; but he should understand more. It will take nine lawyers and more to make a man if they confine themselves to law and go not beyond it.

What do we want in our association with each other? Do we want to come here and see my friend Newell and hear him talk and play the pedantic bore? I want nothing of the kind. I want not Newell's profession but Newell himself; he is broader than the profession. We want the coming together of life with life, spirit with spirit, soul with soul, deeper than any particular professional characteristics, and that

we secure in our institutes by getting broad men, by getting strong men, by getting men who will lift the profession out of its ruts and lift it by his aspirations and inspirations. But do not understand me to say now that we succeeded. When we have succeeded we will put the institute on the shelf.

I have gone into the State of New York, and I admire much of their work there; in fact I have been half converted since my visit last year; but I am not fully converted yet. I have been in Michigan; I like their work there. Also in Illinois. But, as I started out with saying, you no more can saddle New York on Pennsylvania, or Iowa on Illinois, than you can harness Pegasus with a mule.

H. S. JONES: Mr. President and fellow members of our association:—I am well noted to weary you on this subject, but I am not going to fire off. I will make this remark and stop: This beautiful presentation of the institute as it is managed in Massachusetts will be printed, and I want you not only to read it, but study it.

STATE TEACHERS' INSTITUTES.

BY JOHN W. DICKINSON,

Secretary Massachusetts State Board of Education.

An institute is a society organized for teaching the principles of things.

A teachers' institute is an association of teachers, established for the purpose of discussing the principles and methods on which the science and art of teaching are founded.

A State teachers' institute is one established and directed by State authorities.

The idea of a school teachers' institute was invented at a teachers' convention held in Tompkins County, New York, some time, I believe, in the year 1843.

The first institutes were organized and supported by their members. Horace Mann, observing the work of these voluntary associations, thought it best to present to the teachers of Massachusetts an opportunity to judge of their value from personal experience.

Hon. Edmund Dwight, a personal friend of Mr. Mann, and ever ready to aid him in carrying out his educational plans, contributed $1,000 to enable him to try the experiment of training the teachers of the Commonwealth by means of teachers' institutes. To encourage attendance, the funds contributed by Mr. Dwight were expended in paying the board of the members of the institute. The first teachers' institute in Massachusetts was held in the town of Pittsfield in the autumn of 1845, two years later than the first held in New York. The Governor of the State

was present, and was, throughout the session, one of the most attentive and interested observers. He was himself a graduate of the public common schools of western Massachusetts, and he knew well of their great deficiencies and their great importance.

The experiment at Pittsfield was considered by all to be eminently successful.

Governor Briggs, in his next message to the Massachusetts Legislature, recommended a generous appropriation for the support of teachers' institutes to be held in different parts of the Commonwealth and under the direction of the State board of education. The recommendation was approved by an almost unanimous vote of the legislators of the State, and from that time the teachers' institute became a State institution.

The first teachers' institutes ever held in the Commonwealth of Massachusetts were conducted after the manner of a public school.

The members were formed into classes; they were required to prepare lessons and recite them, and to conform in all respects to the formalities of a well-regulated school.

The expenses of the members while attending the institutes were paid by the State, and their wages by the towns, the same as though they were doing their regular school work.

The exercises of the early institutes had less to do with a discussion of methods as founded on principles than with a study of the subjects to be taught. Arithmetic, grammar, geography, and reading, those studies known as the common English branches, were pursued with reference to a knowledge of them as subjects, rather than with reference to the method by which they should be presented to the learner's mind. The evening exercises consisted of lectures on subjects of interest to the teachers and to the people as well. The lecturers endeavored to communicate information; to magnify the value and necessity of popular education and to awaken a deeper interest in the public schools. Among those accustomed to speak to the teachers and the people at the first Massachusetts institutes, were the most distinguished educators of that time. They were such men as Louis Agassiz, the great naturalist; Prof. Arnold Guyot, the most noted geographer of his time; Prof. William Russell, the renowned teacher of elocution; Dr. Lowell Mason, the pioneer teacher of vocal music in the public schools; Samuel Green, the grammarian; and Warren Colburn, the mathematician. These distinguished philosophers attracted the attention of the teachers of the Commonwealth and inspired them with a desire to increase their knowledge of the subjects they taught, and to improve their methods of teaching these topics to others.

The interest that these gentlemen manifested in the simple work of the elementary schools elevated these institutions in the estimation of the people, and gave a new impulse to the cause of public instruction throughout the State. The State teachers' institutes, the normal schools,

and special, well-educated supervision, as a means of placing over our public schools competent instructors, have done much toward producing a radical reformation in these institutions, and toward enlisting an intelligent sympathy in their support. In Massachusetts the State institutes are organized and directed by the State board of education. When the State board is satisfied that fifty teachers of public schools desire to unite in forming a teachers' institute, it shall, by a committee or by its secretary, or, in case of his inability, by such person as it may delegate or appoint, give notice of a time and place for such meeting, and make suitable arrangements therefor. To defray the expenses to procure teachers and lecturers for such institutes a sum of money is annually appropriated to be paid out of that half of the income of the school fund not apportioned for distribution to cities and towns. The board may determine the length of time during which a teachers' institute shall remain in session and what sum of money, not exceeding $300, shall be appropriated to meet its expenses. These are the principal statutes regulating the establishment of the institutes. As a fact the institutes are held wherever they are invited, or in those towns which may consent to receive them on a request from the secretary of the board. The secretary also organizes the institutes, appoints the teachers, and arranges the exercises to be conducted.

The school committee of the town in which an institute is to be held is requested to invite the teachers and school committeemen of as many other towns as it pleases to join with it in the exercises and hospitalities of the occasion. In later years the institutes have been attended by school officers as well as by teachers, and by the people of the community in large numbers. The subjects taught are, first, the principles of teaching and the true method founded upon them; second, the application of the method to teaching the various branches enumerated in the list of compulsory studies.

This includes presenting to the institute a set of topics on the study brought before it, and a full plan of teaching these topics to others.

The means of illustration are presented also, as well as the manner of using them.

It is the duty of the institute teacher to show that in the construction of the topics he presents he has provided for teaching his subject according to the principles illustrated in the lesson already given on principles of teaching.

In teaching the individual topics themselves, he is expected to exhibit a practical application of the true method founded on the same principles. In this way it will appear that the work of the institute is to train its members to teach rather than to give them information. Great care should be exercised in presenting the principles and method of teaching.

The laws of the human mind which control it in the acquisition of knowledge and in the development of its faculties can not be made

objects of consciousness by means of words alone. Learned lectures written and read on this subject to a company of young persons who have never before directed their attention to it do not always communicate much solid information, nor are they the occasions of much useful knowledge. The subject must be *taught* by directing the learner's mind to its own operations, and to the conditions necessary for their performance.

In teaching to the members of an institute the principles or laws of the mind upon which all teaching depends, and in devising a method of teaching that shall be in harmony with the principles, a simple plan may be devised by which these most important and fundamental topics may be made clear to all who may give their earnest attention to the exercise.

First. The institute teacher should teach, not tell his class in words, but teach the definition of teaching. This may be done by teaching what an object of thought is, and what a subject, and what it is to present these to the learner's mind, as occasions for knowledge, and for that development of the faculties which may be produced by their right activity. From this teaching, the definition of the act may be easily derived.

A clear understanding of what it is to teach is important. It will prevent the teacher from too much talking and explaining, and assigning lessons from text-books to be committed to memory and recited without ideas or without any development of active power. It will lead him to present the objects and subjects of the lessons to the learner's mind and simply direct the thinking that should follow.

Second. After the definition of teaching has been thus presented, the ways or methods of performing this act should be considered.

There are two methods of teaching and study. One employs the analytic process, the other the synthetic. The laws of the intellect that determine its modes of activity in acquiring knowledge and which form the basis of a philosophic method of teaching are, first, the law which requires that whatever is to be known shall be made to hold the relation of object to the mind; second, the law that requires the object to hold the relation first of unity and then of parts or attributes in their order.

These two laws of the intellect are the principles upon which a method of teaching should be based. The objective element of the method is based or founded upon the first principle. The analytic element is founded upon the second principle. From the two principles found in the laws of the intellect that control its activity may be derived the analytic objective method of teaching, which the mind must be trained to use with facility, that its power may be cultivated. It must be borne in mind that the analytic process includes two acts of the intellect. The first in order is an analytic act; the second a synthetic. Both these acts, taken together and in the order suggested,

constitute one process of the intellect, called the analytic process. The synthetic process is the reverse of the analytic. After teaching with considerable care the nature of method and the characteristics of the two methods which may be used, it may be easily shown what the principles of teaching are, and that the analytic method is founded upon them.

From what has now been taught, it will appear that school exercises may accomplish three ends: (1) They may direct the pupil to some useful knowledge; (2) to a right method of study; (3) to a right use of the faculties. It will also appear that there is a logical relation between the analytic method of teaching and the ends to be secured by its use.

This part of the subject should be made clear by objective illustrations, in which the pupil teachers should be made familiar with the application of method in teaching.

The lesson on the principles and method of teaching is the most important exercise that can be brought before a teachers' institute. If it is successfully given and faithfully received, it will communicate that knowledge which will make intelligent work of every school exercise the teacher will be required to conduct; it will guide him to a true course of studies and to a way of presenting the different subjects enumerated in the course to the learner's mind; it will prevent him from making the unfortunate mistakes that a false philosophy is sure to introduce.

The lessons of the institute that follow the first should all be given after the same manner, and for the purpose of making the teachers familiar with the application of the principles and method to teaching the various branches which are required to be pursued in the schools. These illustrative exercises will include an exhibition of both elementary and scientific teaching, and an explanation of elementary as distinguished from scientific knowledge.

This will require the institute teacher to supply himself with the means of teaching the facts he would present to his class, and to use them with special reference to the scientific teaching that is sometime to follow. That he may give to his institute class the best exhibition of his skill as an elementary teacher, he should be provided with a class of children, and spend a portion of the time allotted to his lesson in directing them in their elementary thinking and in giving proper expression to their thoughts. Complaint is sometimes made that the exercises of the institutes are too exclusively confined to elementary topics of study and teaching, and no scheme of scientific work is illustrated.

The institute lessons should include both the elementary and the scientific elements of instruction. The subjects of the institute lessons should be those taught in the public schools, including industrial drawing, modelling in clay, the construction of simple apparatus for illustrating the facts of natural science and vocal music. A simple system

of moral instruction should also be taught in connection with a plan for intellectual training. The mind is developed as a moral power by turning its attention to the moral quality of its acts, and to doing what ought to be done.

The cultivation of moral habits should be carried on with the cultivation of the intellect. The relations of school life, and the various exercises of the schools provide favorable occasions for the development of the moral nature of the child.

The teacher is supposed to be a model person, worthy of imitation. If this supposition accords with the facts, the pupils will be subject to the molding influences of a good example. The natural desire and the ability to imitate render the education of the young possible and magnify the importance of a good living example.

The acts of obedience, which a wise and efficient school government requires, will train the pupil to a thoughtful consideration of his conduct and to the habit of self-control. The habit of loyalty to the rules and regulations of the school, accompanied with a desire to promote its welfare, is a good one to cultivate in the minds of the young as a preparation for good citizenship.

The exercise of studying by the use of the true method will develop the intellect and create in it the power to think so as to discover the truth. The habit of independent deliberation before making a choice is most favorable to good morals. To create such a habit is the constant aim of the intelligent teacher. The relations of pupils in school to one another as a community will offer an opportunity for instruction on the subject of public as well as private morals. As the affairs of social life are carried on in connection with promises and contracts, and as promises will avail nothing if the members of society are not faithful in making them, and do not trust them when made, the teacher should endeavor to impress upon the minds he is attempting to develop the infinite value of fidelity to that which is morally right, and the obligation every member of the school is under to exercise it in all the moral relations he holds to others, as well as in all he holds to his own well-being. Such fidelity in the relations of social life, and of the life of the individual, seems to constitute the vital element in all the virtues.

If successfully cultivated in the minds of the children in our public schools, in connection with their physical and intellectual instruction, this fundamental virtue will appear as a ruling principle in their lives as citizens of the State. The best ideas on the moral training of the young are in favor of the right development of the mind as an intellect, as the only solid foundation for good morals. A rational plan of moral instruction should be the subject of one important lesson at every State teachers' institute.

The teachers selected to give instruction at these institutions should be thoroughly educated persons, both in the philosophy of teaching and in the various subjects of instruction. They should make special

preparation for every lesson they teach, that no time may be lost in attempts to say something or do something which may produce a temporary sensation, though it has no educational value. They should have an abundance of common sense—that original gift to a portion of the race, valuable for its discriminating power, in judging of the proprieties of time and place, and for its foresight in preventing mistakes.

Teachers' institutes if rightly managed may produce some good results. They may furnish an opportunity to the teachers of a community to become acquainted with one another.

The association of professional people with one another enables them to make common what each one knows.

The teachers' institutes furnish occasions for improvement in study and teaching, by directing attention to new ideas, and by exciting an ambition to study. They magnify the importance of popular education, and strengthen the schools by improving them.

They encourage the teachers to attend the normal schools, and the school authorities to employ trained teachers.

Neither training schools nor teachers' institutes can take the place of normal schools. The one may add some skill to the labor of the school teacher, and the other may give some useful hints and awaken ambition to improve, but it is reserved to the normal school to teach the science and art and history of teaching, and prepare the teacher for an intelligent application of his knowledge, so as to secure the great ends of school life.

MANUAL TRAINING.

RELATION OF MANUAL TRAINING TO BODY AND MIND.*

By C. M. Woodward,

Director of the Manual Training School of the Washington University, St. Louis, Mo.

Mr. Chairman, Ladies and Gentlemen of the Department: I am left somewhat deserted to night; the paper which I shall have the honor of reading was intended to follow a more elaborate paper from Mr. MacAlister and then one from Mr. Dutton. I therefore have been very moderate in the limits which I have taken and in the phase of the subject which I have treated. I have confined myself to one or two features of the question. I only hope that after I have read what I have prepared, if there is still time, others will add something. So far as I am concerned, if my experience in manual training has fitted me to answer any of the questions you may ask, I will answer to the best of my ability.

The mother of a Philadelphia boy said last spring to the principal of the Philadelphia Manual Training High School, "I just want to know if I can carry a bed down and let my boy stay at your school all the time; for he doesn't want to come away, and he wants to leave home every morning right after breakfast." Substantially the same story of deep interest has been told me hundreds of times during the nine years since the St. Louis Manual Training School was opened. And this interest is no "craze," no ephemeral enthusiasm. The newness was worn off the broom long since, but it still sweeps wonderfully well. In many instances the third of three brothers rejoices as steadily in the work of the school as did his elder brother years ago. Some scraps of parental testimony I shall give later on.

In speaking of the relation of manual training to the mind and body we are all forced to make comparisons. If the new system has no fruit which the old does not yield, if it fails in valuable results where the other succeeds, or if the new product does not on the whole outweigh the old, then the new has no sufficient excuse for being.

In making these comparisons, my strictures will not indicate hostility. Our best critics are our friends, for their criticisms can not be explained away on the ground of unfriendliness. In pointing out defects, or in

* In this paper I purposely omit all reference to the moral influence of manual training, and to its economic value. These subjects have been treated elsewhere.

quoting others who point them out, I am not attacking the public school or classical schools. The physician who tells his patient what is the matter with him, and how to improve his condition, is not attacking him; he is only preparing the way for a better regimen.

MANUAL TRAINING IS FOR ALL.

I shall not go into an elaborate discussion of what the schools ought to teach, in order to fix our standards of excellence. I shall assume, however, that we are aiming at universal education, that boys whom manual training should help and strengthen are *all the boys* who are growing up to manhood. I am not thinking alone of the few who are to be trained to leadership, while the many are to be left untrained to fill the great army of directed workers. I am not thinking of one boy in twenty who is to be trained in theory while the nineteen are to be left to practical labor, having the one to lay out their work for them and to do all their thinking. Is not our aim to make men self-directed, self-determined, and therefore free? So long as one is educated only by proxy; so long as another is to perform his calculations, to make his drawings, to design his forms while he slavishly executes as directed, so long we can lay no valid claim to be a free people.

The proper education of to-day is a preparation for the duties and responsibilities of life. Our students must therefore come out of school with the elements of high character, with a vigorous, healthy body and mind, able to put both hand and brain to work, to enter readily into sympathetic co-operation with the institutions of their country and time. Practical accomplishments are essential to a good education, though they are not the whole of it. While training to the full the faculties of the individual, including his mechanical powers, and fitting him to act his part as a citizen, a home-builder, and a bread-winner, we must not fail to set high value on the finest products of the human mind and to give fair introduction to the great fields of art and philosophy.

I do not wish to spend much time upon definitions, yet I am forced to declare that many educators have erroneous ideas as to what manual training is and what it aims at. Half that was said in San Francisco last summer in criticism of manual training sprang from misconceptions. One man spoke of the agricultural college and the department of mining engineering in the State University as examples of manual training. Another long argument against it was based upon the assumption that the "logical outcome of hitching manual training to the public schools" is teaching trades. The author fancied that a manual training school is a factory and that it produces "manufactured articles;" and so on. I confess I am beginning to lose patience with such misconception, which seems little less than misrepresentation. Have these men been both blind and deaf for the last six or eight years? Have they not seen what we are actually *doing*, and have they not heard the reports we have made from time to time? Do they think that they,

without experience of manual training, see more deeply into its essence—that they more clearly detect its tendencies than do we, who have been in contact with it, studying its nature and influence for years?

I think I am safe in saying that no one of us, from Boston to San Francisco, from St. Paul to New Orleans, engaged in the conduct of manual training schools, whether public or chartered or on chartered foundations, has any such notions as these men assume that we have. On the contrary, the tendency of every thoughtful supervisor of manual training is to make the instruction and practice less technical, less industrial, more scientific and more universal.

NOT A TRADE SCHOOL NOR A TECHNICAL SCHOOL.

A manual training school is not a school for the training of carpenters and blacksmiths, of machinists and mechanical engineers, like the Worcester Polytechnic in Massachusetts, and the Rose Polytechnic in Indiana, both organized by the late C. O. Thompson; nor yet is it like that admirable "Trades" school founded and conducted by Colonel Auchmuty in New York City.

In a manual training school, properly so called, no attempt is made to cultivate dexterity at the expense of thought. No mere slight-of-hand is aimed at, nor is muscular exercise of itself held to be of educational value. An exercise, whether with tools or with books, is valuable only in proportion to the demand it makes upon the mind for intelligent, thoughtful work. In the school-shop the stage of mechanical habit is never reached. The only habit actually acquired is that of thinking. No blow is struck, no line drawn, no motion regulated, from muscular habit. The quality of every act springs from the conscious will accompanied by a definite act of judgment. At the same time I plainly see that the trade tendency is to be guarded against. There is plenty of bad advice, foolish schemes, and indiscreet haste for putting manual training where it does not belong, and where no adequate preparations are made for it. But in this respect we are not singular; every good cause has much to fear and to suffer from its friends. I beg of you not to hold manual training responsible for all that is said and done in its name.

On the other hand, we must not suppose that all who fail to accept our estimate of its value in education are to be classed as hostile to new ideas. Let us reason together with candor and mutual respect. This is the place to ask and answer questions, to state objections, to present arguments, to give testimony, and to quote experience.[1] *A priori* reasoning has its time and place, but it pales in the presence of actual experience.

We have a most remarkable example of *a priori* reasoning in the essay

[1] This paper was read at the March meeting of the Superintendent's Department of the National Educational Association at Washington, in 1889.

of Mr. R. K. Buehrle, of Lancaster, Pa., on practical education. I have not space in which to quote even a summary of the arguments he evolves from his inner consciousness to do battle against manual training.

Before proceeding to give the results of actual experience, it seems to be necessary to say that the St. Louis Manual Training School is now closing its ninth year of regular work. It will graduate its seventh class in June next. Its enrolment for the year 1888–89 is two hundred and forty-one boys, in three grades. The minimum age of admission is fourteen years. The requirements on entering are substantially those of good high schools. All students take the full courses in mathematics, science, drawing, and tool-work in wood and metals. In language and literature the students elect between a continuous course in English, history, rhetoric, civics, and political economy, and a course in Latin and French or German, with a weekly exercise in English literature. The number of present graduates is two hundred and thirty-nine.

THE VERDICT OF PARENTS.

I now propose to present some new evidence from the most reliable sources of the practical influence of manual training. It comes from those who have had the very best opportunities for observation, and whose deep interest in the matter does not usually blind their eyes to a school's faults. Parents are valid witnesses. Here follows my circular of inquiry:

JANUARY 28, 1889.

To the parents of pupils in the Manual Training School:

I have been invited to lay before an important body some facts in regard to the influence which manual training has upon the health, growth, and proper culture of both mind and body.

No person can be more observant on these points than parents, and no others are so able to make just comparisons between manual training schools and other schools. Will you not, therefore, aid me by writing fully and freely on these points? I have no wish to make a case against any of the excellent schools which are naturally the generous rivals of this school. Neither have I any desire to cover up any of our sins of omission or commission. Tell the truth plainly, and I will quote you whether you speak for or against our system.

The question of moral influence is not now raised, but if you have any decided views it may be of value in other discussions to have you give them now.

Respectfully,

C. M. WOODWARD,
Director.

I give a few of the responses, taking them in exactly the order in which they came in. The writers will be found to tell their opportunities for observation.

No. 1. "My observation of its effects upon my son is that your system of manual training results in accuracy, facility of adaptation of means to ends, and self-reliance, such as in my judgment the ordinary course does not produce."

No. 2. It is "favorable to his physical growth and development."

No. 3. "I have not words to express our satisfaction at his mental development in the same time (five months). There is absolutely no loss of time in the Manual

Training School I note the benefit of your system in application to study, ambition to succeed, and in steadiness of purpose. I remark a wonderful development of these traits in our son since he entered your school. I am comparing your school with three others with which I have had experience. I am compelled in simple justice to express my preference for your school."

No. 4. "I have a son in the second year. I am greatly pleased. The progress in book study is so good, largely by reason of the fact that zest is maintained and tedium avoided by the alternation of book study with shop work. Healthy growth and culture of the mind are promoted by the preservation and improvement of bodily health consequent upon the activities of the shop hours. The exertions of the shop work of the Manual Training School have the best quality of a sanitary gymnasium. Frequent, non-fatiguing, regularly-recurring, health-giving exercise secured through a pleasing attention to ulterior objects, attractive and useful, yet totally dissevered from solicitude on health account. The outcome of shop work is a faculty of thinking about means and methods."

No. 5. "My son is benefited physically, is more systematic and regular in his habits."

No. 6. "I consider the manual training school the best regimen any boy can have to insure him development of brain, muscle, and morals. The system works admirably in all respects."

No. 7. From a lady educated in high school and college:

My brother entered the high school at the age of fifteen, a rather unhealthy and an exceedingly indolent boy. The school offered him no special incentive to work, and his year there was of small value. The next year he entered the manual, and he has been working with renewed interest, not only willing to continue there three years, but inspired to go to college.

During his first year at the manual he was under the care of a physician. The physician acknowledges Fred's bodily improvement, but declares that his patient's brighter eye and happier face are due to his treatment, but I prefer to think that manual exercises and interesting work have been better tonics than the irregular and occasional treatment of the physician.

Until he entered the manual Fred was not my equal in mathematical power. Now he not only sees special cases more quickly and more clearly, but his mind has been trained to compare one case with another, and so to generalize. In gaining those conceptions so necessary to a knowledge of analytics and physics, I was especially deficient, because my mechanical and mathematical imagination had been poorly trained. I feel that I can testify that his has been well trained, and I know from association with manual training students in Washington University that this is generally the case with them.

One of the greatest advantages of the manual is that the work appeals to a practical boy and keeps him at school in spite of the fever to stop and make money, which attacks all boys at a certain age.

No. 8. "My son attended several good schools in other cities but in none were the results anything like as satisfactory as in this school. It appears to his mother and to me that both the mental and physical influence has been very beneficial."

No. 9 has two boys in school, one will graduate in June. One entered in September last. He criticises high school graduates severely and then adds:

I cannot as yet tell whether the training in your school will send out my sons better fitted for life's work than the graduates of the high schools have shown themselves to be; but I find in them much cheerfulness and ambition in the pursuit of their studies; I notice a healthier color in their cheeks, more sparkle in their eyes, and a general physical *improvement* since they left city schools, in themselves desirable results.

I notice, also, that while their first reports showed much awkwardness in the use of their hands, they have gradually grown more skilful, as skilful perhaps as could be expected from boys whose ancestors were unfortunately compelled to do all their work with their heads, such as they were, and where there was not enough mechanical talent on either side to drive a nail straight.

This gentleman is the only one who criticizes the school. He thinks the boys should not be required to study at home after the full day at school.

No. 10. "This is John's third year. I have five more boys and would like to have them all take the same course."

No. 11. The mother says she studied the effect of the school on other boys before her own were old enough to attend:

I have not been disappointed with the results in the case of my older boy (who finished his course last June), and now that the second is with you, it is an added experience of the value of that system of training. It has seemed to me that the education is more thorough and better assimilated than in other schools. Elsewhere the manner of study seems to beget a distaste for books, either because there is an excess of them or because there is a lack of practical application of what is learned. So emulation flags, and the boy is glad to get away from school.

I can hardly speak too highly of your system. I must go a step further and say that there is another element of success in it which is the moral tone which gives it its beauty and adorns it most. Probably there is no better evidence of this than the positions which the young graduates have taken and held almost at their entrance into life. They show the confidence reposed in them by their employers.

No. 12. "My eldest son was among the graduates in 1884. My second son will probably graduate in June, this year. I saw a marked improvement in the health of both in a short time after entering the school, not that they were sickly before, but there seemed to be a renewed vigor, and a daily increase of strength, caused by the manual training in conjunction with the mental discipline."

No. 13. "I am entirely satisfied with the progress made by my son at the Manual Training School and, what is equally as good in my judgment, *he* is satisfied and contented."

No. 14. is himself a graduate. He writes:

Had the first graduate (entering the employ of a large manufacturing company as draughtsman) done unsatisfactory work, the services of a second applicant would have been rejected without test. But the fact has been demonstrated to the contrary; the result is that manual training school graduates have the preference.

The company has employed six or eight of our young men. This same writer goes on to say:

I wish to emphasize one advantage which, in my mother's opinion, the Manual student has over the ordinary apprentice:

"The former learns from the experience of others, the latter only by his own."

No. 15. "The Manual Training School is superior to other educational institutions. I base my judgment upon the wonderful improvement my own son has made in all his studies since he entered the school. The improvement is not only marked in his studies, but deportment and health."

No. 16. "I cannot speak in terms too high of the benefit which my son has received from the training school. The course of instruction seems to have enlarged and broadened his mind in a way which, I am satisfied, at least in his case, would not have been accomplished in any ordinary school. I can not dwell too much, also, on the benefit which has accrued to his health. At the time of his entrance he was outgrowing his strength, and I felt extremely doubtful about his continuance at school,

but the exercise of the shop seems to have developed and strengthened his general constitution to a most remarkable degree."

No. 17. "I note a rapid and marked improvement in him in many ways. I am highly gratified at the progress he has made. He speaks enthusiastically of the school."

No. 18. Dr. G——— speaks of the rapidity and thoroughness of the education given his two sons:

They have acquired as much general education in three years as they would have gained in six elsewhere. One point in your system I wish especially to commend is the interest the boys take in their studies. While at the public schools, it was one continual drive to get lessons learned. Since my sons entered the Manual Training School I have never had to say, "Boys, it is time to learn your lessons." Had I forty boys I would send them all to the training school.

No. 19. A student of a technical school wrote me of his vacation work; he had graduated from the manual two years before. He tells me of his success in a draughting-room and in the Exposition, and adds that—

one of the most valuable fruits of manual training is the habit of systematic work. I mean the habit of laying a definite plan before starting upon a piece of work or action.

No. 20. Probably most school superintendents have seen the interesting reports of Superintendent Cole, of Albany, and Superintendent Compton, of Toledo, touching manual training in their respective high schools. The latter publishes a significant letter from a prominent citizen of Toledo, a close observer of men and things, and a fearless critic. I will not quote his strictures upon the ordinary high-school graduate, but will give a single sentence from his estimate of the graduates of the Scott Manual Training School. He has had six or eight of them in his employ. He says:

The power of observation and concentration evinced by those young men has been most satisfactory, and I believe the advocates of manual training do not overestimate the value of such instruction as is furnished in your school, in securing the largest measure of mental discipline and power of application and concentration.

No. 21. This father, speaking more particularly of the physical influence, says:

Manual training has exerted a very salutary influence upon the general health of my son, Robert, who was constitutionally delicate and slender. While in the public school he was daily complaining of general debility, exhaustion, and lassitude. The reverse has been his experience under your system of training, for while he has a total absence of former complaints, he has gradually improved in physical vigor and endurance and has consequently applied himself to study with more zest, ambition, and pleasure.

No. 22. This response, with which I must close the testimony of parents, is signed by both parents, and is evidently a joint production:

Our third boy is now in the second year of the Manual Training School. The two older boys have taken the full course, and the fourth is hurrying up to get a good ready to go. We have not at present any idea of telling him that we think he can do better somewhere else.

Our boys are sturdy fellows and don't patronize the doctor much; but the oldest had been troubled with headaches during a half year at the high school, and that was one of the reasons which decided us to make trial of the manual. We have not heard anything of headaches since.

During these years we have visited the school and have talked with friends whose boys attend the manual, and with other friends whose boys go elsewhere or not at all. These latter tell us that our boys are exceptional; that neighbors all around are having trouble to keep their boys at school.

We think that the boys at the manual think less about "trades" than the "average boy;" rather the thought tends towards scientific pursuits—seeking truth for truth's own sake, for, so far as their experience goes, if they know a truth, they can use it.

I might continue such testimony indefinitely, but this must suffice. I can truthfully say that there is but one opinion in St. Louis as to the influence of manual training. There are in the city over two hundred of our graduates, and their careers are watched with no common interest. I respectfully refer the record of these graduates to such men as Mr. Buehrle, of Pennsylvania, who is so sure that manual training is to produce a "degraded mass of operatives," and to President Gray, of Minnesota, who prays so fervently against manual training.

PSYCHOLOGICAL CONSIDERATIONS.

No one will suppose that I put forward other witnesses because I had nothing to say for myself. I suppose I have observed more and thought more about the peculiar influence of manual training than any parent in St. Louis. It is because I have had so much to say and have on other occasions said so much, that I now let others speak. But I should like to state briefly the influence of manual training upon some of the faculties of the mind.

The first and greatest faculty to be trained is sense-perception. Here the influence of manual training is in every way remarkable. In ordinary vision not one per cent. of what falls upon the retina is perceived by the mind. In true perception, as Dr. Harris has clearly shown, all the figures of logic, and consequently all the faculties of the mind, are consciously or unconsciously called into service. Knowledge and experience and memory and generalizations are necessary to the operations of logic, and manual training is particularly strong in furnishing the knowledge and experience, in establishing the major premises essential to logical reasoning. Tool instruction and tool practice is full of meaning, and it should always be strictly logical. Moreover, several senses join in the search for truth. Sight and sound and touch and muscular force testify together; the memory is called upon for former experiences; the new and the old concepts are compared and classified, inferences are drawn, generalizations are made; the newly discovered truths are recognized as such, properly labelled, and packed away in the store-house of memory, to be ready for service in future discoveries. In sense-perception one re-enforces his present by all his past experiences. The richer and more varied that past experience, the deeper and wider his perception. A man without personal experience of the external world perceives nothing outside himself. A person devoid of experience with the manifestations of force has no conception of cause and *effect.*

Manual training multiplies opportunities for personal experience and contact with external realities. One gains not by personal experience alone. The experience of the race is recorded in established methods and in the appliances of practical arts. The antiquarian sees in a flint arrowhead a chapter in ethnology; in a rusty coin, an era in classical history. What must the student of civilization see in a circular saw, an engine-lathe, a locomotive engine, in an ocean steamer? To the untaught and inexperienced the arrowhead and the coin are refuse; the saw is a frightful and dangerous thing; the lathe is a stupid machine, which does work with precision because it can not help it; the locomotive is an awful and inexorable mystery; the ocean steamer is a grand and inexplicable phenomenon, as beyond explanation as the ocean itself. But give one a skilful teacher, with a knowledge not only of things but of the student mind, and all these exponents of human thought, these monuments of human progress, become transfigured; they are luminous with the bright records of past experience. The experience of the teacher is recognized and assimilated by the pupil on the strength of his own experience. Manual training labors to give the pupil the results of human experience along certain lines. The various laboratories of mechanics, physics, chemistry, and drawing give him a modicum of personal experience, by means of which he may subsequently interpret and appropriate the experience of others.

INVENTION AND CREATION.

Perhaps the most striking and peculiar function of manual training lies in its availability for cultivating a capacity for executive work, a certain power of creatorship. Every manual "exercise" involves the execution of a clearly defined plan. Familiar steps and processes are to be combined with new ones in a rational order and for a definite purpose. As a rule, these exercises are carefully chosen and deliberately planned by the instructor. However, at proper times and in reasonable degree—not too early nor too often—pupils are set to forming and executing their own plans. Here is developed not a single faculty, but a combination of many faculties. Memory, comparison, imagination, and a train of reasoning—all are necessary in creating something new out of the old.

This power of invention, of creation, is the highest active power of intellect of which we are capable. There may be three stages in the entire act of creation, viz: (1) The thought is conceived and elaborated in the mind. (2) A more or less imperfect representation of it is effected through the instrumentality of words, gestures, drawings, or models. (3) The full realization of the thought by actual construction. The infinite Creator omits the second step; He does not need it; but no finite mind can dispense with intermediate steps. A drawing or a model helps to define and complete the thought. This is strikingly true of novices. In like manner as the drawing gives precision of

thought, so actual realization compels revision of the drawing and a recasting of the thought.

Now, however we may grade these steps in the order of intellectual dignity, it is clear that they are all necessary. It is not claimed that the executive and inventive powers can not and ought not to be measurably cultivated before the manual training school is reached. My present point is that in the manual training school these powers find continuous and systematic training in the various forms of manual work.

It is scarcely necessary to add, that while constructive tool-work furnishes the training just referred to, the analytic work of natural science (botany, zoölogy, chemistry, physics, etc.) does not furnish it. This remark is not to be interpreted as in any way derogatory to the study of science in all schools. The study of science has its high and peculiar functions, but it is not the object of this paper to present them. It must suffice to say that manual training and natural science work are supplementary essentials.

If we omit the mechanical laboratory, we omit a valuable feature. It is one of the most fruitful for pupils just in their teens. Manual training is physics and art and gymnastics and mechanics combined. It keeps the young pupils alert. It stimulates thought and close observation. It feeds the natural appetite for mastery over material things and forces; it cultivates the taste; it encourages habits of system and precision and attention to details; it fosters the judicial characteristic of looking on all sides. It teaches one to see the end from the beginning, to lay plans, to invent, to create, to shorten methods, to economize time and material, to save labor; not, as some falsely suppose, for the purpose of avoiding labor, but that more may be accomplished.

A BASIS OF PERSONAL EXPERIENCE.

One great end of education is to enable people to live over again the thought-lives and experiences of others as recorded in our civilization; but this can be done only by giving them a certain culture of experience along practical human lines.

The great fault of non-manual training schools is their haziness. The pupils look at multitudes of things, but do not perceive them. Having eyes they see not, and having ears they hear not. There is too much that is dim and muddy and feeble. Substances elude the grasp; shadows, uncertain and flitting, are too often the only result. The method which reason and experience both approve is reversed, and pupils are put to committing to memory matters which they are not prepared to understand; they are expected to profit by the recorded experience of others before they have been properly trained in the school of experience themselves. Such treatment is naturally distasteful, and when one's school life consists too largely of it, the school itself becomes irksome and unattractive. Even the memory is sluggish, so faint and

lustreless is the mental impression. The keen relish of a manual-training boy for both book and laboratory work is wanting.

It is useless to claim that it is the boy and not the school that is at fault when a healthy boy fails to take an interest in his school duties. It is common to insist that the boy has no brains, or is lazy. The charge is generally false, and the manual-training school has proved what I say over and over again. Boys reported dull in other schools as well as those reported bright and industrious have awakened to new life and enthusiasm in our school, and that life has extended into all our lines of work. There comes a time in the life of every boy when he craves with an irresistible appetite what may be called food for his physical nature; when the senses are most acute; when he is exquisitely conscious of his growing strength, his increasing power over the external world; when his budding manhood opens the door into the great workshop of nature, and he is satisfied with nothing less than actual contact with concrete forms and tangible forces.

At this period the records of the past have little interest for a healthy boy. He must feel and act for himself; he must turn the key with his own hands, and himself unbar the gates. He has no natural appetite to destroy; he destroys because he cannot create. He can destroy without being taught how; but how to build, how to construct, how to create he does not know; there he requires instruction, training, system, and they yield the keener pleasure.

The boy demands reasons, and arbitrary, unmeaning rules are extremely distasteful. Until he has a basis of personal physical experience with which he may digest the experience of others, books have little meaning and are of little value.

Then is the time to give him manual training. Give him his saw, plane, and chisel; give him his lathe, his forge and anvil; give him his blow-pipe and his crucible, his magnet and his engine, and teach him their logic and their power. His mind will absorb them all with infinite relish. In their forms and uses he will read the thoughts of men for many generations.

A HARMONIOUS EDUCATION.

Do not be anxious lest he have no opportunity to develop literary taste. There is not a single influence flowing from manual training which is hostile to good books. Our graduates are hungry for good books, and they profit by them.

We claim to train the whole boy, and the instruction in our school fairly justifies the claim. Glance at our daily programme of study, recitation, drawing, and tool-work. Counting both recitation and study, at school and at home, we have on the average daily two "hours" of mathematics, two of science, two of language and literature, one of drawing, and two of tool-work. What I call an "hour" is about fifty minutes.

I have known of plenty of pupils of equal grade who give four-fifths of their time *to language* and literature, and the other fifth to either

mathematics or science, while no attention at all is paid to either drawing or shop-work.

I know that some people consider such exclusive training in literature broad and generous, but I think they are doubly deceived. Not only is such training not broad, but even the literary training thereby secured is less vigorous and healthy than it would be if combined with such culture as tends to give proper meaning to the words and figures of speech. All our tropes come from the external world and every exercise in manual training reveals new force and shades of meaning in our household words.

The same is true of the influence upon literature of applied mathematics and practical science. As Superintendent Seaver of Boston has well said, a word is only an empty box till by personal experience one fills it with meaning. In this filling process manual training plays a most important part.

My conclusion is no longer a paradox, but the reasonable effect of clearly evident, natural causes, viz, that more mental discipline and valuable culture can be given by combining manual training with the study of mathematics, science, and literature than by omitting manual training and giving the attention exclusively to the other subjects.

DISCUSSION OF PROFESSOR WOODWARD'S PAPER.

[This report has not been fully revised, nor could the stenographer in all cases put down the names of the speakers. In answer to numerous questions as to the plan and method of the school Professor Woodward said:]

Our classes are divided into sections of twenty or twenty-four. They all have three lessons a day, but we do not give any one boy two or three exercises the same day in language or literature.

The first year the boys come to the manual-training school, at the age of about fourteen, they begin algebra; study it for about two-thirds of the year and then review their arithmetic. They have a lesson in mathematics every day, and that lesson is learned at home more than anywhere else. They also have a choice between studying Latin and English composition or history. No boy does both. As I said, they have one exercise in language or literature. Every day there is a lesson in science, zoölogy, botany, or physical geography. They spend an equal amount of time in literature, science, and shop-work, and just half as much as one of them in drawing. The school day is six full hours. The pupils study very little at school. They have three recitations, for which three hours are appropriated; two hours for shop-work, one hour for drawing. Once every week, no matter whether they are studying Latin or not, the science study is omitted and English literature is studied as literature; and that runs through the entire course.

Now similar kinds of work occupy the pupils during the second year. The test for admission for the first year is substantially the same as for

entering the high school. We examined last year about two hundred and admitted all that we could take, which was exactly one hundred. We have one hundred to-day.

For about half the first year the pupils have exercises in what we call joinery. Each boy has a set of tools appropriated to his individual use, furnished by the school, and goes through all the exercises which are intended to illustrate the principles involved in joinery. His entire attention is paid to the work of the part in hand. The exercises have been very carefully selected in order to involve all the principles of joinery, the same as in algebra or arithmetic; the samples are made up to include all the parts. The student always makes a careful drawing of his work before he executes it. That is for about half the year; then he devotes one month to wood carving; then the rest of the year to wood turning, and through the various manipulations the study of the forms of beauty occupy his thoughts. He is then engaged not only on the matter of joining two parts together, but pays particular attention to the fitness of the parts. Then he puts all these elements together and combines them; when they come to this exercise each one's fancy is consulted. We make no tables, chairs, bureaus, trunks. Ours is a school, and it is intended strictly to teach subjects and elements and not to manufacture articles.

DR. E. E. WHITE: By what means do you determine how much of this training is due to the shop and how much is due to the other training; how do you know that this good influence is due to the shop?

Answer. Well, I judge of that matter the same as Dr. White would. The parents themselves see the difference between the total influence of our school and that of another school which does not include the manual elements. They evidently attach importance to that distinction. And then, again, our manual work comes in between the training. The boys are not tired at the end of these six hours. I am a high-school teacher, and I know that there is not that anxiety to get away and to keep away which I was conscious of all the time in the high school on the part of the average student. I do know that there is a zest and interest which is sustained during the whole day, and when a boy comes to the shop from 11 to 1 o'clock and then goes back to his books and his drawing, he goes back fresh. It is exceedingly regular, and no boy has been found whose constitution is not able to bear it. I cannot see how there can be any question of doubt as to its beneficial effect. Of course, the graduates of our manual training school enter the higher part of the university as Freshmen, and they take either the four or five years' course, according as they may select. I know that the manual training students are the most clear-headed boys I ever had the pleasure of teaching.

Question. Is it the manual training that makes them so?

Answer. Well, I will leave you to judge. We must judge according to the best of our ability.

Question. Are there any faculties trained by this course that are not trained by the ordinary course, and results obtained other than by the ordinary method?

Answer. Well, it would take a long while to point out the distinctions in that respect. Not other faculties, but some are better trained and certain powers are better developed.

MR. MAXWELL: Is this school a public school system at St. Louis?

Answer. It is not.

Question. I would like to ask your opinion whether you think it wise, and if wise, practical, to introduce any part of what you have in your first year in wood work and wood carving into the ordinary public schools, to be taught in connection with what is required for admission to your school? I simply ask for your opinion.

Answer. My opinion is that no part of it could, with any sort of propriety, be introduced into primary schools as we have it. It is altogether beyond the intellect as well as the physical capacity of primary students. When you come to grammar schools, any boy in his teens may begin on the manual part of our course of study. Now, I should be very glad, if I had the means, to open a manual training school to every boy in St. Louis who had reached the age of thirteen. I am obliged to put the standard where I do because there are plenty of boys of fourteen and upward who want to come in. We do not admit them until they are fourteen.

Question. Do you consider the kindergarten a part of the manual training course?

Answer. I approve of the kindergarten.[1]

Question. If these results, as you claim for the shop, are practical only at such a high grade, what are we to do for those below it?

Answer. Well, I have not said that a course below is impractical; but I think it would be very unwise to put work that belongs to a boy of fifteen upon a boy of ten.

Question. As I understand you, this manual training is the only means by which permanently you get the discipline of the observing powers and all the faculties up to that age. Am I right?

Answer. I only claim that this combination is what gives us these results. If I had a manual training school or shop without mathematics or science, why, I should not get those results.

Question. My point is that if these results come from the combination, that result comes from the beginning.

Answer. I say there should be something appropriate to the mental and physical status of the pupils in the lower grades, but in this higher work we want to develop invention and ingenuity.

Question. What shall it be for the lower grades?

Answer. I cannot pretend to answer that. I am not a teacher of grammar schools. Those who are may tell you something perhaps,

[1] This evasion was intended to ward off a discussion on definitions.

and teach you and me. I don't pretend to have solved the whole problem from the kindergarten to the manual training school. I am only certain of the ground I stand on. There should be elements all the way through.

DR. WHITE: That is just the point in our whole method of teaching—training through the senses, and I don't know a scientific school, high or low, that does not recognize it. Inasmuch as the training of the sight in a state of nature must begin at the cradle, so that the sight of things must become a rule, where does the point begin? Don't you get from the laboratory of science and of history just the very best possible training for the eye, the judgment, and the hand? Do you not get it in the chemical laboratory and outside the workshop, and better outside the workshop, as a means, than you do in it? Is not the physical laboratory, the chemical laboratory, botany, zoölogy, the study of the world itself, a better means of disciplining all these powers than the artificial methods, than artificial work in the workshop produces? In other words, is not the workshop the very lowest form of that very discipline you have commended? I can not see for my life how any true system of teaching can fail in this, and have to be fortified and supplemented by bringing in the training of the children in the use of tools, in the maxim of the arts and trades, when all nature is at hand, when all the sources of observation and training and study are before us. I believe that the study of an insect has in it more elements of training than the fitting of the joint.

MR. SHELDON: Is there a period in the training or the life of a boy when he reaches a step where his budding manhood opens the door into the workshop of nature (unaided by any of the suggestions you have made in the line of manual training), and begins with drawing?

Answer. I indorse as highly as any one can, training in natural history, in business, in chemistry. We have in our manual training school a physical laboratory, where every student manufactures his own apparatus, and they are the people to-day that are the most successful. I make no direct comparison with that work. I do not claim that any school should omit that. I think that nature should always be studied. I believe that many of these very things I claim manual training helps to do, science helps to do; and I believe the more we do of that work the better. The doctor calls all this manual training work artificial work; that it is the lowest kind of work. They had just as much nature two thousand years ago as to-day, but not our civilization. What has brought about our civilization but these very artificial elements? Man has come in and introduced something new, has acquired a mastery over nature; and now I say it is not a low or an unworthy motive that we should learn something about the great methods of which our civilization has been the fruit.

DR. WHITE: I did not use any such expression of thought in that sense. I said that the training of the shop is the lowest form of train-

ing in observation, in judgment, and logic. I am speaking now of another thing entirely from the shop itself. The workshop of America and of the world is a thing of great dignity and blessing, and I never can speak derogatorily of the workshop in any way. I am now speaking of the training of the mind, that it does not present as high a form of training as the other forms of training; and I do not wish to be put in that position at all.

Answer. Taking it in that phase, there are certain manifestations of force in cause and effect. The study of methods, of means to ends, I thought was made so plain, that it seems to me they furnish an admirable training for some things which neither physics nor chemistry gives.

DR. HANCOCK: Let us hear what they are. You have asserted things which you think have grown out of your experience. What things do you learn by the use of the hammer that are superior to the things in nature around us?

Answer. In science, natural history for instance, we find things ready made to our hands. And the specimens we analyze are often exceedingly complex. We take an insect and we have to pull him to pieces, and we are not always sure that we analyze his structure correctly. It is a difficult problem to explain the rationale of his organization. In the shop, however, the synthetic process is introduced. We build up on clearly defined plans. By manifestations of force and laws of simple mechanical methods we go on from one step to another. The reason is so closely connected with that which illustrates it, that I don't think there is anything else so available.

Question. The process in the workshop is so simple, and the relation of cause to effect so simple and obvious, that the exercise of the mind is at the very lowest point?

Answer. All elementary work should be simple; and in this primary work we have the very first letter of those great activities that are going to enable our students to understand what is going on in the outside world. I believe that our pupils are to be trained for life. I believe they are to acquire two things at the same time. While they gain manly discipline, they are at the same time to be brought into connection with the activities that surround us, to sympathize with our industrial interests; not that they shall necessarily earn their living there, but enter sympathetically into them.

Question. Is the mind of the child in a suspended state until it reaches the age of fourteen? Now, the child has been looking round upon the world up to fourteen years, and reasoning. Now you say these simple things are to be learned at fourteen years of age. In other words, you introduce your artificial system after the mind has been partially developed by the application of a higher principle.

Answer. Shouldn't you re-enforce that by the study of mechanical principles and methods? They contain something that these do not contain. You get no training in that conscious power of creation in studying nature.

Question. The discussion for the last few minutes has raised this general point in my mind, and I would like to see what Professor Woodward would say on it. Man has come to find out nature pretty well in these days. I ask, but does this finding out, this knowledge, aid or give strength and beauty in our literature, in our painting, in our story, in our music and architecture? Is not art to-day in our country, because of this acquaintance with nature, come to be strongly realistic, and is all this an unqualified gain except from the stand-point of utility?

Answer. I am not certain that I fully catch the force of the question, but it seems to me that this cultivation of the intelligence, this recognition of rational process, cannot but help to improve all these matters you have mentioned—both our art and our literature—in all its forms. It seems to me that clearness of thought always reacts upon artistic nature.

Question. As to the results which you claim you obtained in your school in the development of the mind and morals, and the physical development, did you examine this question? In the ordinary high school there are six or seven or eight studies pursued during the day. In your school the boy has but three. I want to ask if that does not account for his advance in his studies. My observation has led me to believe that after taking out three or four studies in our high school we accomplish the same result.

Answer. That seems a very reasonable thing to do if I wanted to criticise other schools. They aim to do too much. I am very sure there is a good deal in that argument, and that opens the door so that these elements can be brought in. Progress in any direction is not dependent upon the number of studies and the length of recitations; it is dependent upon the amount of close and thoughtful attention that can be given.

PROFESSOR LEIPZIGER: I want to ask the doctor what proportion of those entering the school graduate?

Answer. I think 50 per cent.

Question. Is it larger than from other schools?

Answer. I think it is.

PROFESSOR LEIPZIGER: *Ladies and Gentlemen*—The theme is so interesting and the hour is so late that I hope you will give me your attention for a few moments. I will try to explain to you briefly what we do, and will try to answer Dr. White's question. The influence of manual training will be to bring out the teaching of science properly. If sciences were taught properly in our schools the criticisms that are being made against them would not have been made.

I myself am a graduate of the public schools of this country, and I remember when I was taught natural philosophy I learned it almost exclusively from the text-book. They taught science to children of seven years of age. Do not be taught what the result is, but tell what it is. They train the eye and the hand and the brain, and the whole

boy and the whole girl is put in school because the object of this education is not for objects, but for boys and girls.

Now in this artificial structure which we have raised, the advantage, it seems to me, psychologically considered, over the one of nature, although both have their advantages, is that when you create a geometrical form you train that most valuable faculty, accuracy. Accuracy leads to truthfulness, and when once you get truthfulness you cultivate the moral faculty and produce truthful men and women. It seems to me that in the early stages the power of drawing has not been put in its proper place in the curriculum. Drawing trains the eye. If the child is taught to draw at the very early age of seven years from the object and not from sketches, it is taught to put down on paper not what the teacher says it should see, but what it does see. Then you give a training to the eye, heart, hand, and moral faculties. Now it has been my good fortune to deal with the most difficult set of boys. In the school over which I have the honor to preside I take Hebrew boys. Hebrew boys are not descended from a race that are generally considered skilled mechanics, and we keep them there seven hours a day, and the boys enter at the age of twelve, not at the age of fourteen or fifteen. They do not pass a very searching examination because I have found out in my experience that many a boy who fails in analyzing a sentence from Milton's Paradise Lost can carve and train the same faculty by carving or by seeing as I did through the study of Milton's Paradise Lost. With these boys of twelve we give every day seven hours' training. We teach them history, not in a catechetical method; we teach them general history; we teach them physics by the laboratory method. My theory is this, when a man leaves school he makes a composition which has the power to express his thoughts. Our boys after learning the ordinary manipulations that enter into the use of tools are obliged to make one finished product, something which has value, and will train them to understand that they must be accurate because the thing they are going to produce is going to be useful. My experience with these boys is that I have never seen boys so earnest, so studious, and so desirous of remaining in school. Knowing the factors that enter into and produce the ordinary boy, I subtract the one from the other and attribute the superiority of these that we have to manual training.

The kindergarten is the precursor of the manual training school. Please bear in mind that when we say "manual training" we do not mean mechanics. If it is history, let the pupil illustrate while he is studying history, by a map. If it is geography, let him use his knowledge of light clay models. Then send him to a high training school. Put the hand and the eye in the school and train them both. It is your duty to the child.

DR. E. E. WHITE: It seems to me very desirable in this discussion to settle the question of agreements and disagreements; to determine just how far we agree respecting the use of the hand in the training of

the mind and where we differ. Very much of the discussion to which I have listened in years past, and very much that has been written, seems to assume that those who are not advocates of workshop training deny the value of all forms of manual activity in school training, and they are put in the position of being advocates of old rote and memoriter methods of teaching; and the contrast is always drawn between the manual method and a method of teaching that has been outlawed in this country for twenty-five years. This discarded rote method is put up as the alternative, and all that is valuable in a true and natural system of teaching is used to support the claims of manual training, including the work shop. Not only the kindergarten but our best elementary schools have increasingly recognized and used the eye and the hand as means of teaching real knowledge and of mental training. And so I think that it is too much in advocating a special form of manual training to base it broadly upon the argument for a true and natural method of teaching.

My fear is that public attention and the attention of educators is being called away from the great reform that ought to be made in teaching—a reform that touches every branch of knowledge and demands that it be taught in harmony with the nature of the child, and is being fixed upon workshop training which at best is mere cornice work in general education. My fear is that the attention of our teachers and others is being diverted from true teaching to workshop manual training which Dr. Woodward says can be best begun at fourteen years of age. If needed reforms in teaching are to be diverted to such a side-show, we shall certainly not gain by the movement.

I am using the term manual training in this discussion in the usual sense of training in the use of mechanical tools, with mechanical skill as an end. I see no good reason for applying this term to all school exercises in which the hand is used. If this be manual training, it has had a considerable place in school work for many years. But, as I understand the term, manual training is that training *which has manual skill as an end.* It is analogous to the terms intellectual training, moral training, physical training, etc. Manual training is that training that gives *manual results.* It is not the use of the hand as a *means* of attaining intellectual ends, as is true in many school exercises. It is the manual result as an end that justifies the term manual training, though there may be intellectual results. Take, for illustration, such kindergarten work as modelling in clay, folding and cutting paper, etc. The object is to give the child a truer conception of form—*knowledge* is the end. The same is true of map-drawing and many other uses of the hand in school training. They are means of intellectual training, and can not properly be called manual training.

There are two school exercises that may properly be regarded as exceptions; these are writing and drawing, both of which have manual skill as an end. But writing is a very old school art, and it seems to

me very late to give it the new name of manual training. Drawing is a manual art and has manual skill as an immediate end, but it has been taught in many American schools for over thirty years, and I do not see what is to be gained by now putting it in the school course under the name of manual training. But, by whatever name writing and drawing may be called, we are all in favor of them as school studies. Manual activity is now recognized as a necessary means of teaching the natural and physical sciences, as botany, zoölogy, physics, chemistry, etc. But this use of the hand is not manual training; if it be, then we are all in favor of such manual training.

But we differ respecting that *new* form of manual training which involves the use of mechanics' tools, and it seems to me that the real question at issue concerns this workshop training. It is here that we disagree. I suspect that much of the merit claimed for the St. Louis Manual Training School may not be due to its workshop training, but to the superior manner in which other branches are taught, and especially to its laboratory training in science. For over seven years I was president of a college of science and technology, and supervised the school of practical mechanics, with its workshop training. The courses of study in the college—four in number—were so arranged that the Freshman and Sophomore classes had two of their studies in common, and these courses differed chiefly in the one element of manual labor. The pupils who took the course in mechanics had two hours daily in the workshop; those who took the course in industrial art had two hours in drawing, etc.; those who took the agricultural course spent two hours on the experimental farm and in the botanical laboratory; and those who took the course in science spent two hours in the natural history, physical, and chemical laboratories. Thus in these courses two hours daily were given to four different kinds of hand work. Did the students that spent two hours in the workshop have any advantage over the other students? I have no hesitation in saying that they did not; and, if I were to decide between the educational value of the science laboratory and the workshop, I should give the preference to the laboratory; and if a student does not intend to be a mechanic, I should advise him to take the course in science, with its laboratory training.

I do not object to technical schools or manual training schools. I welcome them as a most valuable means of *special* education; and my judgment is that within ten years the manual training school of this country will look directly to the training of mechanics, and its door will open practically and efficiently into the mechanic arts. It will thus take its true place as a means of *special education.* The public school will hold to its true work of general education, and it will continue to be true that the more thorough and efficient the general education of the mechanic, the more fruitful will be his special training when he reaches the technical school.

APPENDIX TO PROFESSOR WOODWARD'S PAPER.

THE RECORD OF THE GRADUATES.

Six classes have graduated from the school. Much interest has been expressed in their record as affording some clue to the influence of their training in the school. It has therefore been thought best to give a full list of the names and present occupations of these classes as fully as known. At the same time it should be borne in mind that the full influence of the school is to be found only by following the careers of all who have been for a longer or a shorter time under its influence. About one-half of those who attend the school remain to graduate, but the influence of the training has been scarcely less marked upon those who have been in the school two years than upon the graduates. Moreover, all the graduates are too young to afford material for very definite conclusions. The average age of the graduating class is about eighteen years.

Nevertheless, the following tables show that our students are taking no small part in the busy world. Very young men are seen bearing heavy responsibilities and bearing them well. If the tree is to be judged by its fruit, we have a very good tree.

ALUMNI.

Class of 1883.

Henry H. Bauer, farmer, Dorchester, Ill.

John Boyle, Jr., mining engineer (W. U. 1887). Superintendent Mountain Key Mine, Pinas Atlas, N. Mex.

John L. Bryan, head turner in Pipe Works, Washington, Mo.

Alexander W. Buchanan, mechanical engineer (Cornell, 1887).

Peyton T. Carr, clerk insurance office.

Edward E Davidson, in real-estate business and manager of the Economy Steam Heat Company, St. Paul, Minn.

Cornelius V. De Jong, machinist, 1410 Leffingwell Avenue.

Harry Deitrich, pattern-maker at the James Jones Manufacturing Company, 2123 Lucas Avenue.

William S. Dodd, collector Laclede Gas-Light Company.

Henry F. Dose was student at University of Illinois.

Wm. J. Downton, No. 1 Shaw Place, architect's office.

Leo. Gluck, fifth-year class in mining, Washington University.

S. D. Hayden, real estate and loan business, Denver, Colo.

Robert L. Hyatt, farmer.

Conrad S. Ittner, foreman brick-layer, 2849 Russell Avenue.

Wm. B. Ittner, architect, St. Louis.

Albert L. Johnson, B. E. (W. U. 1887), assistant engineer Merchant's Bridge.

Wm. Love, B. E. (1888), surveyor, street department, city of St. Louis.

Harry W. Lytance, real-estate business in Chicago.

Robert H. McMath, B. E. (W. U. 1886), surveyor of the St. Louis Board of Fire Underwriters, Gay Building.

Otto L. Mersman, merchant, St. Louis.

Wm. G. Nixon, book-keeper for the Missouri Pacific Railway, 2227 Walnut Street, St. Louis.

Everet G. Phillips, engineer and shoemaker, 3016 Cass Avenue.

Wm. K. Roth, with Adam Roth Grocer Company, 321 S. 23d Street.

Justus W. Schmidt, student in Germany.

Greenfield Sluder, M. D. (1887), St. Louis.

Jules C. Smith, machinist.

Herbert De Q. Taylor, salesman, Simmons Hardware Company, St. Louis.

John P. Thul, B. E. (W. U. 1886), draughtsman, office of president of board of public improvements, St. Louis.

John F. Valle, *cashier and book*-keeper, 5 Benton Place.

Class of 1884.

Grant Beebe, B. E. (1888), with Pond Engineering Company, Omaha, Nebr.

A. Theo. Bruegel, mechanical engineer (1888, Lehigh University). Teacher of mathematics and drawing, Cogswell Polytechnic College, San Francisco.

Geo. R. Carothers, teacher of manual training.

Walter Coles, student, University of Virginia.

Claud N. Comstock, civil engineer (1888, Columbia College), New York.

Geo. D. Eaton, Jupiter Mining Company, Du Quoin, Ill.

Alfred C. Einstein, north-west passenger agent, St. Louis and San Francisco Railway, Des Moines, Iowa.

Hamilton R. Gamble, clerk, wholesale drug store.

Charles D. Grayson, practical mailer, St. Louis.

Geo. N. Hinchman, draughtsman in office of patent lawyer.

Ernest C. Klipstein, teacher manual training, City High School, Springfield, Mass.

Charles S. Langdon, draughtsman with Isaac D. Smead & Co., engineers, Toledo, Ohio.

James L. Marks, machinist.

Constant Mathey, salesman with Mermod, Jaccard & Co., St. Louis.

Alexander D. Mermod, salesman with Mermod, Jaccard & Co., St. Louis.

Ralph H. Miller, ex-superintendent, Toledo Manual Training School, Toledo, Ohio.

Geo. S. Mills, principal Toledo Manual Training School, Toledo, Ohio.

William O'Keefe, clerk, Excelsior Manufacturing Company, 3520 Lindell Avenue.

Otto H. Olfe, draughtsman with Mississippi Iron Works, St. Louis.

Harry Pflager, assistant general foreman with Pullman Car Company, St. Louis.

John H. Pope, B. E. (1888), assistant engineer, with Messrs. Morison and Corthell, engineers Merchant's Bridge, St. Louis.

Edward L. Pretorius, clerk in business department of Westliche Post, St. Louis.

Wm. F. Richards, clerk in general passenger office of the Vandalia Line, St. Louis.

Harry C. Scott, shipping clerk, Mound City Paint and Color Company, St. Louis.

Percy S. Silver, travelling sales-agent, Pomeroy Coal Company, Atchison, Kans.

Charles F. Springer, merchant, Chicago.

H. Reed Stanford, B. E. (1888), teacher of chemistry and algebra, St. Louis Manual Training School.

Homer Wise, managing branch house of Collier White Lead and Oil Company, Minneapolis, Minn.

Edmund H. Wuerpel, student, St. Louis Art School.

Harry B. Wyeth, orange farming, Winter Park, Fla.

Class of 1885.

Wm. F. Barnes, teacher of the manual training department of the Tidioute Union Schools, Pennsylvania.

Hatcher Bates, farmer, Dardenne, St. Charles County, Mo.

A. M. Bumann, teacher manual training, Omaha High School, Nebraska.

King Charles Barton, book-keeper, with Omaha and Grant Smelting and Refining Company, Omaha, Nebr.

Judson S. Bemis, with Bemis Brothers' Bag Company.

Edgar L. Brother, teacher of tool-work, St. Louis Manual Training School.

Thomas W. Booth, 3301 Morgan Street.

Albert H. Buck, member of Sophomore class, Washington University.

Edward H. Chapman, 1033 N. Compton Avenue.

Frederick A. Chouteau, teacher of manual training.

George W. Danforth, cadet U. S. Naval Academy, Annapolis.

H. G. Ellis, teacher of drawing, St. Louis Manual Training School.

Arthur Feickert, baker and confectioner, opposite City Hall, Belleville, Ill.

Charles O. Fisher, clerk, with civil engineer and surveyor, south-west corner Broadway and Market Street.

Wm. F. Hopper, pattern-maker, Dunkirk Engineering Company, Dunkirk, N. Y.

Clarence H. Howard, superintendent Kansas City Car and Wheel Company, Birmingham, Mo.

H. F. S. Kleinschmidt, teacher of manual training school, Denver University, Denver, Colo.

Albert Koberle, student, Senior class in mining engineering, Washington University.

Wm. P. Laing, machinist, St. Louis.

Edward L. Lang, secretary Charm Manufacturing Company, 113 Elm Street, St. Louis.

Ernest E. Lasar, machinist, with G. H. Lasar, 910 Autumn Street, city.

Louis D. Lawnin, clerk, N. O. Nelson Manufacturing Company, St. Louis.

Edward H. Lebens, student, Senior class, mining engineering, Washington University.

John J. Lichter, Jr., student, Senior class, dynamic engineering, Washington University.

Wm. Alex. Magee, machinist, with Ranken & Fritsch.

Frank W. Morse, master mechanic, Denver, Texas and Fort Worth Railway.

Frank E. Nulsen, with Missouri Malleable Iron Company, 1641 Missouri Avenue.

Geo. R. Olshausen, student, Senior class, dynamic engineering, Washington University.

Charles M. Parker, student, Senior class, Troy Polytechnic Institute, Troy, N. Y.

Frank E. Reel, law student, Hawk Farm, St. Louis County, Mo.

Louis C. Rohlfing, doctor of medicine, Solomon City, Kans.

Edward H. Rottman, commercial traveller, Hilger Hardware Company, St. Louis.

James L. Sloss, clerk, with Jas. H. Brookmire & Co.

Edward Smith, lumber business, Potosi.

Geo. M. Stedman, general manager Stedman's Foundry and Machine Works, Aurora, Ind.

J. Harrison Steedman, student, Senior class, Washington University.

Hamilton W. Stone, draughtsman, St. Louis Heating Company.

William T. Treadway, machinist, Jacksonville Shops, Jacksonville, Ill.

Harry L. Whitman, in business with his brother.

Charles H. Wright, teacher of manual training.

Class of 1886.

Bruce C. Alvord, Jr., in cutlery house of A. J. Jordan, 2819 Dayton Street.

Fred A. Bair, draughtsman, Brownell & Wright, street-car makers, St. Louis.

Alfred C. Beebe, member of Junior class in chemistry, Washington University.

Daniel F. Behrens, clerk with Belding Bros. & Co., silk manufacturers.

Charles L. Bouton, Junior class, science course, Washington University.

Charles W. Cahoon, stenographer, St. Louis and New Orleans Anchor Line, 2327 Adams Street, city.

Daniel L. Cliffton, 2944 Laclede Avenue.

Harry Marcy Coudrey, special agent for Travellers' Insurance Company, Southern Hotel, 3449 Washington Avenue, St. Louis, Mo.

Edward L. Dillon, clerk and collector of E. W. Moon, machine works, 1222 Madison Street, city.

Edward B. Fay, member of Junior class of civil engineering, Washington University.

W. Adin Field, died while a student at De Pauw University.

Charles H. Gardner, clerk in Simmons Hardware Company, 3129 Laclede Avenue, city.

Henry Gwinner, machinist.

Wallace Harker, salesman, with Udell & Crunden, 2940 Laclede Avenue, city.

Oscar F. Hartman, clerk with Sells & Co., 1930 Louisiana Avenue, city.

Joseph Rawlins Hickman, "car tracer," St. Louis and San Francisco Railway, 7th and Cerre Streets.

Samuel D. Hodgdon, express business, "extra messenger," Bryan, Tex.

Charles H. Hopper, apprentice at pattern-making, 3814 N. 11th Street, city.

Boone Johnson, draughtsman, Pullman Car Shops, Chicago, Ill.

George D. Johnson, assistant superintendent, Mississippi Glass Works, St. Louis.

William C. King, clerk with Samuel Cupples & Co., 2947 Thomas Street, city.

Robert H. Laing, machinist, with G. H. Lasar, 1023 Clark Avenue, city.

John B. Leggat, member of Junior class, Washington University.

William M. Louderman, clerk with Sells & Co., 3426 Chestnut Street, city.

Ludlow Maury, member of Sophomore class, Washington University.

John A. McClean, clerk with C. & W. McClean, 2704 Chestnut Street, city.

H. N. Mayo, teacher manual training, Salt Lake Academy, Salt Lake City.

John N. McQuilkin, teacher of manual training, public schools, Beardstown, Ill.

Herman C. Meinholtz, draughtsman, Heine Safety Boiler Company.

Richard G. Mincke, clerk, commissary department, Pullman Car Company, 1723 Chouteau Avenue, St. Louis.

George R. Rice, Jr., clerk at office of the Wabash Western Railroad Company, 1131 Benton Street, city.

Edward O'Neal Shotwell, 2740 Lucas Avenue, bill clerk, Pullman Car Works, St. Louis.

William H. Slicer, teacher of drawing in the Technical School of Cincinnati, 94 N. 9th Street.

Charles B. Spicer, shipping clerk, with W. McBlair & Co., 2679 Lucas Avenue, city.

John B. Steinert, teacher of mechanics, Nebraska State Mute Institute, Omaha.

Wm. J. Stelzleni, letter-carrier, St. Louis.

Wm. M. Stewart, with St. Louis Metal Company, 7th and Howard Streets.

Henry J. Stiller, with August Gast & Co.

George T. Thompson, assistant superintendent of Laclede Gas Works.

Hugo E. Wangelin, dentist (D. D. S.), Belleville, Ill.

Gustavus E. Wetzel, Jr., with G. E. Wetzel, general commission business, south-west corner Market and Second Streets.

Rowland Lee Wilson, raising Clydesdale horses and "Shorthorn" stock at Olney, Ill.

Louis H. Winter, Jr., assistant book-keeper, Missouri Car and Foundry Company.

Wm. C. Zelle, member of Sophomore class, Washington University.

Louis F. Zepp, clerk, 3532 S. Broadway.

Class of 1887.

Albert H. Baier, member Sophomore class, Washington University

Frank E. Bauer, farmer, Bunker Hill, Ill.

Frank C. Blelock.

Walter A. Boeck, clerk with Messrs. Grether & Boeck, 3706 Delmar Avenue.

Richard A. Boyle, clerk in bank, Sullivan, Ind.

William G. Brenneke, member of Sophomore class, Washington University.

James H. Brookmire, Jr., with J. H. Brookmire & Co., 2733 Lucas Avenue.

Henry D. Chapman, member Sophomore class, Washington University.

Herman D'Armour, pattern-maker, 2001 Broadway.

William H. Danforth, member Sophomore class, Washington University.

Edward R. Fish, member Sophomore class, Washington University.

John R. Fordyce, member Sophomore class, Washington University.

Wm. R. J. Frain, with Samuel Cupples & Co., 4327 Warne Avenue.

Wm. Allan Gardner, book-keeper, Francis Axe Company, Buffalo, N. Y.

Hallock N. Gillette, with N. O. Nelson Manufacturing Company.

Wallis V. Graves, machinist, Hydraulic Press Brick Company, 2813 Lafayette Avenue.

Chas. S. Greene, Freshman class, Massachusetts Institute of Technology, Boston, Mass.

Wm. R. Grier, office of St. Louis, Ill., Gas Company, 601 Washington Avenue, 3126 Lucas Avenue.

Harry F. Hammel, 3649 Clark Avenue.

Michael Isaacs, on surveying party, St. L. & San F. Ry. Address, 101 Park Street, Cincinnati, Ohio.

Oscar A. Kelly, member Sophomore class, Washington University.

Chas. P. Lampel, with Simmons Hardware Company, 1111 Chouteau Avenue.

Berthold A. Lange, St. Louis Law School.

Samuel A. Larkin, machinist, Mo. Pacific Shops, 2630 Randolph Street.

Wm. H. McCormick, 2827 Franklin Avenue.

Gustave E. Meisner, farming, Bushberg, Mo.

Landon C. Metcalf, local census work, Kansas City, Mo.

Ferdinand Moll, with a manufacturing company, 3119 Adams Street.

Wm. A. Ocker, 3446 S. Broadway.

Victor H. Poss, member Sophomore class, Washington University.

Jacob F. Ratz, 1220 Benton Street.

Chas. B. Rearick, draughtsman, Dunkirk Engineering Company, Dunkirk, N. Y.

Wm. V. Reel, medical student.

Albert A. Rehbein, clerk, Miss. Planing Mill Office, 1937 Biddle Street.

Lloyd H. Rickart.

Denney W. Roper, member Sophomore class, Washington University.

Wilfred Alex. Schade, cashier, Chas. H. Wyman & Co, 9th and Olive, city.

Adolph Schenk, Jr., 2654 Morgan Street, with Aires Thermometer Company.

Geo. A. Schlossstein, clerk, French Window-glass Manufacturing Company.

Alvin H. Schureman, Mo. Pac. Ry. Passenger Depot.

Frank B. Schureman, with Simmons Hardware Company, 2814 Dickson Street.

Charles H. Speer, order clerk, August Gast & Co., 2837 Thomas Street.

Geo. F. Steedman, member Sophomore class, Lawrence Scientific School, Harvard University, Cambridge, Mass.

Edmond A. Thomas, book-keeper, Fox Bros. Manufacturing Company, 2730 Stoddard Street.

Wm. F. Thompson, clerk, Parsons & Co., 1113 Olive, 2320 Scott Avenue.

John W. Valliant, member Sophomore class, College of New Jersey, Princeton, N. J.

John C. Van Doorn, in employ of Merchants' Exchange, 3000 Olive Street.

James Harrison Whittaker, Summerfield, Ill.

Clarence G. Wilgus, farming, Whitehall, Ill.

Geo. H. Wolbrecht, member Sophomore class, Washington University.

Chas. L. Woodruff, clerk, Wabash Railway Office, 4519 Blair Avenue.

Alfred Woolf, with Messrs. Woolf & Co., 426 Washington Avenue.

Class of 1888.

John McCune Allen, 3424 Pine Street, machinist, Pacific Lock & Seal Company, Olive Street.

Geo. Y. Bast, teacher of drawing and tool-work, Oakland Manual Training School, California.

Wm. Herbert Bouton, 2909 Park Avenue, member Freshman class, Washington University.

Gustave Ernst Bruere, student, St. Louis Medical School.

L. Dutihl L. Cabanne, 719 Garrison Avenue, Missouri Pacific Machine Shops, shipping clerk with Ripley & Bronson, St. Louis.

Edward P. Clark, Jr., 2210½ Olive Street, clerk.

Wilbur Graham Cory, 1102 Channing Avenue.

Wm. N. Cummings, 3514 Olive Street, member Freshman class, Washington University.

Clarendon Davis, Jackson, Mo., medical student.

James M. Dudley, 3573 Olive Street, St. Louis post-office.

Albert A. Ehrhardt, California, Mo.. member Freshman class, Washington University.

Walter Eisenmayer, milling business, with "The Eisenmayer Company," San Diego, Cal.

Sidney A. Fairchild, 2117 Clark Avenue, member Freshman class, Washington University.

Wendell C. Fletcher, 1045 Goodfellow Avenue, motor inspector, St. Louis Electric Power Company.

Walter H. Fuchs, 1014 S. Fourth Street, member Freshman class, Washington University.

Henry M. Greene, member Freshman class, Massachusetts Institute of Technology, Boston, Mass.

Jas. Alonzo Hance, Montgomery City, Mo.

Edward A. Hauss, draughtsman, Peninsula Car Company, Detroit, Mich.

Charles Hendrich, Washington, Mo., member Freshman class, Washington University.

Ernst Hoelke, 2001 Park Avenue, member Freshman class, Washington University.

Louis W. Holy, 1829 Dolman Street, with Simmons Hardware Company, St. Louis.

Geo. F. Horneker, Eureka, Mo., student, Commercial College.

Arno E. Huning, member Freshman class, Washington University.

Fred. A. Krackauer, 1115 S. Compton Avenue, in Garstang's Machine Shop.

Harry Lanitz, 3658 Delmar Avenue, shipping clerk, St. Louis Stamping Company.

John Gates Lewis, Jefferson City, Mo.

Rufus Augustus Lewis, draughtsman, with Mr. Annan, architect, St. Louis.

Wm. Luedinghaus, 2831 Rauschenback Avenue, in business with his father, Henry Luedinghaus, Esq., 1721 N. Broadway.

Evans McCarty, 2628 Rutger Street, in office of Southern White Lead Company, St. Louis.

Edward C. Meier, 1726 Mississippi Avenue, member Freshman class, Washington University.

Peter Holme Morrison, 1401 Washington Avenue, student, St. Louis Medical School.

August H. Mundt, 2355 Rutger Street, draughtsman, with Ranken & Fritsch.

William L. Nichols, 2710 Olive Street, Freshman class, Washington University.

Albert G. Nulsen, 1641 Missouri Avenue, Freshman class, Washington University.

John Erwin Page, 5581 Cabanne Place, draughtsman, Pullman Car Works, St. Louis.

Wm. L. Poppenhusen, Washington, Mo., in hardware business with his father.

Thos. T. Richards, 2210 Lucas Place, member of Freshman class, Washington University.

Francis E. Schwentler, 1908 Carr Street, draughtsman, American Brake Company, St. Louis.

John Stack, East St. Louis, Ill., student, St. Louis Medical School.

Rezin D. Steele, Galveston, Tex., in architect's office.

Lewis C. Stone, 103 N. Channing Avenue, book-keeper and salesman, St. Louis Wheel Company.

Clarence J. Taussig, 2112 Waverly Place, member Freshman class, Washington University.

Ralph Day Udell, manufacturer, Indianapolis, Ind.

Chas. M. Wageley, draughtsman, American Brake Company, St. Louis.

Total number of graduates, 239.

THE PSYCHOLOGY OF MANUAL TRAINING.

BY WM. T. HARRIS, LL.D.,

Concord, Mass.

In bringing forward my thoughts on the Psychology of Manual Training, I desire to say in advance that I shall endeavor to assume and maintain a judicial attitude toward this important educational question. I shall avoid the position of advocate or polemic so far as I am able.

As persons interested practically and theoretically in the management of schools we meet from year to year to discuss the vital questions that may arise in our province. Practically and theoretically, it is our fortune and our choice to find ourselves arrayed on different sides of each question. A free comparison of opinions in a friendly spirit gives us each matters for further reflection and may lead to partial revision of opinions previously held. A free comparison of grounds or reasons for opinions is still more profitable. All search for grounds, all search for principles, goes back out of the region of surface and diversity of facts—goes back out of the multiplicity of details toward unity. From differences we converge toward agreement when we begin to compare the grounds of our opinions. Principles and fundamental grounds are held in common by all minds, and this is necessarily so in case of ultimate principles at least.

Now, as a class of people interested in the management of schools, we have two opposite trends of opinion before us; we may divide here, one class of us tending toward conservatism and the other class tending toward new experiments with a view to progress and improvement. One class holds by the heritage of the past, and strives to conserve its power. What is established has been established through struggle, and the victory of the strongest. A study of the grounds for the existence of what is, discovers many and powerful reasons for the continuance of the existing order even in presence of the fact that defects are everywhere visible. The conservative sees the defects but attributes them to inefficient administration and not to essential shortcomings in the old system itself.

On the other hand, the party whose watchword is progress bends its mind on the discovery of what is inadequate in the old system. It marshals the shortcomings and refers them to vicious methods inherent in the old system. It looks about for remedies and undertakes radical changes, bravely confident of their success. And inasmuch as the teaching profession is for the main part engaged during its daily tasks in the work of repression (inhibition), holding back pupils from doing wrong or improper things, teaching self-control, and that action of the will which psychologists call inhibitory, it (the teacher's profession) tends toward the conservative side too readily. It is engaged in struggling against caprice and arbitrariness, against raw, unformed habits and manners, against thoughtless disregard of the interests of others.

This effort is apt to swallow up the teacher and cause neglect of that other side of will training—the side of spontaneous, original activity. It neglects the positive for the negative, because the negative is the first and indispensable, while the positive may appear of itself without any education, after the school period is over, or outside of the school. Mere positive will power without the negative or inhibitory power will produce only anarchy. The new human being must learn to inhibit or hold back by an effort of will his native, mere animal, impulses and desires, having due regard to the requirements of social existence—cleanliness of person and clothing, courtesy and decency of manners toward others, purity of life, temperance, prudence, fortitude, and justice, all requiring this inhibition (or self-restraint over impulse) and conformity to pre-ordained ideals of order. Mere spontaneous originality attacks all these things and runs riot.

On the other hand, mere prescription, mere inhibitory will-power, developed to extremes, produces only a mechanical civilization—a dead mechanical state of social existence. We look upon the Chinese education as productive of such a condition. All is cut and dried and given to the pupil as a ready-made form into which he must fit himself by inhibition of natural caprice and inclination. The consequence is the least possible progress and the completest administration of the old system.

What the philosophy of history must regard as the ideal standard of progress among nations is, therefore, not a mere perfection in administration, for this is achieved in the perfectly stationary empire of conservatism.

The ideal standard of progress is found in the form of government which secures the greatest degree of individual development while not losing the centralized power of the whole. In the patriarchal empire the social whole is perfect at the expense of individual freedom. We Americans are apt to think that the German Empire sacrifices to some extent the development of the individual for the sake of the perfection of the administration of the will of the social whole. Certain it is that the German statesman looks upon our American régime as sacrificing the welfare of the social whole in order to give an unreasonable margin for individual whims and preferences.

The Anglo-Saxon doctrine (expressed in French words), *laissez faire*, is thought to go too far when it permits parents to choose illiteracy for their children, or when it permits an illiterate community to substitute lynch law for the regular judicial process.

However this may be regarded, there is certainly a mutual relation between the form of government, with its administrative process, and the self-activity of the individual; and that government is best which secures the greatest perfection of central administration through the greatest development of individual freedom. But it remains true that the self-activity of the individual must be strictly limited by the necessity of perfect central administration for the good of the whole.

May we not in like manner name our criterion of educational progress as the approach toward a system that secures the greatest individual self-activity of the pupil while it builds up in his character perfect obedience to law, divine and human, and a sacred regard for truth.

While our progressive wing of superintendents does not always move forward in a straight line, for not all change is progress, yet on the line of cautious experiment there is most advance to be hoped for. I think that the friends of progress will admit that out of one hundred changes not more than one real gain results. Yet without experiment there might be no progress at all.

In the present question, that of manual training, we have eminently able men in our body taking strong grounds in its advocacy and initiating bold experiments in the direction of adopting it into the system of elementary instruction. On the other hand, we have men who look upon the experiment as unnecessary for various reasons, or else await the issue of the experiments, thinking that it is safe to adopt the new system after it has been proved a success. Experiments are so costly that one must be cautious in undertaking them. Ninety-nine fail and one succeeds. Meanwhile debate and discussion will aid us in interpreting the results of experiment as they appear. It is safe even for conservative-minded men to approach the subject theoretically.

The psychology of manual training is concerned chiefly with the mental effect of such training and a comparison of its results with those of other branches of the course of study pursued in school. What is called the "educational value" of such training in the use of tools is a matter for pyschology. Social necessity—the necessity for useful labor to provide a subsistence—this is not a psychological matter in its primary aspect, but only in its secondary, or indirect relation to mind—the effect of a conciousness of possessing the ability of independent self-support in elevating the tone of character, or the effect of shortening the era of childhood and hastening the day in which the child assumes the responsibility of self-support. Whatever the ground for introducing a branch into the course of study, there is evidently a direct or indirect psychological question involved.

M. Sluys, of Belgium, tells us that in Sweden—

> In the beginning the economic conception was generally adopted, and everywhere manual training was looked upon as a means of preparing the children of the common people to earn their living. But gradually it came to be recognized that manual training has a more elevated purpose, and one indeed more useful in the deeper meaning of the term. It came to be considered as an educative process, for the complete moral, physical and intellectual development of the child.

He affirms that in Sweden the combination of manual training and the teaching of purely theoretical subjects "ensures the integral cultivation of all the faculties and all the aptitudes which make up the complete man."

The expression which we often hear used by the advocates of manual training—"put the whole boy to school"—states in a plain, forcible way

the meaning of the phrase, "integral cultivation of all the faculties and all the aptitudes which make up the complete man."

It has been fashionable in educational treatises since the days of Pestalozzi to define the province of education as "the full and harmonious development of all our faculties." This is, however, a survival of Rousseauism, and like all survivals from that source is very dangerous. It is of first importance to consider this definition in the light of psychology.

At first glance we see that it makes no discrimination among the faculties themselves; all have a right, each has a right to cultivation, and the only limitation of this cultivation is found in the word "harmony." What the harmony should be is not said. It is implied, however, that the harmony once reached, there would be a perfect human being. Harmony implies a sort of balance, and that there is no faculty of the soul which may be developed supremely, no faculty like that of Divine Charity, for example, which should be supreme.

Again this definition ignores the great distinction between our higher and lower faculties, between our faculties that are means to ends above them and those faculties which are ends in themselves. Sound psychology, for example, looks upon ethical insight as higher than insight into what is useful as a means to an end. The adaptation of means to ends—the use of physical strength, industry, eating and drinking, any sort of bodily training, is subordinate to the question of the end for which it is used—moral purpose being esteemed higher. Moral faculty is supreme as regards all such things, and is not a co-ordinate factor.

Æsthetic faculty, taste for the beautiful, is not regarded as co-ordinate with moral faculty by any people since the Greeks or before the Greeks. Gracefulness was the supreme end of life and esteemed to be even higher than morality in Hellenic art. It was in the Greek thought that this notion of harmony arose as a symbol of perfection. For in Greek art alone the physical and psychical are in perfect balance; not so in Christian art,—and far otherwise in the Christian religion. For Christianity teaches that food, drink, raiment,—or creature comforts of all sorts—yea, life itself is infinitely beneath consideration when weighed against the spiritual service of humanity. Bodily health and vigor, sound digestion, good sleep, keen sense-perception, are all good if rightly used, or subordinated to higher faculties; but to speak of them as forming a harmony with the higher is placing the soul and body on the same plane, and this is a fundamental error in educational psychology.

In the third place the definition ignores the distinction between man as an individual and man as a social whole, the State, the civil community, the church, the family. It fancies man the individual to be something complete in himself and without relation to society—just as we can speak of a clock or any piece of mechanism as complete when all its parts are present and properly adjusted. Man has two selves; one his natural self as puny individual, and another his higher self embodied in institutions. This is the worst defect in the definition, because it leads

the thought of the educator away from the essential idea of education, which is this: Education is the preparation of the individual for reciprocal union with society; the preparation of the individual so that he can help his fellow men and in turn receive and appropriate their help.

The "harmony" definition is abstract; this definition is concrete. An abstract definition is liable to misinterpretation, the concrete one is not. Reciprocal help of social whole and individual in the first place implies both special and general education. To help one's fellows one must get skill in some useful occupation. This may be in any realm of human labor, physical or intellectual. But to be able to receive the help of one's fellow men implies general education, the capacity to receive and appropriate the help of institutions — the spiritual help of the race in science, art, literature, and moral and religious ideas, as well as in the matter of creature comfort. The world market yields to the individual man for his day's labor a share in the productions of the world; necessary food, clothing and shelter, luxuries, amusements, churches, libraries, lectures, newspapers and books. The prudent man buys wisdom and develops his lower faculties only to the extent that they are means to this higher end of acquiring wisdom and dispensing it to others.

This criticism of the definition of education which looks toward a harmonious development of all our faculties does not rule out manual training from education, but the contrary. Manual training fits very many for some useful occupation which they may fill as their special vocation. Neither does it prove that manual training is not of a general educative character. That is something to be investigated.

The Slöjd instruction, according to Dr. Otto Salomon, the director of the famous manual training normal school at Nääs, in Sweden, secures the following educational results:

(1) Skill in the use of tools. (2) Love of labor, industry and persistence. (3) Self reliance. (4) Exactness. (5) Attentiveness. (6) Sharpens the eye and sense of form. (7) Good bodily training.

In another connection he gives its educational results as (1) acquisition of general dexterity of the hand; (2) instilling taste for work and respect for rough, honest, bodily labor; (3) training in habits of order, neatness, exactness, cleanliness; (4) accustoming to attention, industry, and perseverance; (5) promoting the development of the physical powers; (6) training the eye and sense of form.

There is no disputing the assertion that the Slöjd is educative when we consider that all work and all play of every kind are educative in one way or another.

When the domestic work (Hus-slöjd) which formerly flourished in the households of Sweden — it consisted in the making of knick-knacks, chiefly out of wood — when this failed because of the introduction of more elegant machine-made goods, far more tasteful and elegant in form, at a very low price, the peasant could not afford to compete, and household work tended toward neglect and disuse. It is said that

more attention was given to farming as a consequence, but farming could not occupy all the time in the season of long nights and short days. Hence the rise of an association to restore the Slöjd, or domestic manufacture of knick-knacks in 1846. In 1872 the government began to encourage education in this branch of labor. At first wood carving was urged, but only to provoke resistance. But later it has been decided that variety of work is essential, and at the Slöjd normal school at Nääs the various tools of the carpenter are taught, and also those of the wood-turner and the blacksmith, besides wood carving; the making and mending of simple articles is practised; even wheels and carts are constructed, but mostly such articles as wooden spoons, boxes, boot-jacks, mallets, and netting shuttles. The number of schools in which this work is taught had increased to seven hundred in 1884, from eighty-seven at the time of our Centennial.

When we admit that the use of tools in the manufacture of articles of wood or iron is educative, we do not say much for it. All games of boys—like marbles, quoits, base-ball, jack-straws—are educative, especially in the matters (*a*) of development of physical powers; (*b*) the acquisition and dexterity of hand and accuracy of eye; (*c*) in perseverance; (*d*) in attention.

A game of whist cultivates circumspection, careful attention, the calculation of probabilities, and such matters. The first beginnings of these things in children are of great interest educationally. The scientific observations of Professor Preyer have taught us how important is the epoch when the human infant ceases to clutch objects only with the four fingers, like most of the ape family, and learns to use his thumb over against his two fingers. This contraposition of the thumb began in the case he records about the twelfth week of the infant's life—at first a sort of reflex action without the will, and then soon after produced by the will, so that contraposition of the thumb was quite attained by the fourteenth week. The infant rejoices in each new power gained, and incessantly practises it with voluntary attention until it by degrees sinks into a habit.

The first look of attention on the part of the child of Dr. Preyer was given to some swinging tassels on the thirty-ninth day. On the ninth week it noticed and gave attention to the ticking of a watch.

Other important epochs are the following: (1) Holding up its head by the act of will in the eleventh week. (2) Standing alone in the forty-eighth week. (3) Walking in the fiftieth week. (4) Recognition of its mother on the sixty-first day. (5) Recognition of its own image in a mirror in the sixth month—stretching out its hands to the image—also recognizing its father's image and turning to look at the real father and compare him with the image. (6) In the seventeenth week is noticed the first recognition of self—indicated by attention to his own hand; and six weeks later an elaborate series of experiments of touching himself and foreign objects alternately. (7) The discovery of itself as cause when it can produce sound by rattling a paper, or by striking one object with

another, or tearing asunder a piece of paper; this is a most delightful discovery to the child. (8) But imitation, which begins about the fifteenth week, and by and by develops into the use of language, is the most interesting evidence of the growth of the intellect.

This glance at infant life reminds us that in education things that are very trivial at one epoch are of exceeding importance at another. In cases of arrested development the educational value of such matters as the contraposition of the thumb, the exertion of the will in supporting the body erect, and imitation, is coming to be well understood, as one may see in recent schools for the feeble-minded. But the order of development of these things is all-important. An act is educative when first learned, and then only. After it has become habit it is a second nature—a new nature produced by the will—and is no longer educative. Man as a bundle of habits is a self-made being.

Professor Preyer's child was so delighted with the discovery that it could put a cover on a box that it deliberately took it off and replaced it seventy-nine times without an interval of rest. It was an educative step in its development, a step in the discovery of its selfhood as an energy, as well as a step in the discovery of adaptation in the external world.

Many educational devices have been proposed for schools which merely repeat lessons that the child has already made for itself in infancy. The so-called object lessons of school are quite frequently of this character. So lessons on the properties of objects, the qualities of wood, stone, metals, etc., are not of much use in school, because such things are provided for in the child's self-education. I do not, of course, refer to the scientific study of such things, which classifies and exhausts those qualities and gives the history and geography of the object—science is a different matter. The cultivation of the powers of observation in our schools—this, too, is very often the farce of repeating lessons which have been learned by the child before he could talk.

Now, all the lessons of infancy involve such training in dexterity of the hand, accuracy of eye, the sense of form, industry, perseverence, the gaining of the power of careful attention, and the development of the body, such training as is claimed for the Slöjd education. Moreover, the lessons of cleanliness and neatness and industry are taught by the good mother quite early to her child. The child learns to use knife and fork and spoon very early. By and by he learns to use the jackknife, and we all know the self-education that goes on in the use of this tool among Anglo-Saxon boys.

But what of all this? one inquires. Although it is educative it is not properly school education. How does such infant education differ from reading, writing, arithmetic, geography, history—yes, even from grammar? Here is the vital point of our discussion.

Man elevates himself above the brute creation by his ability to withdraw his attention from the external world of the senses and give attention to energies, forces, producing causes, principles. He can look

from the particular to the general; without losing the particular he grasps together the whole realm of the particular in the general, or, in more significant language, in mastering the cause of anything he grasps together and comprehends an indefinite series of effects. He is not obliged to hold the details, that is to say, memorize all the facts and hold their details in a store-house. He can see them all in a principle; he can see in a cause its possible consequences. Understanding the meteoric process he can readily explain any step in it—clouds, rain, snow, evaporation, fog, etc. Without this knowledge of the general, which always rests on some insight into causal process real or supposed, man would be bound down to the present fact before his senses. But with this knowledge man is able to see in the present fact its past history; he is able, moreover, to see in the present fact its future as a possible fact, which he may realize by an act of his will.

Man differs from the animal in this great power of seeing ideals and in reinforcing sense-perception by adding to each thing or fact before his senses the vision of its past and the vision of its future. Man thus becomes comprehending; he explains the fact by its process of evolution; he becomes practical or a will power through effecting some change or modification in the thing or fact in order to realize his vision of its ideal.

A false psychology tells us that we derive all our knowledge from sense perception. We see form or shape and color; feel, taste, smell, or hear, hardness, flavor, odor, and sound; but we do not by any of these learn the idea of causal process. This comes through thinking and is an original acquisition which thinking mind brings with it. By this idea of causal process all the data of sense are transformed radically. They are given us in sense perception as independent realities. In thinking them by the aid of causality we make all these matters of sense perception into phenomena, or effects and manifestations of underlying causes which are not visible or tangible, not flavors, sounds, nor odors.

No generalization is possible without ascending from the immediate thing or fact to the causal energy. By their common causal energy we unite objects into classes, we unite the various heterogeneous things such as acorns, oak-leaves, roots, saplings, trees, oak-wood in one causal process of the oak.

Without the idea of causality we could never distinguish external objects from our feelings, and hence experience never could begin.

Man goes back from the fact to its producing cause. But he goes back of its producing cause to a deeper cause that unites two or more series of producing causes, back of the oak and pine to tree in general; back of tree and grass and lichen to plant in general; back of plant and animal to life in general. Man's power of thought rises from thing to cause and from cause to cause, leaving a smaller and smaller residuum of mere sense-data and yet getting nearer the underlying reality which *causes all these* sense-data.

This is the great point for educators to observe. We do not get at the true reality by sense-perception but by thought. Force is never perceived directly by the senses; a thing is here and a thing is there, but motion is not perceived, only inferred; force is only inferred. Thought puts together this fact and that, this present one and that past one, and unites them by the idea of causality, and the idea of force is born.

So thought produces the idea of space, pure space containing all, infinite in extent, and yet not material, not to be perceived by any of the senses. With the ideas of space and time—ideas that thought generates of itself in order to think the data of sense-perception into a consistent whole—with these ideas of space and time the idea of quantity is evolved and mathematics becomes possible.

In mathematics man beholds not merely a few data of sense-perception but the universal conditions of all sense-perception. The laws of quantity, as formulated in arithmetic, geometry, and the calculus, give us the logical conditions of the existence of all matter and all motion, not only all that exists, but all that may or can exist.

Now this must be borne in mind when we make comparison of the educational effect on the mind of a child produced by learning arithmetic and geometry with that produced by learning how to make a box or a joint, or weld two pieces of iron. Grant that all these processes are educative, at least in the first process of their acquirement. To make a box requires special applications of knowledge of a special kind—measurement, adaptation, dividing with the saw, the use of the hammer and nails. It is special, and there is something learned regarding the texture of wood and nails, some skill or knack acquired in the handling of tools—some pleasurable feeling of self at the consciousness of what one can accomplish by his labor. But in the study of mathematics there is an immeasurably higher feeling of self in the perception of the power of the intellect not merely to know passively, but to know actively, not merely to know the small portion of the universe presented to its immediate senses, but to know the conditions of existence of all matter near and remote, now, in the past, and in all future time. What a glimpse of the dignity and commanding eminence of mind arises through the study of geometry! The three angles of any triangle are equal to two right angles—the pupil need never measure one real triangle to know this. On the basis of the ratios of the sides of the right-angled triangle to one another man proceeds to measure all things inaccessible to manual measurement; he measures the distance of the sun and of the fixed stars. Compare the feeling of selfhood that is gained by the soul in the use of the tools of thought with that gained by any form of manual labor.

In learning arithmetic the boy learns to quantify and measure all things numerically. It is not co-ordinate with the knowledge of carpentering, but it underlies it; at least there can be no use of the carpenter's rule without *some* arithmetic.

But the school studies are for the most part given to a knowledge of human nature and human combination rather than to a knowledge of material things. This is due to the fact already seen, namely, that man is a social being, and is all that he is as a spiritual being—an educative being—through this fact of organized existence in institutions. All science, all literature, all art, the whole world of learning, in fact, takes its rise in man's dependence on society. Society is the miraculous instrumentality by which each individual aids every other, and in turn is aided by all. In food, clothing, and shelter he brings by commerce all productions of all climes to his market, collecting from all and distributing to each.

In matters of human experience it is still better, because the aggregate of human wisdom does not have to be divided in distributing it. Each man may receive it whole if he will only learn the symbols in which it is stored up. If a child will learn how to read and write he may learn the experience of the race through the countless ages of its existence. He may, by scientific books and periodicals, see the world through the senses of myriads of trained specialists devoting whole lives to the inventory of nature. What is immensely more than this, he may think with their brains and assist his feeble powers of observation and reflection by the gigantic aggregate of the mental labor of the race. This is the great meaning of school education: to give to the pupil the use of the means for availing himself of the mental products of the race. Compared with what he receives from the race, the productions of the most original of men are a mere speck in a wide field of view. Every one may add something to the aggregate of the world's knowledge, but he must, if he is educated and rises above the brute, receive infinitely more than he gives.

Hence, in comparing the educative effect of learning to read with the educative effect of learning the carpenter's trade, we must consider this difference of scope. The one leads to knowledge of a few tools and a limited sphere of the botany of trees—an empirical, but not scientific, knowledge of a few wood textures, a few simple processes of combination into shapes for use or ornament—all of which brings also a limited knowledge of self and of human nature. Its whole educative effect is exhausted in a brief time at the manual training school; for we are told by authorities that manual training for educative purposes must not be carried far enough to produce skill.[1] On the other hand, the education of learning to read, although it is an efficient process of education while in school, yet it is followed by its greatest educative effects afterward throughout life; for the person is destined to use this knowledge of reading daily as a key by which to unlock the treasures of all human learning. The school has given him possession of the means of permanent and continuous self-education. It is the difference between a piece of baked bread, which nourishes for the day, and the seed-corn, which is

[1] See Professor Woodward's excellent remarks on the educative limits of manual *training in his book.*

the possibility of countless harvests. Education that educates the child in the art of self-education is that which the aggregate experience of mankind has chosen for the school. The course of study involves the mastery of letters or the means of intercommunication with the race; the means, too, of preserving the harvest of observation and reflection. It, moreover, involves the use of letters in certain fundamental studies, so as to show the pupil how to master the great general classes of books. It initiates him into the use of mathematical books, showing him how to understand them by persistent attention and thought, showing him that memorizing the words of the arithmetic does not master the book, but that it is necessary to think out for one's self every statement and see the necessity of it. The mathematical province of letters reveals to the child the realm of man's victory over nature, because having invented mathematics it is only a question of detail—"divide and conquer"—to subdue all nature.

Then comes geography, lifting a curtain and showing the child his race divided into peoples and nations round the globe, all working at something that he himself needs, and the spectacle of the world-commerce bringing to him over all seas the desired articles.

Then there is history, lifting another curtain and showing the doings of man in the past. Man reveals human nature by his actions. Each one reveals to himself a small fragment of human nature, but he does not know much of human nature until he looks into history; for history reveals the higher self of man as organized in institutions. For the first time man comes to know his substantial self when he comes to study history. His little self beholds his colossal self.

Then there is literature, which shows in its prose and poetry the collisions which individuals have made with institutions—Macbeth and Othello, Paris and Helen, Œdipus and Faust. It completes for us the revelation of human nature, and more than all other studies is humanizing and civilizing. The school initiates the child into this realm through the intense bursts of impassioned prose and poetry that the school readers contain, showing in these all the varieties of style to be mastered, and how to master them; how to ascend from the mere colloquial vocabulary, which the child brings with him from the family, to the literary styles adequate to express deep thought or fine shades of emotion.

The school also makes a study of language in itself—it teaches grammar, the most difficult of all school studies, and the most educative of subtle powers of thought.

But, it is objected to me here: Does not nature give us the material of thought, and language only the symbols of thought? Is not language an arbitrary symbol and nature the eternal reality? I remember saying this once myself when I was a youth in college, and the thought so oppressed my mind that I did not have patience to remain and graduate, but I left college midway in the course.

Afterward, *when I came* to clear up my thoughts, I began to see

that I lived in two worlds—the world of nature and the world of man. Moreover, the world of man was much more complex than that of nature, and, strange as it then seemed, the world of man was really much closer to me than the world of nature. It enwrapped me, so to speak, like a garment—a clothing for the mind. Think of nature with its two kingdoms, the organic and inorganic, and the human world with its three provinces,—the realizations of (1) the will; (2) of the intellect; (3) of the creative imagination. For example, there is the province of institutions, with laws and customs and usages, national forms of government, religious systems, moral codes, political methods, etc., as the embodiment of human will, revealing the nature of human will, just as the habits of ants and bees reveal ant and bee nature. If things and realities are the material of thought, what material of thought is so important for our examination as human institutional growth? Is it a product of arbitrary will? It is at least as much a reality as the habits and actions of animals and plants in which the botanist and zoölogist discover the nature of animals and plants. More than this, these laws and customs are the most dread reality that we know of. It is a matter of life and death to ignore the laws of the state—it is a matter of wasting all one's strength uselessly to disobey the behests of custom, however slight. What is so close to man as his wrappage of customs and usages? This is his bond of union with his fellow-men.

If it is admitted that these products of man's will are realities and material for thought, think of their vast complexity and extent. But the products of man's intellect are the multifarious sciences, and fragments of sciences, all his philosophic theories and all his inventions in the arts. Within this division there is the province of language—a vast complex system with a structure all its own, yet revealing the structure of thought itself, just as forms and usages and laws reveal the nature of the human will. And is not language a reality—is it not the material vehicle of thought, and does it not exist as an object for thought and scientific consideration? In its language lies embalmed the deepest peculiarity or idiosyncrasy of a people's growth. It is worth while to study a steam-engine, an arbitrary product of man's inventive mind, because the steam-engine is the instrument for the annihilation of distance and separation. It renders intercommunication easy and cheap. It assists in producing civilization by bringing about spiritual communion. But infinitely more important to study is the structure of language because it is the invention of the soul as a direct and adequate means of expressing its internal acts and states—its thoughts, volitions, and feelings. By language social union and civilization are realized. To study the grammar and vocabulary of a language is to gain an insight into the structure of soul itself, and at the same time to gauge the spiritual development of the people who spoke it. Even the smattering of grammar taught in schools has the great educative effect of turning the mind of the pupil inward so far as to seize definitions and *classify words by* the meaning that they have. It is a study of the

effect which form has upon the meaning of words. Moreover, a training in grammar gives one the power, to some extent, of discriminating the accidental from the substantial—a training which fits the mind to enter successfully other fields of subtle thought.

The province of literature and art furnishes wonderful material of thought, for it furnishes the symbol of human ideals and aspirations, the grand impulses that move at the bottom of our civilization.

It has been claimed by some of its advocates that we have in manual-training an executive action of the mind while we have only a receptive activity in the other school studies.

There is a distinction in psychology between efferent and afferent nerves—nerves that convey outward impulses from the brain to the muscles, and nerves that convey impulses from the surface inward to the brain, and give rise to feeling. These are named also motor nerves and nerves of sensation, or centrifugal and centripetal nerves. This distinction between executive and receptive activities seems to be based on this difference of nerves. It would be assumed in the first place that the most essential forms of human activity are sensor and motor. The individual should be receptive of impressions from without through his nerves of sensation, or else he should be executive through using his muscles. Moreover, in order to make this theory apply to manual training it must be held that manual training covers the ground of the motor or executive. The use of the tools for wood working and metal working, such use of a portion of these tools as the manual-training school furnishes, is in fact supposed to be an executive training in an eminent degree. But all the metal workers in the country, according to our last census, amounted to only 585,493 (counting the twenty-two important trades) out of a total number of 17,392,099 returned as engaged in gainful occupations. This is less than 3½ per cent. of the laboring population, and yet the annual product even of this small fraction of our people exceeds the home consumption of metallic goods. The workers in wood, counting twenty-five trades, numbered only 763,814 out of the seventeen and one-half millions of laborers, about 4½ per cent. But it is claimed that skill in the use of the tools of these trades would be valuable to all, no matter what their employments might be. This, however, is a position that cannot be maintained for the following reasons: Every trade has its special knack or skill, and not only requires special education to fit the laborer to pursue it, but it re-acts on the laborer, and fixes in his bodily structure certain limitations, which to a greater or less extent unfit him for other occupations. Even within the trades devoted to the transformation of metals it is found that a long apprenticeship to blacksmithing unfits one for fine work on jewelry, or for engraving. Too much work at planing and sawing, moreover, would injure the skill of the wood carver.

Out of the 92 per cent. of laborers not engaged in any form of wood or metal work nearly 5 per cent. are engaged in the manufacture of tex-

tile fabrics or clothing. Counting together those who have to do with these manufactures and with the care of clothing and with leather manufactures there are 7 per cent. in all whose occupations would be more or less injured by an apprenticeship in blacksmithing and carpentry, for a certain delicacy of touch is required in the manipulation of textile material that can be acquired only by long-continued and one-sided training. Trade and transportation employ 11 per cent. of the laborers; agriculture, 45 per cent. Manual training, if it includes only wood and metal work, fits only 8 per cent. for their vocation, and more or less unfits for their vocations a large part of the remaining 92 per cent. of laborers.

But the psychology on which this distinction of executive and receptive activities is based is not sound. It omits the elaborative faculties of the mind altogether. The nerves of sensation may bring in impressions and the nerves of motion may carry impulses outward, but what connects these two activities? Physiological psychology informs us that the brain and the great ganglia at the base of the brain are used by the soul in receiving, co-ordinating, and comparing these impressions; in short, in thinking upon the data furnished. Moreover, before a decision is reached there must be internal impulses consulted such as proceed from desires and wishes, and then a comparison of ideals, for one does not act in order to make a thing into what it is, because it is that already. He acts in order to change some real condition into some other condition that exists only in his mind as an ideal possibility. The purpose or ideal being fixed, and the means of realizing it being chosen, the will acts and the motor nerves are called into use to set the limbs in motion or to utter words of command. That the ordinary branches of instruction in school relate to this function of elaboration of data into plans of action far more than they relate to the mere reception of sense-impressions or to the exercise of the motor nerves, is obvious. It is obvious, moreover, that in the perfection of this function of elaboration lies the culture of true directive power. The general who plans the battle and directs the movement of his troops so that they secure victory is of course the executive man in a far higher sense than the private soldier who mechanically obeys what he is ordered to do. The general may use his motor nerves only in issuing the words of command, while the private soldier may exert to the utmost every muscle in his body—yet the real executive is the general.

It is not desirable that children shall be taught that rough hand labor is in itself as honorable as the elaborative toil of thought which gives rational direction to the hand. The best function of the manual training school is its training of the elaborative faculties of the mind, its studies on the rationale of the construction and use of tools, its study of mathematics and science. This points out the road of permanent usefulness for such schools. They may fit master workmen for the several trades and occupations, and thereby furnish overseers who not *only can direct* but can teach besides.

It is sometimes claimed that the educative effect of the manual-training school is the remedy for a prevailing distaste for manual labor. Professor Woodward phrases it "the overcoming a most humiliating repugnance on the part of so-called educated people to using their hands." To this it may be said that if it is the object of the manual training school to cure dudes of their contempt for honest labor, it should first get some compulsory system of attendance for that class of the community. Professor Woodward also declares that "the manual training school is not an asylum for the lazy." Indeed, his entrance examinations carefully sift out all boys who do not give evidence of past industry and good habits; in short, all boys who are not already in love with honest hand work. If the object of the school is to fit ordinary boys for the trades and cure them of aspiration for clerkships and professional work, the statistics show an alarming influence in another direction. In the Chicago Manual Training School out of the 87 graduates in the three years, 1886, '87, '88, there were 51 at least who are reported as looking higher than manual labor, namely, 4 teachers, 28 students in higher institutions, 7 entering the professional work of architect or engineer, and twelve clerks, while only 25 appear to be engaged in manual work, either as overseers or workmen. Of the 100 graduates of the St. Louis Manual Training School in the years 1883, '84, and '85, it appears that 65 look above manual labor (6 teachers, 29 students in higher institutions, 21 clerks, 9 professionals), while only 23 are reported as engaged in work of farming and mechanical pursuits as laborers or overseers.

It is evident that the elaborative function of the mind is the true source of executive power. The problems of life must be solved by thought before they can be reduced to action without waste of energy.

There is one phase of the psychology of manual training which deserves special commentary. Æsthetic training, through drawing properly taught, gives an educative effect of a far-reaching character as respects all of our industries. In it is also contained the solution of the economic problems that lie deep down under the manual training questions here considered.

By proper instruction in drawing one must mean the cultivation of the hand and eye by the use of the pencil; but this is only the first and least important part; it is more manual and less mental than the second requisite, which is an instruction in the ideals of tasteful and decorative form, which should be taught in parallel lessons in connection with the practical use of the pencil.

Once trained to recognize the beautiful and graceful in form and arrangement, and to criticise all defects in this particular, the pupil has acquired a precious quality of mind, useful in every occupation and in every station in life, whether subaltern or directive. Culture in taste, such as drawing gives, fits all laborers for more lucrative stations and

helps our industries by giving our commerce a firm hold on the markets of the world. Not merely wood and metal-work profits by this cultivation in taste, but all manufactures, whether of food, clothing, or shelter.

The educative effect of art is also ennobling, for it leads to the preference of an ideal which is not a selfish one.

If we could see in the Slöjd training a more prominent place offered to art studies[1] we could predict with some certainty the rise of Sweden from the low rank she holds among manufacturing nations. Instead of furnishing raw material to other nations—she sends us pig and scrap iron and rags[2]—she would begin to send out finished goods, such as Belgium and France have sent out for a long time, and such as England has sent out since the founding of the South Kensington Museum.

However this may be, it is pleasant to record the fact that American manual training schools give far more attention to the study of drawing, although perhaps not enough to the analysis and discussion of the forms of ornament and free design, or, in other words, to the theory of art.

Whether manual training schools shall develop into industrial schools for the training of apprentices to the several trades, or, on the other hand, become incorporated into the school system as a general discipline, depends, of course, upon the answer which educational psychology finally gives to the question.

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[1] In the Slöjd work it is stated that the chief tool used is the jack-knife, though it is the object of the training schools of Sweden to secure skill in the use of other tools. The political economist can not commend the encouragement of home manufacture of knick-knacks, though he may admit that it is better than sheer idleness during the winter months. Far better would be the introduction of manufactures requiring skilled and combined labor that would draw the peasants into villages, as our own manufacturing establishments have done. To some extent work can be given out by the large manufacturers to the families of the rural population, as, for example, as is done here with the manufacture of clothing; and such work is found far more profitable than knick-knacks, especially when the latter are not made of graceful patterns or from tasteful designs.

[2] In the official report of Commerce and Navigation of the United States for 1881 the imports from Sweden and Norway are reported as—pig iron, $111,176; bar iron, $517,959; old and scrap iron, $114,883; total, $744,018. But of manufactures of iron and steel only $111,749 are reported. It is surprising to note that we imported wood manufactures from them only to the small amount of $137, while we imported rags for paper manufacture to the amount of $39,090, but no manufactured clothing to speak of. The same year Belgium sent us wood manufactures to the value of $118,146, or nearly one thousand times the value of the same item from Sweden and Norway. (See pp. 43, 59, 60, 63, 78, 79.)

TO WHAT EXTENT AND HOW CAN MANUAL TRAINING BE INTRODUCED INTO UNGRADED SCHOOLS?

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If by "manual training" we are to follow the definition of Dr. E. E. White, viz, that "no school work should have this name that does not make manual skill or other manual result a direct end," then I should say that manual training has but little claim to recognition by the ungraded school teachers. But if we take the definition formulated by Dr. Butler, and adopted by the New Jersey council of education, I think we shall find that there is a place, and a very important and necessary place, for it in all the schools of our country. Manual training is by them defined as "training in thought-expression by other means than gesture and verbal language, in such a carefully graded course of study as shall also provide adequate training for the judgment and the executive faculty." The council also says that this will necessarily include drawing and constructive work, although it does not determine by what special means this instruction may best be given. The manual training movement does not mean a trade school movement, neither does it mean that pupils shall learn to do things that may fit them better to enter a certain occupation. If Sir Philip Magnus' definition is to be accepted, that "manual training means exercise in the use of tools employed in working in wood and iron," then manual training has little or no place in any ungraded school. Drawing has been understood to be included in manual training exercises, and the kindergarten employments have also been so classified, as we think, most correctly.

The first question to discuss is, do pupils in our ungraded schools need "training in thought-expression by other means than gesture and verbal language?" In other words, is the course of study usually followed in our ungraded schools sufficient to produce the best manhood and womanhood? Is anything omitted that ought to be attended to, and is anything attended to that ought to be omitted? Let us then inquire what constitutes a good education?

This question is fundamental, and here we find the definition of education as the equable development or training of all the mental, moral, and physical human powers, quite universally accepted. Taking this as a basis we also take another statement as universally accepted, viz, that we have no means of touching the mind or of knowing its operations, except by means of the senses, and that when all of the senses are brought into their fullest exercise and made to do their work correctly and rapidly, the mind is in a condition to grow in breadth, power, and quickness.

ESSENTIALS OF A GOOD EDUCATION.

I will proceed to formulate the points which seem to be essential to a good education.

In addition to a knowledge of the three R's, all pupils should know something about drawing; they should be supplied with lead pencils, compasses, divided rulers, and other articles to draw lines of a definite length and circles of a given diameter, triangles, pocket knives, scissors, heavy manilla paper, card-board, paste, equilateral triangles, triangles whose sides are three inches, five inches, triangles of different sizes and shapes, cut out of card-board with scissors and knives to erect perpendiculars from different points of a line and let them fall from points without the line. They should construct squares of different sizes and cut them out of card-board or other material, and also form all the simple geometrical plane figures by cutting them out of suitable substances. All this work could be carried on without immediate class direction. From this work pupils should be led to discover many of the facts of geometry, as that the angles of an equilateral triangle are equal; that the three angles of a triangle are equal to two right angles, etc. Also glimpses may be given of the relation of geometry to trigonometry, as well as to many of the concerns of life. A little instruction should be given in free-hand drawing, but we believe that this work is not as important to the child in its bearings on after life as the course just outlined, although free-hand drawing might be taught all the pupils, and those who showed special skill in executing designs might be encouraged to proceed; and yet it would not be best, neither is it necessary to introduce into our ungraded schools any extended work in free-hand execution.

In addition to exact geometrical drawing there should be moulding. The power of making things useful and beautiful cannot be very well overestimated as an intellectual stimulus. Clay can easily be used when tempered and rolled into sheets, and in many ways it can give an impulse to the constructive faculty, and many ornamental and some useful articles can easily be whittled out from such clay with a knife. Wood can be fashioned by pupils into interesting and valuable objects. A bench in one corner of an ungraded district school would produce no confusion. I am well aware that many would look with a sort of horror upon the introduction of a work-bench into a country district school, and exclaim, *Procul, O procul este, profani!* But it is a fact, nevertheless, that the saw and plane and auger and scroll-saw and some other simple tools with a work-bench may be made the means of powerful intellectual stimulus; and even though pupils should be working at the bench in school hours no one need to be troubled thereby.

The true teacher aims to develop the whole boy and the whole girl, and boys and girls can be better stimulated into mental action by means of hand, eye, and ear work, than by the conventional methods laid down in the stereotyped programme.[1]

[1] *See article* on Manual Training in Country Schools, by Henry R. Russell, in the *Report of the N. J. Council of* Education.

KINDERGARTEN PUBLIC SCHOOL WORK.

The time has passed for an apology for kindergarten methods. Teachers everywhere bear witness to their excellence, and thus to their necessity. This shows the regard we should give to them. No one who has ever given the kindergarten a fair trial has failed to become enthusiastic over its results. The gifts, the games, the songs, the home-like charms, and above all its heart culture, make it the best physical, mental, and moral gymnasium ever devised for young children. But when we come to the seventh year of age we reach the dead wall, as far as kindergarten is concerned, so that the question of importance for the public school teacher is, not whether the kindergarten is a success and a necessity, but whether it can be introduced into our ungraded country schools. Any one who has had an experience of a child's first day in a rural school need not be reminded what it is. The infants sit and look and squirm and often cry, as though brought into a world not altogether suited to their young tastes. Mr. Sinclair says that he asked a little girl if she could tell him anything about an ox. Not getting an answer, he asked a little boy whether he thought an ox was like a potato? The astonishing answer came, "Yes, it is lots like a potato; it has eyes and a skin and a body." Now this child was not smarter than the average child coming from our country homes. We have stultified the dawning power and growing mind of young children by our eternal ab's, eb's, and ub's, and by our everlasting drawling and droning over, "It-is-a-boy."

If anything needs to be broken up into infinitesimal pieces and destroyed from the face of the earth, it is the humdrum, unnatural methods in use at this hour in ten thousand rural schools all over our country.

A kindergarten table in the public school where the young child could be permitted to play, according to Froebel's idea of play, would be like the advent of a blessed angel to let up a cool and refreshing stream of water in a dry and thirsty desert. What joy would this table, with its beautiful games, and plays, and instruction, and development give to the tens of thousands of little boys and girls who are to-day sitting in blank amazement and unthinking despair at the new world they have been forced into, where native activities are repressed, and where little is real and interesting.[1]

A QUESTION ANSWERED.

There are many intelligent parents who say, "Of what use are such studies as algebra and geometry to my son, who intends to farm?" These parents say that the extra number of studies crowded into our course of study keep back the development of their children in the right direction. Now, when a parent asks, "Of what use is this

[1] See paper by S. B. Sinclair, Ph. B., read before the Provincial Teachers' Association, Ontario, August, 1887.

study to my child, he never intends to use it in after life?" are we to write this man down as a fool or a philosopher? We believe that there is more philosophy in this question than many are disposed to admit. Life is short; we can not master everything, and you must agree that of two studies which afford equally good mental gymnastics, that one which has in it the element of practical utility should be chosen. I disclaim all intention of utility or end, but I do claim, and I do not believe that it can be successfully contradicted, that there is philosophy and reason, and thus good practical common sense, in the opinions of ordinary thinking men and women; that the studies of the school should fit pupils, to some extent, for the work of after life.[1]

WHAT KIND OF PUPILS OUR SCHOOLS SHOULD TURN OUT.

We do not want to turn our schools into factories for producing pupils who will crowd into the oversupplied and already overcrowded professions, but we do want an education that will train the whole nature in such a way as to create in the mind of the country boy and of the country girl the highest respect for the horny-handed sons of toil, the highest respect for the men and the women of our country who earn their bread by the sweat of the brow. The truth is, that the spirit of our country schools has led thousands of country boys and country girls to enter the academy, and perhaps go through college, and return out of sympathy with the surroundings in which the early part of their lives was spent. It should not be considered degrading for the leading scholar of his class in college or the best scholar in the academy to return and work upon the farm or in the kitchen. How comes it that at the present time we have but a small minority who keep the ideal of the dignity of work in their minds at the close of a course of study? It is because our common-school work tends to divorce education from labor, and leads the boys and the girls of our country to realize that there is an aristocratic class, and that this class is the educated class. The stout, hard-working, rosy-cheeked girl, who comes into the district school and proves her keen intellect and sure judgment, is told by the teacher, "You are fit for something above washing dishes and mending stockings. Go to college; do something worthy of your native talents." And when this strong, large-hearted, well-developed, rosy-cheeked, magnificent girl comes back from her college course, she is the pale-faced lady, stayed up by the artificial corsets of aristocracy, receiving her patrons in the parlor, conning over her Latin and her Greek, and never deigning to help the mother in washing the dishes, paring the potatoes, or mending the clothes of the younger children. You know this is true, if you know anything at all about the history of thousands of girls who have graduated from our highest institutions of learning.

The divorce that took place in this girl's mind between the dignity of

[1] See paper read by A. G. McKay, W. Gray Teachers' Association, Owen Sound, October 5, 1868.

home toil and her new ideal of the work of life, commenced when she attended the district school. What we want from the very commencement of education is the careful conserving and cultivating the ideal of the dignity of labor, and this can be done by manual training as we understand manual training to be.

OUR COURSES OF STUDY OVERCROWDED.

But it is said that our course of study is altogether overcrowded, that there is no time in the ordinary district school for anything more. I grant it, if the curriculum is to remain in the future as it has been in the past. And here I wish to quote some authority to show what can be omitted. The first is Mr. A. E. Frye, who says that fully three-fourths of precious time in school work is thrown away. For what time is more precious than the few years of school life between seven and twelve? You cannot sit here on these benches indifferent to this wastefulness of this precious time. If Mr. Frye can be believed, what punishment should be inflicted upon you, superintendents of schools, who require pupils and teachers to waste three-fourths of their time in useless work! But here are the items in the geography count, as given by Mr. Frye:

1. Book definitions of natural forms of land and water.
2. Heights of mountain peaks and ranges; lengths of rivers; names of unimportant peaks, ranges, rivers, capes, peninsulas, etc.
3. Answers to the countless text and map questions, which the teachers neither know nor care to know.
4. All details of relief that do not affect the *general* rainfall and drainage; and all details of coast lines which do not affect climate, or are of no commercial importance.
5. All systems of "construction lines" which are not discovered (by the pupils) in the general directions of coast lines, or in the trends of highlands.
6. Lists of products—export and import—except those of *chief* commercial value.
7. Names of the hundreds of towns and cities which are not of commercial, capital, or historical importance.
8. Area of countries, states, and groups of states, together with exact political boundaries of the same.
9. Population of cities and countries, and statistics of races, governments, and religious denominations.
10. All knowledge that is poured in merely for examinations, and which the pupil is not expected to remember after he leaves school.

Well, now, this will do for geography, but how about the other subjects? I will introduce Mr. George H. Martin, agent of the Massachusetts State Board of Education, who certainly has a right to be heard, and you certainly must respect what Mr. Martin says, especially coming from so immovable a State as the one in which the conservative president of the National Educational Association lives.

His text is concerning grammar, and his sermon hits some of our old grammatical cranks—among whom, I am sorry to say, I must class some superintendents of schools—who still persist, in spite of reason and sense, in requiring parsing and diagramming to be taught in the schools

under their care. I trust these individuals will hear what Mr. Martin says touching it, and take comfort thereby. It will do them good. Mr. Martin says:

Some work in theoretical English is included in nearly all the courses of study, but the teachers have lost faith in it, and few of them teach it *con amore*. For most of the pupils the limit of attainments would be as follows: They can distinguish the kind of sentences and analyze complex ones, if the relations are not very obscure; they can distinguish the parts of speech as ordinarily used, and describe them so far as to tell the number and case of nouns and pronouns, the tense of verbs, and the degree of adjectives; they are shaky on participles and infinitives; they can explain a simple case of agreement between a verb and subject, and the use of the nominative as subject and the objective after the preposition and as direct object of the verb. In a few schools the pupils can go beyond this. The pupils have little power to use their knowledge of grammar to determine whether sentences are correct or not, depending for this chiefly upon sound, and, as experiment shows, being as likely to judge wrong as right, except in the case of very obvious errors. Few of the schools give time enough to this part of the work to secure the necessary training. Whether the training itself is worth what it would cost to get it is another question. It is also a question whether it is best to teach grammar at all, unless it is carried far enough to obtain this practical end

COUNTRY SCHOOLS HAVE ENOUGH OF MANUAL TRAINING.

But I meet another objection. There are many who say the country schools have enough of manual training. The city schools may need this exercise in order to develop the body; but what folly is it to advocate that the country boy or the country girl should go into the school for the purpose of developing his or her body. I think I have sufficiently shown that manual training does not consist of gymnastic exercises; neither is it claimed in this paper that it is for the purpose of rendering the hand more skilful, but for the purpose of making all the senses acute, sharp, that thereby there may be the rounded, full, complete, and perfect manhood and womanhood. But it is a delusion and a snare that the majority of the men who grow up in out-door work in our country places are Apollos, or that all the young women who come out of our country farm-houses are Venuses.

I do not think that *all* the country girls are slouches, or all the country boys are gawks, for there are many eminent exceptions. Our best manhood and our best womanhood come from the country; but the culture—by this I mean the knowledge of the ordinary proprieties of life, in standing, sitting, dressing, riding, walking, and even sleeping—is found in the well-to-do families of our country places where there has been intercourse with the rest of the world, and where the children have had the opportunity of knowing what the ideals of the best part of the world are. But the majority attending our country schools are shut up to what they see and learn within a few miles of the place where they were born and where they are foreordained to live. These ideals become in a few years crystallized, and their after lives are only the prolongation of the circumstances of their early years. The coun-

try gawky boy becomes the slovenly, uncouth, one-sided farmer man, and the country slouch of a girl becomes the wife of this man, and they two are well mated and their children are like them. Thus the evil is perpetuated. What we want to do is to touch the country life in the place where it needs touching, and lift it, bringing it up, and impressing upon the minds of children higher ideals of living, speaking, acting, dressing, and eating than they have hitherto enjoyed; and manual training in its broadest sense, such as I endeavored to give it in this paper, will bring about this desired result, and nothing else will.

WHAT COUNTRY SCHOOLS NEED.

We want, then, to weed out from the country-school all its nonsense and in it put sound sense. History tells us that the intelligence of the world has found its centre of influence in our towns and cities. There are the libraries, there are the lectures, there are the churches of culture and power, there are the social gatherings of intelligence.

Now, what we need is to extend this good influence into the rural districts, and it can only be done through the public school. Granted, for the sake of argument, that the church is the great centre of culture and uplifting in the world, I have simply to refer you to the fact that the church in tens of thousands of places does not reach the country district community. The many who do not attend church from the country districts are far in the majority over those who do attend. The stay-at-homes among farmers on Sunday are the rules and not the exceptions. Shut up, then, in their narrow surroundings, they grow to maturity with the ideals of the country intensified by no higher ideals than the district school teaches. Touch the district school with some uplifting power, give it the spirit and the life and the animation and the force and the virtue that comes from this new education, and the desert will bloom and blossom as the rose; joy and gladness, intellect and culture, will be seen where before there was the tame monotone of humdrum repetition.

WHAT THE COUNTRY BOY NEEDS.

If it is true that in our city schools little attention has been paid to the wants of the individual child, and great attention to fashioning and shaping him to courses of study, it is also true in the district school. The ordinary country boy learns more of real life, and thus gets more of *real* education, at base-ball and managing horses and the plough, and using the hoe and the reaper, and in hunting and fishing than inside of school doors. But what it is now proposed to do is to bring some of this outside real education inside the school-house.

The country boy knows what is round, smooth, hard, and qualities and properties, but he is utterly unable to describe a cube, a sphere, or a rectangle. This new education takes the child, with what he knows when he goes to school, and utilizes these activities as the starting

point. It defines and strengthens his powers of observation, and shows him how to describe and use what he perceives. It causes him to have powers of condensation, and to abstract himself from what is going on about him. It leads him to exercise his thinking faculties far more effectively than by memorizing a lesson which he does not comprehend. It puts him in the attitude of a discoverer, closely to observe things around him and regard the results of his observations. He not only sees faces, cubes, triangles, prisms, curved surfaces, but he also observes the sap in the trees, the bark, the wood, the different kinds of plants, their stems, leaves, roots, blossoms. The fields to him become instinct with life. He knocks upon the rocks to find in them a crystal or a fossil. His mind goes forward in thinking of improvements in a hundred arts that come to his notice, and goes backward before the time when human history commenced, to study the eras through which the world has passed by means of the rocks on his father's farm. As he becomes observing he becomes talkative, and anxious to show others, by drawing as well as by speaking, the thoughts of his mind. His activities are aroused, the power of thinking progresses with equal step with his powers of observation and expression; he takes in the world as a citizen of it and not as a denizen of the old farm-house, circumscribed by the limited view he can get from his father's acres. This enlarged thought by means of observation and inductive reasoning is not new; that grand old man who sat at the feet of Socrates and drank in wisdom from the immortal lips that spake as never uninspired man spake before or since—this old man Plato, who brought the idea of Greek education up to its highest and most beautiful fruitage, clearly taught the essential principles of the manual training of to-day. The Greeks received the impulse that made the men and the women of the age of Pericles the best developed and the most beautiful of any men and women the world has ever seen. Add to the immortal truths of this old philosopher the grand inspirations of our Christian civilization, give to the old thinkers the power of speaking to us at our height, and impressing us in our time with the grandeur of their thoughts, and the scholars that go forth from our schools will be kings and queens among the inhabitants of this world. There is no fiction here, as some will tell you after this address is closed; there is no rhetoric that cannot be substantiated by the history of the past. No man on this floor will dare to say that the equable development of the whole human being is not the grandest work in which any person can engage, and no one will dare to deny that in the development of this man, soul, body, and mind, there must come in forces to make quick and accurate the action of all the senses, and bring to its highest development the hearing, the seeing, the smelling, the taste, and the feeling, so that the man may receive and give impressions both accurately and rapidly, and that the thinking machine within us may work up the objects of sense-perception into highest objects of thought-production.

The object of education is to fit youth for future citizenship, and the practical question is *"Are we getting the desired result at a reasonable cost?"* It is not infrequently charged that there were too many studies, and that new ones only served to dissipate the time, energies, and powers of the pupils. In reply to that, we must recognize that the school is to become the key to useful life. New studies proceed not only from the increased and increasing demands of modern life, but also from the notable discovery of the child's true place in the social fabric. It is proposed now to bring some outside education inside the school doors. Every American boy knows at six years of age what a base-ball is. He can tell that it is round, smooth, hard, though he cannot call it a sphere. So with a block. He knows its qualities, though he cannot describe a rectangle or a cube. The new education takes the child at what he knows when he appears first at the school, and simply utilizes his activities as the starting point. By a regular system it defines and strengthens his powers of observation, and shows him how to describe what he perceives. The pupil's memory is not equal to his teacher's. He is weak in powers of condensation, and cannot abstract himself from recognition of what is going on about him. Connect his outside life with instruction, show him that the ball is a sphere, that it will roll, is smooth and uniform; that a cube has six sides, and you at once connect his aroused interest with study. Then he is put on a voyage of discovery, and by observation he perceives how the faces of cubes, triangular prisms, and curved surfaces differ. This leads to capacity of expression, of drawing what he cannot express in words. Thus he becomes as anxious to draw as to talk. This action of discernment and expression leads to thought, and the pupil, having gained a knowledge of primitive forms and derivatives from the faces of solids, essays to reproduce in clay; and, by groups of his productions, learns the rudiments of design. Thus employment is given to his activity; his power of thinking progresses with equal step, for he cannot study, in this way, without thought.[1]

WHAT WORK IN DRAWING DOES.

To show what work in drawing is I quote from a description of the recent exhibition given and published under the direction of Superintendent C. E. Meloney, in the Somerville (Mass.) Journal of December 22. The method is so clearly presented here that it seems to me the best that can be shown under this branch of manual training.

Observation is strengthened and developed into habit by handling, seeing, and examining models and objects, that the pupils may recognize what they see. They are trained to express what they observe by making figures representing the models of objects, by accurate drawing of the same, and careful language of description. Instruction commences with the forms of the sphere, the cube, and the cylinder. By means of tablets cut from stout paper the children are taught the essential shape of planes; after which they are taught to combine forms into designs. Having progressed satisfactorily, the element of color is next taught, first, in masses of the primaries, then in halves, thirds, fourths, etc., of each, till shades are not only truly received and comprehended, but actually fixed in the mind. Children readily form designs and compositions by colored strips, showing an aptitude beyond the power of the pencil to secure. The ideality is aroused without the incumbrance of first learning how to hold the pencil and to overcome its native instability. All can paste and fasten, while only a few can draw, at so early an age.

As in drawing and coloring, so in modelling in clay, form is studied from primatives by infant classes. Objects in common life, domestic utensils, school implements, the large ones in miniature, are produced with marvellous capacity, showing how accurate

[1] See remarks of John H. Clark, Somerville, Mass., December 20, 1888.

the eye becomes when trained up under so comprehensive a system from the start. Indeed, symmetry is perhaps more obvious and apparent to the nascent mind in clay than in plane drawing, inasmuch as the different planes of relief assist in developing the image in the mind. These clay efforts, after baking, become imperishable; if preserved from breakage, they are immortal. The study of color, from the first acquaintance with the primaries to the charming results obtained by forms and shapes cut in sheets of one shade and displayed over different shades, gave satisfactory results in harmony. They exhibited the spirit of oil painting.

In the advanced classes the instruction proceeds under three distinct grades of drawing, viz:

First. *Construction*, which is at the foundation of the work and represents the *facts of form*. The term "construction" is used to indicate drawings from which forms are constructed, such as *working drawings*, *machine drawings*, and *architectural plans*, all of which were exhibited. The actual construction is done in a system of manual training.

Second. *Representation*, which includes the drawing of objects as they appear. This includes perspective, object drawing, charcoal sketching, light and shade, water-color, landscape, etc., specimens of which were to be seen.

Third. *Decoration*, which includes forms of symmetry and design. This department included in the primary work-tablets, paper-folding and paper-cutting, borders, and mats, etc. In the grammar grades, conventionalizing of plant forms, patterns for surface coverings, decoration of furniture, plate, and other works of art—culminating in choice specimens of historic and classic ornament in color—India-ink and charcoal sketches.

OUR BEST METHODS OWE THEIR EXCELLENCE TO MANUAL TRAINING INFLUENCES.

We can not be oblivious to the fact that the wave of thought started by Ratich, Comenius, and Rousseau, and intensified by Pestalozzi and Froebel, is beginning to bear fruit of a most beneficial kind. These men thought as few men had ever thought before their time; and the kindergarten movement, the drawing and form-study movement, the objective methods of teaching history, geography, number, and language, and the manual training movement, all trace their impetus to the labors and thoughts of these great men. To-day the best methods in all the studies of our schools receive their greatest impulse from manual training exercises connected with them. The teacher who is hearing lessons from the text-book in geography without sand, plaster, salt, dough, putty, wood, cloth, leather, or who is not using all sorts of objects in her school-room for the purpose of teaching her subjects, is from away back from some antediluvian time; and the teacher who does not accompany all exercises in her school with drawing, not for the sake of the work done but for the purpose of perfecting and developing the representative faculty, is also living yet in a dark educational age. Plant studies, animal studies, mineral studies, and the drawing of forms and all sorts of graphic exercises are inseparable features of school work, and it is because these features are *not* found in a majority of our country district schools that we urge that there should be a reconstruction in their methods of teaching. Models are at hand, not only in the making of maps and charts and tables, but in many directions which there is not

space in this paper to describe, for the purpose of teaching history, and from time immemorial, even back to the early period of Chinese civilization, apparatus has been used in studying arithmetic. The abacus is the oldest arithmetical appliance of which we have any knowledge. The child never learns to appreciate arithmetical work until by handling, cutting, and making forms, fractions, and measurements. A hundred practical problems are worked out by the use of tools.

And what shall we say concerning the use made of things in studying the sciences? By what word in the modern or ancient languages shall we designate that teacher who attempts to cram the facts of chemistry or physics into the memories of pupils without apparatus? A chemistry or a natural philosophy without experiments is as abnormal a thing as a man without a head or a Christian without a creed. And yet I am told on good authority that there are thousands of country and village schools in which chemistry and philosophy and textbooks are "recited" from beginning to end without the show of any apparatus of any kind, either bought from the city manufacturers or made by the hands of the teachers or pupils. You know, gentlemen, whether this is a fact or not; you have the means of determining as no others have. I appeal to you whether this is the case? If it is, something should be done; and, as we have defined manual training, it is the manual training thing that should be done. Stop the nonsense of *memoriter* recitations in history, geography, elementary chemistry, and physics, and arithmetic, and go at the work of developing according to the eternal laws of human nature by the methods of manual training work.

CONSOLIDATING AND CO-ORDINATING VARIOUS STUDIES.

Time can be saved in school work by consolidating or co-ordinating the various branches of study. Supt. Thomas M. Balliet, of Springfield, Mass., in a recent report before the Massachusetts State Teachers' Association, shows clearly that we are repeating in teaching, *e.g.*, the sphere is used in primary work; in geometry we take it up again and analyze it more fully and study the relations of its parts; and then in mathematical geography we study it again in studying the motions of the earth, latitude, longitude, the tropics, the zones, etc. Then again in arithmetic the same subject is studied when teaching the topics of longitude and time. It is a fact that work could be more unified and made more scientifically thorough by uniting correlated subjects more intimately than they have been in the past. Again, we have divorced history from geography, whereas all authors on geography and history claim that the two are inseparable. Superintendent Balliet remarks in his paper that "the two subjects can and ought to be largely taught together," and also that history, if properly taught, will be found the best means of teaching civics. Another point upon which economy can be exercised is in teaching the language work, as far as the mother tongue

is concerned. If we should make language the means of thought development, we would save a great deal of time and obtain the best results possible. Mr. Balliet remarks that all language work, as far as the mother tongue is concerned, should be done in connection with the *expression of thought for the sake of the thought*, and not for the sake of the language. By teaching language studies with the "thought" studies much valuable time may be saved and ample room found for the introduction into our schools of work of the most practical character, for which now there seems to be no place. I am safe in saying that nothing better than this has ever been said in any address. It hits exactly and squarely the nail on the head, and our superintendents who are wondering how our schools may be improved can gain a hint here that will be of inestimable value in their work.

It is always helpful to refer to results of work done under unfavorable circumstances, and for this purpose I beg leave to call your attention to certain reports of manual training work accomplished during the past year in the grammar schools of New York City, containing pupils entirely from the Fourth and Sixth wards. These reports include two excellent principals, Henry P. O'Neil and Hugh P. O'Neil.[1] These gentlemen have had long experience in training boys, and have been and are conservative in their modes of thought. The work that they introduced was at first experimental, and yet it was entered upon with a spirit of sincerity and earnestness. They gave the methods introduced the best opportunity they could have under the circumstances with which they were surrounded. It is not saying too much when we affirm that what these gentlemen did could be done in any school in our land and with the same beneficial results.

WHERE CAN THE TEACHERS BE OBTAINED?

But the question will occur to you, where are the teachers to be obtained to do this work outlined? I doubt not many of you will say our ungraded schools would be far better than they are provided the teachers were better than they are, and that the excellent results claimed for manual training in the country school would be found in any school under the inspiration and encouragement of a thoroughly qualified and enthusiastic teacher. I agree in the main with this opinion. But you must recognize the fact that teaching now is not an occupation to be taken up by any girl in her teens who can read, write, and cipher in a decent manner; something more is demanded, and this something is special training. The country school of a dozen scholars down in Sleepy Hollow, in Hard Scrabble district, where the people are as poor as poverty and as wicked as sin, needs the best kind of a teacher, and it will pay in ten thousand directions to put the very best trained teacher possible over the school in which there is but a score of scholars, for

[1] For extracts from these reports, as well as from Superintendent Balliet's report, referred to above, and others, see pp. 146–152.

out of that school may come one man in a generation who will uplift his country to a higher level, either politically, morally, or religiously. It pays to put good teaching ability in the very poorest and meanest school in all this broad land.

But how shall this teacher learn her business? She is poor, circumstances are such that she can not go very far from home, besides her poverty, and unless the instruction is brought within her reach she will not avail herself of it. If the city cannot be brought to the elephant, then let the elephant go to the city. We must bring normal instruction into every county. Our great normal colleges are doing excellent work, but the universal verdict is, they do not touch the ungraded district school. You know this to be a fact; statistics abundantly prove it. I will not stop here to name them. It is especially true in the Empire State, where we are magnificently endowed and magnificently equipped with ten normal colleges, no one of which expends less than twenty thousand dollars each year, and some of them receive special appropriations of from twenty to fifty thousand dollars from time to time as their needs may demand. I say, in the Empire State, with all of this equipment, the normal schools only here and there touch the ungraded schools, and but a fraction of one per cent. of those from the normal colleges teach for any length of time in the ungraded schools of our State, so that with the present constitution of the normal schools it is out of the question to rely upon them to furnish trained teachers for the district schools. We must have county normal institutes. By a normal institute I do not mean a temporary high school, in which these teachers may be taught *how* to read and to write and cipher, or in which a knowledge of the elementary branches may be drilled into them; I do not mean schools established for the purpose of preparation for a text-book examination. We have enough of these; our high schools and academies are so common and so near together in all parts of our land that there is no excuse for any teacher not being prepared in the knowledge of the technicalities of ordinary text-book work. Make our institutes purely schools of method, where the teachers can learn by actual practice how to do things, be shown the ways of teaching, and, as far as possible, learn the elements of the philosophy of education, psychology, and the methodology of education.

In this school let there be no drill in text-books, no examinations, but only methods, and these of the best kind. There are ten thousand teachers all over our country who are following on in the beaten track of their fore-teachers; they do what they have seen done, and those who come after them will do the same. The county superintendents are powerless to effect much reform; they can make a few hints and suggest a few changes, and examine in text-book work, but they are unable to lift teachers to a higher plane; at least, if they are able to, they have not done it to any great extent. What we need is something that will touch the ungraded school teacher and show her what *real* teaching is.

show her how her work may be made of such nature as to enlarge the character of the children, inspiring the boys and girls under her care with the true spirit of education.

CONCLUSION.

This is no fiction of the imagination; it is no ideal arrangement that might be adopted in Utopia. The fact is, that all the good that has been done in education so far has not been done by those who have been sitting up late at night and getting up early in the morning for the purpose of cramming their poor heads with the dates of history, or the rules of arithmetic, the names of the contents and materials of the body, and the facts of elementary science. These are important. I would not undervalue their importance. I would give them their proper place, and a very important place, in the preparation of the teacher; but let them not be made an end, only the means to an end. In uplifting the teacher let her be shown the instruments at her command by which she can enlarge the thought of her children, perfect their judgments, intensify and make correct their reasoning powers, and their observation, attention, comparison, and expression, by means of the training of all the senses.

TESTIMONY.

Testimony referred to in the preceding paper by Professor Allen on Manual Training in Ungraded Schools.

HOW COURSES OF STUDY CAN BE SHORTENED.

[From a report by Superintendent Thomas M. Balliet, Springfield, Mass.]

1. *Co-ordination of studies.*—The different studies of the curriculum have many topics in common. Much time may be saved by so co-ordinating these studies that such topics may be taught together and the pupil be made to realize their identity or connection. Mathematical geography, "longitude and time" in arithmetic, and the analysis of the sphere in the study of form should all be taught in connection with one another. Proportion, in arithmetic, should be taught in connection with the lever, the pulley, the inclined plane, etc., in physics. In like manner political geography (which is simply history in the process of making) and history ought to be brought closely together. These subjects can be taught together in almost the same amount of time usually required to teach each separately; and thus not only valuable time may be saved, but, what is of more importance, the pupil may be led to see related truths in their proper relations.

2. *Consolidation of studies.*—In the curriculum of public schools there are found two classes of studies,—studies that furnish the *material* of thought, and studies that furnish the *symbols* of thought.

Among the first are found color, form, number, natural history and science, geography, and history. The purpose of the study of color is to build up in the mind the element of color in its concepts; that of the study of form, to build up the element of form in these concepts; and that of the study of number, the element of number. Natural history furnishes concepts of the mineral, vegetable, and animal world, which science afterwards analyzes, compares, and classifies, and discovers the

laws governing their formation or their life and growth. Geography furnishes the mind with concepts of the physical features of the earth, and traces the influence of these features on vegetable and animal life and on the social and moral life of man; whilst history furnishes it with concepts of the past social life of the race, and deduces the laws governing the development of human life through its various stages of progress.

These studies may be termed the *thought studies* of the common school course as found in the schools of to-day.

The second class are the studies which deal only with the arbitrary symbols of thought, with language as the "instrument of thought and the medium of expression."—(*Brooks.*) Oral language (including vocal culture, pronunciation, inflection, etc., as well as the grammatical structure of sentences) furnishes the oral symbols of thought; reading, the written and printed symbols as means of thought getting; and writing and spelling, the written symbols as means of thought expression.

These two classes of studies differ radically in their nature—the one class furnishing the material, the other the mere arbitrary symbols of thought. They differ also radically as to the methods to be employed in teaching them. A concept, a thought, must be developed, and the process is a slow one indeed. A word, the symbol for it, is acquired simply by a process of association. This association of symbol with thought is made most readily and with the least number of repetitions when the thought is accompanied with the greatest degree of interest. Interest is the heat that hastens the process of mental soldering. Now, a concept or thought never afterwards arouses so great a degree of interest as it does when clearly conceived or apprehended by the mind for the first time—when it is accompanied by the "joy of discovery." Thought, like certain substances in chemistry, combines most readily in its *nascent state.* The development of thought and the teaching of the corresponding symbols should, therefore, go together.

Language can not be acquired by the study of rules of grammar. No person can either speak or write well who must consciously construct his sentences in accordance with grammatical rules. Language should be an unconscious habit, and the only means that can develop such habit is practice, guided by correct models and the friendly criticism of the teacher. Children should be required daily to discuss freely in class, and afterwards reproduce in writing, the substance of their lessons on such subjects as geography and history. Interesting reading matter should be furnished them on these subjects for the purpose of supplementary reading, the substance of which they should be required to reproduce from day to day. Such reproduction would take the place of the ordinary "grinding" drill and the tedious reviews usually found necessary to impress the facts on the memory, and at the same time would furnish the very best, and certainly the most interesting, training in language. Pupils from the fourth grade up should be required to write in this way at least from half a page to two pages of foolscap daily. In this way they would not only form the habit of using language with grammatical accuracy, but (what is far more difficult) they would acquire the power of logically developing a theme, and of expressing themselves with fluency, freedom, and ease.

Penmanship, spelling, and what are commonly called "language lessons" should be taught in this manner mainly in connection with the other branches. The pupil must be trained to write well and to spell correctly when he is expressing his own thoughts, and not only when he is doing the work assigned for a special exercise in spelling and writing. The contrast between the spelling and penmanship of the regular spelling and writing lesson and that of the same pupil's composition exercise is in most cases very marked. Illustrations of this fact can be found in any of our schools, and it is due, not to unskilful teaching, but to the fact that writing and spelling are taught too much as separate studies.

It will always be found necessary to give, occasionally, in every grade, separate exercises in writing and spelling, and in the lower grades a good many, but as far as such

exercises are concerned, they ought to consist mainly, as far as concerns spelling, at least, of special drills on the pupil's mistakes in the composition exercises.

It will be found that by thus teaching language in connection with the "thought studies" of the curriculum there will not only be a saving of valuable time, but that language will be taught far more effectually than when taught as a separate branch. The amount of writing and spelling required when there is a daily exercise in composition in connection with the lessons in geography, history, etc., will be so great that pupils will receive far more training in both than they could possibly receive when these subjects are taught as separate studies. The purpose, therefore, in combining, as far as possible, writing and spelling with other branches is not to slight these branches, but to teach them all the more thoroughly and effectively *by teaching them exactly as they must be practised or used in actual life—as means of thought expression.*

MANUAL TRAINING APPLIED.

[From a report of HENRY P. O'NEIL, principal Grammar School No. 1, Fourth Ward, New York City.]

The subject of "Mechanical Drawing"—*including geometrical problems—required to be taught in all the grades*, was begun under, I at first believed, serious disadvantage. The lesson that we learned from the work of the children is well worth, I believe, describing with some detail.

It was necessary to thorough and effective work, on beginning this subject,—*as absolutely new work in all the grades*, that every class should start on the subject matter assigned for the lowest, or eighth grammar grade, and pass to the next higher along the line of the work of the several grades, as laid down in the manual, only after preceding grade-work had been intelligently completed. Further, to quote from the manual: "The applications of geometrical problems and the graphic solutions of the theorems *require very accurate representation; hence the drawing is to be done by mechanical means.*"

For more than three months the only drawing instruments obtainable were the ordinary foot-ruler and lead pencil. Foreseeing this unavoidable delay in obtaining the necessary supply of proper instruments, I determined to supply the place of compasses by using *strings and pins*. This was done by myself and teachers, however, with a great deal of trepidation as to the kind of work we would obtain. We certainly anticipated that great effort would be needed to obtain from the most attentive pupils even passable results; and that all we could hope for would be the intelligent understanding by the pupils of the *ideas to be conveyed*, leaving *accuracy of drawing* out of the question.

From day to day we were amazed at the ardor of all the pupils, and at the *beauty and accuracy* of the geometrical drawings, accomplished by even the youngest boys with *pins for centers of circles* and *with strings* for radii. You, sir, saw some of the work and can vouch for a portion of this statement.

If I had needed argument or experience to make me an advocate of what is called manual training, the results obtained in this way from the very youngest pupils, the *keen delight* taken by them in the *doing of their work*, their excessive, painstaking care shown and demanded under such disadvantage—*which care and engrossed attention could have sprung only from their feeling of delight in their work*—the absolute freedom on the part of the teacher, during these exercises, from the necessity of "keeping order"—all these would have opened my eyes to the value of this *change of methods in teaching;* for that is really what this "innovation" really is. It is not, as some misunderstand, so much an introduction of *new subjects to displace subjects previously taught*, as a *change of method* in all subjects wherein the child can be permitted to use his *activity of hand and eye in the doing of work* conveying educational ideas to his brain.

If teachers, who have not examined the subject closely, could realize how valuable to us has been this change from a disciplinary standpoint alone; if they could see, as we do, that a large percentage of the expenditure of energy by the teacher now required in "keeping order" could be saved, and that their classes would become as eager to receive instruction and do the work required as the teacher is to impart it, the *demand* for the "new methods" would come from every section of the city.

As one result of my five months' experience, and a result worthy, I believe, of being emphasized, I find, *after a consultation with my teachers*, that I can abolish the practice of "keeping in" after three o'clock for disciplinary purposes.

Much of the supposed necessity for punishment of this kind arises from the use of methods which do not interest the child and against which the child's nature rebels. Why not, then, help ourselves by the use of methods to which the child takes naturally and readily, and thus avoid almost endless friction and loss of energy on the part of both teacher and pupil?

The work I speak of above and the spirit evinced by the pupils were not confined to selected cases; they were general; in fact, boys with the previous reputation of being "troublesome," "uneasy," "restless," and "inattentive," showed in most instances the very best results.

In the "workshop"—the logical continuation of the mechanical drawing-work—covering the higher five of the eight grammar grades, there has not occurred a single instance of misbehavior needing even rebuke.

Further, working on the mechanical drawing with strings and pins for drawing instruments, as I have described, not only has the work in all other directions been fully and satisfactorily done, *but each class has accomplished in this subject the full work of all the preceding grammar grades;* so that now, on beginning the new term, *each class will properly enter upon the work allotted to its particular grade.* That is to say, for instance, the fourth grade class will take up the work in mechanical drawing belonging to the fourth grade of that subject, having thoroughly covered the preceding four grades during last term; and so, in like manner, all the other classes in the department. And this, not because the pupils were at all "rushed" or "driven" by their teachers, but because the boys did the work with perfect ease and *could not be held back.*

And here is as good a place as any to say something of the teachers.

When the first proof sheets of the new manual reached us, some time before its publication in book form, I cut them in slips so as to divide the grades and subjects; and I distributed the slips among the teachers to be copied, as far as possible, simultaneously, and thus avoid any loss of time. This had to be done so as to accommodate the teachers of the male and female departments, as we had but one proof copy for both. This done, we met for consultation after school hours, as indeed became our almost weekly practice during the term. At our first meeting the following remark was made in reference to the "mechanical drawing:"

"Why, this demands from the eighth grade alone work in geometry upon which girls have failed in normal college examinations! We'll never do it!" Of course, the reference was to such problems as, "Construct a triangle similar to a given triangle;" "divide a straight line into any given number of equal parts;" "construct a parallelogram when the angle and the adjacent sides are given," etc. All found in the lowest grades.

After the *method of presentation of this work* had been made clear, and the evident ease and delight of all the pupils in doing the work became manifest, of course this preliminary "scare" subsided.

The work in "free-hand drawing," *especially in the lower grades*, has shown fully as surprising results. The readiness with which, after a few weeks, the boys of the eighth, seventh, and sixth grades rapidly sketched objects set before them, each boy representing the object correctly as seen from his own position, was almost a revelation. The "kitchen" of the female department has furnished us with a great variety of familiar objects which we have freely used. The fact that in the younger

boys of these grades we have found a much greater facility than in the older boys of higher grades would seem to indicate great mistakes in our previous methods of teaching this subject.

In the "workshop," too, this same feature was very striking; the work done by the younger boys was, as a rule, the better. When, in time, we shall receive from the primary departments promotions whose training shall have been founded upon the study of "form" and "drawing" under the same system of modelling in clay, and drawing directly from the object, what additional agreeable surprises will manifest themselves none of us can as yet anticipate.

Contrary to general expectation, I have found very few instances of accident occurring from the handling of sharp tools in the "workshop;" and these few were trivial and noticeably confined to the older boys.

The essentials of geography have been better taught, especially the surface features, by means of modelling relief maps.

[From a report of HUGH P. O'NEIL, principal Grammar School No. 23, Sixth Ward, New York City.]

The workshop, which was fitted up for the instruction of fourteen boys at a time, was made to accommodate twenty-eight by placing pupils at the ends as well as at the sides of the benches. Four classes of this number and one class of seven were formed. The course laid down in the manual was strictly followed, and the following portions covered during this period:

All of the fifth grade shop work from the beginning of the grade to the end of the sixteenth line on page 132 of the manual. In addition to this *all* the boys (119) were taught to use the drawing boards; the method of fastening paper on boards, and of removing the same; method of using the T-squares; the making of cardboard bevel of 45°, each boy making his own bevel card entirely unassisted and without use of angle made by another person; method of sharpening chisel on oilstone, each boy having been caused to do this kind of work under close inspection; method of sharpening knife in same way; method of gluing down thin wood slips when cut and fitted to an ornamental Greek border drawn on paper on drawing-board, all being the work of boys unassisted.

More than sixty of these boys were taught to make a bevel card of 60°, by aid of compasses, each working unassisted. All the bevels, referred to above, were made of two cards glued together, and cut at the ends into right and left hand bends. One class of twenty-eight were taught to draw simple figures to scale, using the triangular-scale rulers furnished by your committee.

All the boys exhibited the greatest pleasure in doing anything connected with the workshop, whether the work was to be done in shop or in class-room, and this appearance of delight in doing work did not appear to decrease in the least toward the end of the two months' trial.

Some things, which struck me as strange in carrying on the instruction in workshop, may possibly be as interesting to you, as in many cases they were a source of great pleasure to me.

I found that the little fellows—ten to twelve years old—took hold of the tools in a more workmanlike manner than did the larger boys, as a rule; that they followed instructions in regard to holding and handling tools and materials with greater faithfulness; that they tested and tried their work more frequently with bevel-card and eye; that they appeared less discouraged when I rejected work as being poorly done, and were more anxious to try again; that they had a greater regard for the value of the tools intrusted to them, and showed more care in laying down and taking up edge tools in such a way as to avoid touching the edge against any hard substance. I was very much pleased to find that there appeared to be no difficulty in teaching the boys how to put an edge on chisel or knife. This was a source of pleasure and a great surprise to me. I had often noticed among men the utter want of ability to sharpen

even a pen-knife properly, and I expected to meet with great trouble and many failures in the teaching of this kind of work.

Every boy handled the chisel properly, oiled the stone carefully, kept the tool at the same slant—the great difficulty—during the operation, and from time to time tried the edge with his thumb or finger, and removed wire edge as carefully as I could have done myself. Among the boys were some half-dozen "slow boys"—boys recognized as "dull" or "stupid" by all the teachers in whose classes they had been—who had required constant pushing and extra attention at all times. In every case I found these "slow boys" the most attentive to every word I spoke in relation to shop work, and in every case doing as good, if not better, work than their heretofore brighter school-fellows.

On the subject of modelling in clay I desire to suggest that it would be well to take some steps toward the furnishing of instruction to the class-teachers in the kind of work to be taken up, and in the method of handling the material.

The clay-modelling is the only portion of the new course in which there appears to me to be any likelihood of less success than the most sanguine of your committee were hopeful of for the new course as a whole; and this feeling of anxiety may altogether leave me as both principal and teacher receive more light on the subject.

In closing, I wish to say that the short experience I have had in treating the subject of manual training has but caused me to be more firmly fixed in the opinion that some such training, in connection with the school course, cannot fail to be of great benefit to the pupils of our schools, and that should any falling off in efficiency in the other portions of the school course appear on the part of the scholars in the future as a result of the addition of this training to the school work—a thing I do not expect to see—such falling off will be more than compensated for by one single item of knowledge among the many to be acquired through manual training, and that is the knowledge that no good piece of work of any kind can be performed without expenditure of thought and patient attention to detail. This idea is fixed in the pupil's mind, not by the words alone of his teacher, which may, and frequently do, "pass through one ear and out of the other," but by actual personal experience, and therefore will not be forgotten on leaving school like the thousand details of geography, history, and grammar.

[From a report of ELIZABETH CAVANNAH, principal Grammar School No. 41, New York City.]

The cooking has been enthusiastically received by the pupils, and never have I seen more thoroughly interested workers than there are in that branch of the course. Many report, from week to week, the results of home work, thus giving proof of the hold it has upon them, and parents are constantly signifying their gratification at its introduction.

The study of the chemistry of cooking, and an intelligent application of this knowledge, cannot fail to work a complete revolution in the homes of thousands who now suffer from ignorance of the simplest laws governing the proper preparation of food.

Its educational advantage is manifested in the gradual development in self-reliance and judgment in pupils who are particularly weak in these respects, and in a corresponding improvement in these who are naturally stronger.

The children who have instruction in sewing are also much interested.

[From a report of W. H. J. SIEBERG, principal Grammar School No. 43, New York City.]

I herewith submit my views as to the results obtained in this school during last term in manual training.

1st. There has been no deterioration in the effectiveness of study in the pedagogic branches.

2d. The children have entered with a will and with zest into the manual-training branches, and the results have been a pleasurable surprise to them, their teachers, and myself. In mechanical drawing, especially, the inventive faculties of the pupils

have been brought out to such a degree that they could well be proud of the work accomplished.

3d. Shop-work and kitchen have been aids to discipline. I would instance the case of a boy who had committed a grievous breach in this regard. As a punishment he was refused permission to work in the shop. After three days had passed he humbly apologized to me, promised future good behavior, and begged to be allowed to go to the shop with his class. He gave no further trouble to the end of the term.

WHAT EVERY PUPIL SHOULD KNOW BEFORE LEAVING THE DISTRICT SCHOOL.

[From a report by SUPT. W. E. ANDERSON, Milwaukee, Wis.]

When the boy graduates from the district school he is supposed to have the following knowledge and ability:

First. He should read English intelligently and intelligibly upon all common subjects of knowledge—history, geography, and general literature. He should be able to read a newspaper editorial, a magazine article, a poem, a popular lecture, and to give it such expression as will evince his understanding of the thought presented by the author. He should have a fairly accurate knowledge of the Constitution of the United States, the general plan or the practical workings of the Government as shown in the organization of Congress, and the manner of electing the President, his powers and duties as distinguished from the business of the Legislature; and further, he should understand the necessity and importance of legal tribunals, before which facts and laws are considered. He should know something of his prerogatives as a citizen, his duties and rights as regards the exercise of franchise. These subjects are explained in connection with the reading of the United States Constitution. Further than this, he should be able to express himself upon any subject upon which he has accurate knowledge or definite opinions, and he should do this in conformity with the established rules of literary form—punctuation, capitalization, spelling, etc. Moreover, he should be able to use such phraseology and construction as would enable him to hold intercourse with the business world in discussing matters of fact or conveying information upon any subject in which he may hereafter become interested for culture or business.

Second. He should express himself intelligently in English; he should have a ready and correct facility in ordinary computations—the fundamental rules, with the common method of calculating interest, the use of decimals, the principles of reduction and fractions, and the essentials of mensuration—not learned by rule, but deduced from manual practice and observation. Added to this training, he should have a clear understanding of the elements of book-keeping, as shown in the plain principles of double entry system applied to ordinary business, where the significance of debit and credit, and the relationship of the common principles of accounts are established on this basis of debit and credit. He should be able to exemplify his knowledge of this branch by writing up a simple set of books containing from twenty to thirty items of a miscellaneous nature and involving elementary calculations in the sale and purchase of lots of goods.

Third. Every child leaving school should understand the large facts of geography and history. These branches afford a value in which the child gets his earliest culture. From the one he gets his first notion of the world about him, the earth and its relation to other planets, and the universe, as explained upon the authority of scientific observation; the divisions of the earth into land and water; the nature of its surface, the variations of climate and the resulting facts of vegetation and influence upon human life, the important facts of commercial geography, and the knowledge of those physical laws as exemplified in common natural phenomena. These are all essential to the education of the young citizen. He should, at the same time, be put into possession of the history of his own country. In this field his patriotism is developed, love for his native land is nurtured, and he is better able to understand his own relationship to his country.

EDUCATIONAL VALUE OF MANUAL TRAINING.

By Geo. P. Brown, *Bloomington, Ill.*

On my way to this meeting I fell in with a paper by Mr. C. M. Woodward in an educational periodical, which I interpret to be a statement of the educational value of shop training as it is estimated by an intelligent advocate of this method of educating the young. This paper was written as a reply to some opinions expressed by Dr. Edward Brooks, some months ago, to the effect that but little reliance should be placed upon workshop training as a method of intellectual development.

I think that I may say that all will be pleased to know that one apostle of this method of education has undertaken to state with some definiteness the educational value of the workshop. This is the first attempt of this kind that has been made public which was not so vague that it could mean anything or nothing.

His claim, in brief, is that, in the construction of things with tools from the raw material, there is a mastery of the constructive process and an exercise of the intellectual faculties essential to a proper education that is not possible to the same extent in the exercises already provided in good schools; that observation and drawing are two necessary preliminary steps, but that actual construction stimulates a necessary psychical activity that the two former do not give.

He incidentally remarks, "I do not say that *every* public school should have a shop and teach the use of tools." But why not? If these gentlemen have discovered a new form of intellectual training superior to the old, and having capabilities which it does not possess, why shall it not become an integral part of the common school curriculum?

We are told that no environment other than a manual training school will suffice to give this training. Mr. Woodward declares that "the ideas involved in the construction of (with) tools—and tools are crowded with ideas—are by no means obvious to the average boy. Under the guidance of a skilful teacher the student recognizes qualities in right methods which he never would discover for himself. And this is true in a tool laboratory, as it is in a chemical laboratory or in the class lecture room. Nothing so stimulates intellectual life as intellectual life, and a skilfully guided class in tool work is full of intellectual life. As I said, the tools are full of ideas, and those ideas are directly related to the materials to be wrought and to the correct use of tools. *Without that correct use the ideas involved will not be recognized.* When, however, under skilful guidance, the boy with his own hands realizes correct methods of using tools, he unlocks the secrets of their construction, and the thought of the maker or contriver stands revealed with a vividness that makes the impression lasting and the

enjoyment keen. A skilful teacher transforms a shop." In another connection he says: "There is no doubt but that the untaught, unreasoning, unscientific laborer is extremely stupid." This is said in reply to the statement of Dr. Brooks that the father's workshop, where he works without a teacher, furnishes the best manual discipline for a boy.

So it seems that to get at this hidden virtue in manual training the workshop and the skilful teacher are needed. Why, then, ought not *every* school to have a shop and teach the use of tools?

I understand that the question now before the educational public is whether instruction in the use of mechanical tools is of such educational value as to justify its introduction as an integral part of the common school curriculum. If this question is answered in the affirmative, then the workshop must go into *every* public school at the earliest moment practicable. If it is answered in the negative, then manual training may be remanded to the department of special instruction, and special schools will be established as communities feel the need of such instruction, and the general discussion of the subject may cease. That there is something of educational value in workshop training under the direction of a skilful teacher there can be no doubt. But the question is whether the time of the pupil cannot be better employed and a more practical and useful education obtained than is possible through a workshop course of discipline. That question has not been answered in the negative by Mr. Woodward in this paper to which reference has been made. In fact, he does not seem to have considered it. The question can be answered intelligently only when one has clearly in mind the end of common school education and the psychical processes involved in the different kinds of training.

There are four things that the school should do for the pupil that are essential to an adequate preparation for successful living, whatever else it may do or leave undone:

1. It should make him intelligent, which implies a reasonably wide range of knowledge, and the power to use this in the acquisition of new knowledge.

2. It should cultivate in him the spirit of obedience to conviction and the habit of conformity to law.

3. It should make him industrious, which is persistent self-directed activity toward a worthy end, avoiding the two extremes of inaction and of "active idleness."

4. It should establish a reasonable control over the "hand and the eye," or the rule of the mind over the body.

An analysis of our present curriculum of study, including drawing in all the grades, will reveal the fact that all of these results naturally flow from it when it is properly taught. I believe that our endeavor should be directed toward the better teaching of this curriculum until its possibilities have been fairly realized. What changes are needed in it will become manifest as our knowledge of it increases.

The limits imposed upon this discussion will permit me to speak briefly to but one of the purposes of the schools as set forth above.

To be intelligent, as we have said, one must have knowledge and ability to use it in acquiring new knowledge. It is the fault of the teaching if the power to use knowledge does not keep pace with the acquisition.

The two distinct groups of activities involved in intelligence are generally named Observation and Reflection.

Observation is thinking in the presence of the object. It might be called concrete thinking. The materials with which it deals are things and images of things, and the purpose is to discover relations between these. Words are not essential to this kind of thinking. All the faculties of perception and understanding are involved in observation. Perception, memory, imagination, generalization, judgment, reasoning, all are there. But the range of their comprehension is a narrow one. The mind limits itself to the relation of individual to individual for the most part. And I will add, parenthetically, that to be able to discover the true relations of individuals to one another is the great end of education, from the stand-point of intelligence. It is with individuals that we have ever to deal in the end. He who can properly relate these or himself to these is, so far, well equipped for successful living.

But while we all agree that this is the end of intellectual training, there is some difference of opinion as to the means whereby it is best attained.

"Learn to observe by observing" is the injunction of the reformers. They would keep the gaze riveted upon things. See something—then draw it—then make it. This is the sequence of steps by which the child is to come into a mastery of the world through the manual training process, according to Mr. Woodward.

The importance of this study, and construction of *things* in *primary* grades is conceded. This importance has not been sufficiently emphasized until more recent years and since teachers have begun to make a more careful and continued study of the process of the mind's growth.

The people must pass on from the stage of growth we have called *observation* into that in which *reflection* becomes prominently active. While in this lower intellectual stage, objects of sense and of the imagination must command his attention. And it is not probable that too much emphasis will be given to the necessity for persistent and systematic training by skilful teachers in the observation and construction of things. Mr. Woodward does not place too high an estimate upon teaching the child the meaning of a "*process*." But it seems to me that he does place too high an estimate upon the *relative* value of the process of mechanical construction. All processes are not of the sort that can be worked out by the use of mechanical tools. The most important and valuable ones in education are those that are purely mental, *with which the* hand and the eye have nothing to do.

As the child accumulates experience and his power to construct mental images grows and his store of "concepts of objects of sense" increases, more reliance can be placed upon drawing for learning these mechanical processes. (Who will say that the educational value of constructing a railroad bridge with his pencil is essentially less to an engineer than if he constructs it with tools?) Now, the child is more and more exercised in those processes that appeal to the constructive imagination through the use of pictures and words. Reading, geography, elementary arithmetic, history, make these appeals, while drawing, writing, and moulding continue to be employed to exercise the pupil in the purely mechanical processes.

But a transition must come in the growth of mind from concrete to general thinking. If we should define observation as *the exercise of the senses*, re-enforced by the results of previous experience and by reflection, we would define reflection as the *exercise* of *the thought processes* re-enforced by experience and the products of the senses. The one consists in relating sense-objects, while the other discovers the relations between general notions. The *materials of thought* in the two processes differ, as objects and images differ from general notions. General notions are not things of sense nor of the imagination, and their only sense-symbols are words and sentences.

The true function of the school as an intellectual training, is to lead the child on through concrete thinking into general thinking, which, as I understand it, is the seeing of the wider and more remote relations of individual things. These more remote relations of things it is needful to know in order that one may be able to *observe* the things themselves as they really are.

This transition from the concrete to the general is a severe discipline. It is hard work and little play, sugar-coat it as we may. It is not at all surprising that Mr. Woodward's bright Latin pupil should express his greater delight in shop-work. It is certainly much easier, and Rosenkranz asserts that "man is by nature lazy." What the pupil most enjoys is not a safe criterion from which to judge of what is best for him.

The good teacher has had this severer discipline of the mind in view during the previous years of school life, and has allowed the young mind to try its wings whenever it was so inclined. But now he begins to force it from its resting place in the world of sense into what seems to it the less real world of general ideas; not that *things* are to be lost to view, but what is eternally true in them and not what is accidental and fleeting is made the principal object of study. Laws, rules, definitions must be seized, and these must be made the stepping-stones to still higher laws and a more comprehensive outlook, in order that one's observation of the things he needs to know may be enriched. I do not suppose that any one here needs an illustration of my meaning. Agassiz could build up a fish from a scale; Cuvier, a mammal from a bone; Gray, a tree from a leaf; an artist, a statue from a limb or a temple from a column.

Suppose that Agassiz, and Cuvier, and Gray had been held to the practice of shop-work and mechanical drawing in their youth until these had become the nervous tracks along which the mental energy had become habituated to pass, and those other lines of broader generalizations had never been run. They might, by the force of genius, have afterward broken the chains in which their school training had bound them, but a common-place boy would have remained bound forever.

It seems, therefore, that we must learn to *reflect* if we would learn to *observe* truly. To "learn to observe by observing" does not seem the most economical use of time after the child has reached that maturity that makes reflection practicable. Is it not through the mastery of the broader and more comprehensive process of general thinking that the most accurate and ready observation is cultivated? Of course it is possible for one's estrangement from the sense-world to be so complete that he can not return to it. But that is the result of bad teaching, that is only paralleled by that other kind of bad teaching which keeps the pupil so buried in sense that he never acquires the power to reflect.

When the pupil has attained to this power of general thought, he should be driven as rapidly as he can go with safety along this way, for his school life is very brief. But he travels with safety only when he keeps a firm hold of his sense-world, and tests the truth of every generalization by that, so far as it is practicable.

It seems evident that reflection must be developed through that sort of exercise that is stimulated through the study of books, guided and corrected by a continued reference to things and to experience. This has long been known as objective teaching.

The workshop ought not to go into the upper grades of a general educational system as an integral part of the curriculum of study, for the reason that the time of the pupils can be better employed, and for the additional reason that if it is put there as a process of direct educational value it is an instance of educational malpractice. The great educational aim at this period should be to run the lines—blaze the way, so to speak—of reflective thinking in the pupil's consciousness. This period of running lines is the determining period of the child's future intellectual and moral character. The tracks of reflective thinking must be laid and extended in many directions in the fivefold world in which all must ever live. They may be ballasted and fully equipped later. It is a common error to try to equip each line as it is extended. We seek for thorough and comprehensive knowledge, when the child can acquire only vague outlines of it. And because this knowledge is shadowy and vague at the first, some deem it less valuable than the more distinct and definite knowledge of individual things. The workshop comes in at a time when the boy has attained to the age of reason, and it demands that he shall devote his energy to shaping bits of wood and iron.

The first ten years of a child's life is the period of concrete thinking. The next seven to ten years is the period of transition—what the physiologists call the period of brain development. In this the necessity of thinking with images or with things diminishes as the power to deal with general notions increases. After this transition period the college takes the pupil and practises him in the use of general notions, in gaining a theoretical knowledge of the world. The university follows the college and directs the power acquired to the mastery of a special vocation.

This is, in brief, the ideal scheme of education. We are considering here only the first two stages of it. But no teacher can conduct the pupil along any portion of this course with certainty who has not surveyed the entire route.

The course of study of the St. Louis Manual Training School, which is for young men, provides that three hours per day be devoted to this manual work, and three hours to studies that train to reflection. This really means three hours of the twenty-four for reflective study, for the out-of-school life is devoted to observation in so far as it is educative.

I fear that these boys are deceived to their permanent injury when they are taught that in this way they will receive the best intellectual preparation for living.

[The explanation made by Mr. Woodward last evening that his boys devote six hours in every twenty-four to reflective studies and one to drawing, besides their two hours per day in the shop, takes the St. Louis school out of the list to which this last remark will apply. But his explanation shows why these boys go through the manual training school so well prepared for the college. They devote, practically, the same amount of energy to their reflective studies that those boys do who attend a high school without a manual training attachment. According to his statement they work nine hours per day; I think that we all agree that this is too much time for a boy of fourteen to spend in severe reflective study. From six to seven hours per day is all of such work we expect of him. The rest of his time is spent on a sort of work that makes no more demand upon this mental energy than does the shop work that Mr. Woodward requires of him. For the lighter kinds of work in the high school he has substituted the workshop. It gives an excellent kind of physical exercise and gives it persistently and systematically. It is a success as a gymnasium. The bodily health and vigor of many of the boys is undoubtedly improved by it. Reduce this to one hour per day, and require the boy to spend the other hour in the easier kind of studies now omitted from his curriculum, and the results would be still more satisfactory. It should be noted that only three studies are pursued contemporaneously. There is a gain here over the prevalent practice of attempting to carry five or six heavy studies together.

It is probable, too, that there is a degree of interest and enthusiasm *among teachers and pupils* in t[illegible] incident to the fact that it is

regarded as exemplifying a new movement in education, that keeps all working at high pressure. The Lancasterian craze produced wonderful results at first, we are told. We all know the marked difference between schools of every sort in which the teachers are drones, and those where they are enthusiastic and capable.

When all of these things are taken into account, it does not seem to me that any proof and hardly any evidence has been advanced by Mr. Woodward that the workshop training is of any direct intellectual value to his boys. .Would not all the educational results obtained be substantially what they are if the workshop were converted into an ordinary gymnasium, and the same interest and enthusiasm in regard to it maintained?]

. I have not time now to consider the relative merits of Drawing and the Workshop, and to show that the latter is substantially a repetition of the former in these upper grades. This I have done before at different times. I believe in drawing in all the grades of the first two periods of education as firmly as I disbelieve in the workshop in the higher grades. I see in drawing, if well taught, every kind of mind-activity found in the workshop, and much that is not found there. The workshop is a wasteful repetition of what the drawing-room furnishes, unless the design be to educate mechanics. But that design classes the manual training school with special schools, and not among the common schools. If the workshop is put into the school as a gymnasium there can be no serious objection. In this very mechanical age of ours in which so much attention is given to storing up energy to be expended at other times and places, it is not strange that the notion becomes prevalent that the physical energy expended in exercise for bodily health and vigor may be stored up in mechanical tools for possible future use. But all of these things are very different from the doctrine advocated by Mr. Woodward, or, at least, by the manual training apostles generally, which is that it is entitled to a place in the common schools for its direct educational value. That doctrine is not pedagogically sound.

I have been able to consider but one function of the school—that of training in intelligence—and but one point in that, which is the importance of training in reflection or general thinking. But the workshop will not be found more useful in realizing the other functions. It is only as a special school that its right to a place in a public school system can be maintained. As such special school there is not only no objection to it, but it is needed. It is to take the place of the old apprentice system now happily obsolete. Let us have trade schools and every kind of special school that our complex civilization requires. But let us see to it that we build these upon as broad a foundation of general culture and as complete an intellectual training as time and circumstance will allow the child to receive. It is the function of a common school that is common, to give this culture and training.

MR. WOODWARD: I do not propose to answer his paper; it needs very little. But I wish to say that those who are interested in the reply I had the honor to make to Dr. Brooks, will find it in the February number of the New York Teacher. I think it would have been more interesting to you if I had read my paper before you read his. I wish to say that I did read Mr. Brown's article between the lines, and saw that I was a fetich worshipper. I saw in the lines themselves a statement to this effect, that the manual training fetich is tottering to its fall; and from the profound depths of the Missouri woods I could not refrain from referring to him as a common neighbor.

MECHANIC ARTS HIGH SCHOOLS.

BY EDWIN P. SEAVER,
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The question of manual training in public schools, though yet unsettled, seems to be growing clearer. The discussion, heretofore largely theoretical, now advances in the gathering light of experience. During the last ten years have been organized schools and departments of schools in which manual training has been made the leading feature. Some of these schools are public schools, while others are supported by fees and endowments. Definite results of these experiments begin to appear, and the most interesting contributions to the discussion now are the records of such results and the means used in obtaining them. For example, perhaps the most interesting chapter in Professor Woodward's recent book is that in which the graduates of the St. Louis Manual Training School trace the effects of their training in their subsequent occupations and prospects in life. The more such evidence is gathered and published, the better. For it is not until the argument from experience has gathered considerable force that boards of education will be likely to undertake, or can reasonably be expected to undertake, new lines of instruction in the public schools. Hence, the great value of private enterprise in this as in any other movement for the improvement of public instruction.

On one branch of the general question the argument from experience seems already conclusive, proving that systematic class instruction in the mechanic arts can be given to boys of the high school age with facility, with economy, and with excellent results. This conclusion points to the general adoption of a new kind of school. The purpose of this paper is to show that a highly useful and desirable enlargement of the public school system, especially in cities and large towns, would be made by organizing schools which may be descriptively named mechanic arts high schools. This name seems preferable, although another name, manual training schools, has already obtained a wide currency.

A word now as to what is implied in the name mechanic arts high school. The new school is called a high school to mark its grade or place in the public school system, and its relation to other schools below and above it. Its pupils will usually come from the grammar schools, having finished their studies there at the age of about fourteen years. They will here pursue for three or four years a course of training, partly in book work and partly in the mechanic arts and in drawing, on a level with other boys of equal age, who take the classical or the commercial or the general course of study in other high schools. After graduation they will pass either into higher institutions, as the boys from classical high schools usually do, or into active life with most of the graduates of other high schools. But the higher institutions of learning will be schools of science or technology rather than colleges, and the active life will be led more in the industrial than in the professional pursuits.

The new school is further described as a school of mechanic arts, in order to mark its special aim and the characteristic feature of its course of instruction. Its aim, like that of any other high school, is both general and special. In general aim all high schools agree. They deal with knowledge as science, rather than with knowledge in its elements; they recognize that their pupils are at the age when the reasoning powers are developing the most rapidly; they give the beginnings of a liberal education; for their instruction rises to the region of general principles, and furnishes the mind with some effective equipment for independent thought and action. Limited and incomplete the liberal culture of the high school may indeed be; yet, so far as it goes, it may rightly be called liberal, if only the school be true to its general aim.

But high schools have also special aims, determined by various considerations of convenience or utility. These special aims are what characterize the different species of high schools. In large measure they determine the subjects to be taught and the manner of teaching them. So it happens that all high schools shape their courses of study largely with reference to the probable future occupations of their pupils. The classical high school, while pursuing its general aim of liberal culture, yet prescribes studies for its pupils with particular reference to their probable future occupations in the so-called learned professions. And this is right. Likewise the English high school, holding to the same general aim of liberal culture, chooses the particular subjects for its course of instruction, with an eye to the wants of the many of its pupils whose pursuits in after life are to be commercial. Just so will the mechanic arts high school impart a culture as truly liberal as that given by either of the others; but in so doing will select studies and exercises with the fact in view that most of its pupils will be looking forward to occupations in which an experimental acquaintance with the mechanic arts will be either highly serviceable or absolutely indispensable. A

glance at the statistics of occupations in our cities will show that the number of boys who would naturally seek the training of the mechanic arts high school is greater than the number likely to be drawn by either or both of the other high schools, supposing all three kinds of school to have been established during a time long enough to make their respective advantages widely known.

If the foregoing be a correct analysis of the aims of high school instruction, and if experience has shown that these aims, in the case of the mechanic arts high school, can be in a satisfactory degree realized, then is the claim of the new high school to public support and to a place in the public school system, side by side, with the two older high schools clearly vindicated.

There are two points that invite a passing remark. In the first place, it seems to strike some persons as very odd that anything worthy the name of liberal culture should be imparted by a mechanic arts school. The wits treat the idea with ridicule, and the philosophers gravely wag their heads as if doubting the entire sanity of a mind possessed of such a notion. Both illustrate the vigor with which old ways of looking at things survive. Ever since the revival of learning, the habit has been to associate liberal culture with classical studies, and with classical studies alone. The liberally educated man has been taken to be a man well versed in the languages and history of Greece and Rome. No knowledge of physical nature however profound, no success in discovery or invention however brilliant, could quite make up for a lack of classical learning. Hence great naturalists, physicists, chemists, mechanicians, architects, engineers, have been supposed to be a little inferior to what they might have been if only their youth had been spent in the study of Latin and Greek. The *real-schulen* of Germany have never quite won that social recognition which the *gymnasien* have long enjoyed. The same is true of the "modern schools" and of the "modern sides" of classical schools in England. In France the recognition of non-classical culture has been less tardy. In this country our English high schools date back hardly more than two generations, while classical high schools date back more than two centuries. It should not be surprising, therefore, if the graduates of classical schools are popularly regarded, and are even prone to look upon themselves as members of an only true and ancient order of nobility in the kingdom of educated men. High schools, which replace Greek and Latin with science and modern languages, have hardly in two generations won an unwilling recognition. And shall it fare otherwise with the mechanic arts high school? Must not this newest comer expect to see its claim to a share in the work of liberal education questioned and ridiculed?

Yet, sooner or later, we may be sure, recognition will come. More and more are men coming to see that liberal culture depends not so much on the subject matter of study as on the method of study; not so much on the kinds of knowledge acquired as on the kind of man the

process of acquisition has turned out. In the kingdom of educated men that is to come, the ancient orders of nobility will no longer hold exclusive privileges. The distinctions of rank will turn, not on what men know, but on what they can do; not on the particular schools they have been through, but on the value of the service they are prepared to render mankind. In such a kingdom a Bessemer or an Edison would not yield precedence to a Porson or a Bentley. The liberally educated order would include all men whose training had given them free command of their faculties, together with the ability and the will to manifest their power in beneficent activity. That manual training is an educational agency well adapted to the purpose of developing mental power on a side hitherto neglected by the schools, is a conviction that is steadily gaining ground. Meanwhile let those laugh who will. But if any are earnest in the matter, let them listen to a few words of Froebel, who writes thus in his book entitled The Education of Man:

> Every child, boy, and youth, whatever his condition or position in life, should devote daily at least one or two hours to some serious activity in the production of some definite external piece of work. Lessons through and by work, through and from life, are by far the most impressive and intelligible, and most continuously and intensely progressive, both in themselves and in their effect on the learner. Notwithstanding this, children—mankind indeed—are at present too much and too variously concerned with aimless and purposeless pursuits, and too little with work. Children and parents consider the activity of actual work so much to their disadvantage, and so unimportant for their future conditions in life, that educational institutions should make it one of their most constant endeavors to dispel this delusion. The domestic and scholastic education of our time leads children to indolence and laziness. A vast amount of human power thereby remains undeveloped and is lost. It would be a most wholesome arrangement in schools to establish actual working hours similar to the existing study hours, and it will surely come to this.

And in another place:

> It is surely one of the greatest faults of our current school arrangements, especially of the so-called Latin and high schools, that the pupils are wholly debarred from outwardly productive work. It is futile to object that the boy at this age, if he is to reach a certain degree of skill and insight, ought to direct his whole strength to the learning of words, to verbal instruction, to intellectual culture. On the contrary, genuine experience shows that external physical, productive activity, interspersed in intellectual work, strengthens, not only the body, but in a very marked degree the mind in its various phases of development, so that the mind, after such a refreshing work bath (I can find no better name), enters upon its intellectual pursuits with new vigor and life.

Could Froebel's language be more apt, if he had written in this last quarter of the century instead of in the first; and for the America of our day instead of the Germany of his? How very largely the child's creative activity is employed and developed in the occupations of Froebel's kindergarten is well-known to all who are familiar with that beneficent system of child culture. The manual training school—or, as I have preferred to call it, the mechanic arts high school—has been very aptly described by a well-known writer, Mr. C. H. Ham, as "a kindergarten

for boys of fourteen." Just the sort of school Froebel would have been most delighted to see, we may be sure.

A second passing remark may be made by way of answer to an objection. It is sometimes urged that a mechanic arts school cannot properly be made a part of the public school system, for the reason that such a school prepares boys for trades, and the teaching of trades is no proper part of the public school work. The schools, it is said, ought to teach how to live, and not how to get a living. The reason given for the objection is an overstatement of the fact; but this may be waived for the present, to be taken up later.

Let it be granted, in general, that the instruction of the mechanic arts high school has a large reference to the probable future occupations of its pupils. Is not the same thing true of the classical high schools? Have they not, for more than two centuries, been helping their pupils a long way on in preparation for a certain class of occupations—the so-called learned professions? While teaching how to live, have they not done much by way of teaching how to get a living, in professional pursuits? Not that classical high schools are professional schools, but some classical training—at least as much of it as a classical high school can give—is generally regarded as an indispensable prerequisite to the final preparation for professional life. When early in the present century the instruction commonly given in classical schools was felt to be ill adapted to the wants of the many boys who were looking forward to other than professional pursuits, a new kind of high school was devised—the English high school—which proposed to teach the subjects such boys most needed to know. Experience has shown that this kind of school is well adapted to the training of boys whose pursuits are to be in trade and commerce. Not that it teaches arithmetic and book-keeping only; it gives some liberal training through studies in science and modern languages. Not neglecting to teach how to live, it has also taught how to get a living, in useful and honorable callings not numbered among the so-called learned professions. Again, girls' high schools and high schools for both sexes have been organized in great numbers during the last fifty years, and universally their courses of study contain subjects which have been put there for no other reason than that a knowledge of such subjects is useful in after life—useful in the sense of better preparing one for earning a livelihood. For girls as well as for boys the teaching of how to get a living has been united with the teaching of how to live.

Therefore, the principle has long been admitted and acted upon that public high school instruction may properly have regard to the probable future occupations of the pupils. This is not, indeed, the highest reason for a high school's existence, but it is, nevertheless, a very strong and legitimate reason, and one which wise people will not ignore. The application of this principle has already produced different kinds of high schools and different courses of study in the same high school.

Carry the application one step farther—take into consideration the wants of the many boys who will enter, or might, if properly trained, enter, the various skilled industries—and we shall have the mechanic arts high school, as now proposed.

Opposed to this principle is an old theory that all public school instruction ought to be general, equally adapted to the wants of all, and fitted for all to pursue as far as personal circumstances allow each to go. This monodromic scheme of education takes little or no account of special needs; has no room for commercial training nor for industrial training, and does not even attempt a full, all-sided mental training; but leads, chiefly by way of the classics and the mathematics, to college and the professional schools; declaring all the way along that he will get the best education who runs farthest on this single highway, while he who abandons the highway and wanders in byways must give up the hope of being considered a well-educated man at all. The new theory proposes to open highways in several directions—in any direction in which large numbers of youth with good reason desire to travel—and claims for all such highways equal recognition and a share of public support.

It is proper here to recognize a certain limit beyond which the application of the new theory may not wisely be carried. An acceptance of the principle that a public high school instruction may properly be shaped with reference to the probable future occupations of the pupils, does not oblige us to conclude that such reference may be so specific and exclusive as to make the occupations themselves the direct and only matters of instruction. To do this would be to sacrifice the general aim to the special. It would be even worse. The special aims, when made the only ones, would certainly fail of their best realization. The general aim—liberal culture—is ever to be held superior, even for the best realization of the special aims. Therefore, the mechanic arts high school can never properly become a mere trade school, making its pupils apprentices to a single trade, nor a collection of trade schools. In its history thus far it has disclosed no tendency to lose its character in that way. This is the point in respect to which the objection we have been considering rests on an overstatement—the overstatement alluded to a moment ago, but postponed. Let it now be corrected.

It is not true, as alleged, that the mechanic arts school teaches particular trades. That very important instruction is to be found elsewhere. But it is true that a good mechanic arts school helps boys a long way on to many trades. It deals with the leading principles involved in a great variety of mechanical processes; it develops general mechanical skill by bringing mind and hand into ready and accurate co-operation, but it does not undertake to make its pupils finished artisans in any trade. No more does the English high school undertake, in its commercial course, for example, to make expert book-keepers for keeping books in all lines of business—bank book-keeping, corporation book-keeping, railroad book-keeping, broker's book-keeping, and all the rest. All that such a

school can well undertake—and that is quite enough—is to familiarize the pupils with the common forms, and to train them in the analysis of ordinary business transactions, and in the application thereto of the fundamental principles of book-keeping. Professor Runkle has pointed out that the mechanic arts are few, but the trades in which these arts are applied are many. Hence the mechanic arts and not the trades are proper subjects for school instruction. The former involve principles, the latter only details of application. Professor Woodward has said of the course in the St. Louis school: "Without teaching any one trade, we teach the essential principles of all."

It remains now to mention briefly the results of experience. An exhaustive review of all the experiments that have been made, with consideration of all the local conditions and influences, would be a most interesting and valuable work for some one to undertake; but the limits of this paper preclude anything more than a brief mention of the main points.

Experience appears to have proved satisfactorily—

(1) That a three or four years course of study, consisting of selected and graded shop work two-fifths of the time daily, drawing one-fifth, and appropriate book work two-fifths, results in a high degree of mechanical intelligence, a good degree of general mechanical skill, and a well-marked development in the power of independent thinking.

(2) That such instruction takes a strong hold on the minds of a large class of boys who are either not so well reached or not reached at all by the subjects and methods of teaching current in the older high schools.

(3) That such instruction draws some pupils away from the older high schools, but more from a class of boys who have not, as matters have stood heretofore, become pupils of the older high schools at all.

(4) That such instruction is very keenly relished and appreciated by boys, who usually like no studies so well as those which have an obviously direct bearing on their future occupations, and delight most of all in exercises that bring their active powers into productive activity.

(5) That up to a certain point such instruction is a substitute for apprenticeship, now gone out of use; and, as far as it goes, is vastly better than apprenticeship ever was in its best days.

(6) That such instruction forms an excellent, and no doubt ere long to be considered indispensable, part of the preparation of students for schools of science, technology, or industrial art. Indeed, it is to be remembered that the mechanic arts school, as we now know it, originated in a purpose to give such preparation to students of mechanical engineering.

(7) That such instruction is very popular, apparently because it is meeting a widely felt want.

(8) That such instruction—particularly the mechanic arts part of it—can be effectively and economically given to classes in a school.

(9) That a school organized for giving such instruction is entirely convenient and manageable as a part of the public school system in a large city.

(10) The cost of such a school—building, equipment, running expenses—is quite in keeping with the cost of any other high school.

This brings us to the exact question proposed for discussion to-day, namely: To what extent and how can manual training be introduced into city graded schools? My answer is: Organize mechanic arts high schools either as separate schools or as departments of existing high schools. To this extent, at least, and by this means a now neglected educational field can be occupied to great advantage. But this is only a partial answer; it applies to only one branch of the question; but it is the branch that I happen to have most at heart just at the present time.

To touch for a moment on the other branches of the question, it may be observed that there is for young children the kindergarten, whose gifts and occupations appeal largely to the child's active or creative powers. The adoption of the kindergarten carries into the schools a form of manual training of whose good results there is nowadays little serious question. But what of the great gap between the kindergarten for children of four and the "kindergarten for boys of fourteen"? There is much that might be said of experiments in this field; but it must be owned that results thus far are isolated and fragmentary. Nothing like a broad, continuous, and effective course of manual training reaching from the kindergarten upward through all the grades of primary and grammar schools has yet been worked out.

What can be done with the Swedish Slöjd? An answer to this question on the basis of American experience is not yet ready, but interesting experiments are going on.

And the better half of the question—that which relates to manual or industrial training for girls—I must now, for lack of time, leave wholly untouched.

DISCUSSION.

The discussion was opened by Lieutenant Ford, who read the following paper:

HOW SHALL MANUAL TRAINING BE INTRODUCED INTO THE GRADED SCHOOLS?

By John D. Ford, U. S. N.,
Principal of the Baltimore Manual Training School.

The state has exercised the right to train and to care for her young, and to care for her insane, her paupers, and her criminals, for so long a time that it may almost be said to be the unwritten law of the land, that she is to continue in the discharge of these duties; and I think no one will now question her right to use all means at her command to prevent, as well as alleviate, the latter conditions. It would seem out of place to inquire into the conditions of modern life and society were not these conditions so intimately associated with the subject under consideration. From the very beginning of time the only recognition given to the training of man's hand has been to wield the sword and the pen; to commit deeds of blood and record the acts for the admiration and emulation of future generations. Occasionally, as we read the story of the past, we read of Hiram of Tyre, without whose assistance Solomon could not have fashioned the temple; of Alexander, the coppersmith, who wrought shrines of "Diana" for the Ephesians to worship; or of Stephenson and his good work about the steam-engine; but these are only some of the exceptions that prove the rule. All through history it is war and blood, and always a ready pen to perpetuate the story. To come to our own times: The outcome of the Civil War and the action of the trades-unions have swept away the apprenticeship system, and no provision is made for our children to learn handicraft. If one is so fortunate as to obtain a position in works of any kind, who is to give the necessary instruction? The employers have not the time, and the employé, as a rule, feels that he or she is giving instruction to a future rival; hence, takes little or no interest in the fortunate unfortunate,—fortunate in that he appears to have opportunities above his fellows,—unfortunate in that he is too often deceived, from the very causes that I have stated. Show me the works that will give the youth opportunities in every branch in the establishment, and I will show you an honorable exception to the general rule. Again, the doors of the country are thrown wide open, through lax emigration laws, and skilful foreigners are crowding to take the places that we should train our boys to fill. As a matter of policy and of self-protection this question must be met and practically applied, whether we would have it so or not, unless we are to be content to see our children grow up to become idlers, vagabonds, and criminals. But I may be met by the question,

what have the schools or school men to do with this matter? I answer, much; to-day, everything. Humanitarians tell us that want of occupation and false notions of life are two great causes tending toward pauperism, insanity, and crime. Young men and women, thrust upon the world with false views of life, badly equipped for the struggle, with no outfit but that supplied by the schools, and perhaps not having taken advantage of all they might have received in the schools, often become discouraged and fall, some in one direction, some in another; at best a new life is opened, and under favorable conditions much that was learned at school is unlearned or forgotten, and a new curriculum of business or trade is taken up. The best apparent opportunity that presents itself is availed of, and a new career outside of the schools is entered upon, liabilities are incurred, responsibilities are assumed, when, to the amazement of the victim, he discovers that he has mistaken his calling, that a fine carpenter has been ruined in the attempt to make a poor lawyer; it is too late to mend the mistake; a human life is wrecked.

A practical training discovers the taste and bent of the student, relieves the strains of the purely mental studies by bringing into activity the physical powers, giving play to both brain and hand, necessitating at all times the watchful application of principles learned in the recitation and lecture rooms, as well as the principles learned in the shops or tool laboratories. This training brings into play, stimulates, and strengthens many important organs of the mind, as form, size, color, weight, ideality, memory, perception, imaginations, reason, order. What will come of a thoughtless, listless, aimless person in the drawing-room or in the shops? Nothing; just the same as in the pure literary work. Have you ever seen a boy at work, or at the finish of a piece of work, in drawing or in the shops? How intent he is. How he hangs over it; how his very soul seems to be in his deft fingers, and how strong and how proud he feels at its completion! There is no uncertainty, no doubt about it; it is clearly seen and known to all to be right or wrong. He has created something; he feels his power; and—I say it in all reverence—has he not done a god-like thing? Who can censure him because his whole being feels the new power to attempt other tasks, more complex and more difficult?

We claim that there are certain principles, misnamed manual training—practical training would be a better term—which are valuable adjuncts to the purely mental studies. As I understand it, it is not copying lines upon paper and calling that drawing. It is not cutting up so much wood or metal under the monitorship of an elder boy, or a janitor, or some broken-down mechanic on small pay; but it is instruction and practice in handling and making things; in free-hand, geometrical, and mechanical drawing; in the use of typical tools of all the trades, with the reasons for the peculiarities of the tools and materials used, where grown, or found, or mined, how prepared for man's use, why one kind is preferred to another, where similar materials are plenty, where rare;

in the various operations pointing out the peculiarities of hardness, toughness, brittleness, etc. In laying off drawings and other work the pupil is enabled to apply and to acquire a *practical* knowledge of mathematics, as arithmetic for the sizes, geometry, mensuration, and trigonometry for forms, physics and chemistry to fashion his tools and work, botany for a knowledge of woods, mineralogy for a history of the metals and coals used, history to warn him against the evils of a purely mental education, geography to show him the conformation of the earth and the location of his neighbors, book-keeping to help him to keep his accounts, and whatever else can be found in books, and from men's experience that can be made of practical use; and we believe that this sort of training gives mental and physical relief, hence mental and physical strength.

Because manual training was tried and allowed to fail fifty years ago is no argument against its introduction to-day. Let us carefully study the subject and rightly apply our knowledge, and it cannot fail. I grant that if we put a carpenter shop into the cellar or garret of one of our school-houses, and a class in charge of a janitor or some other person of equal calibre, for a time all the boys will go there, just as they would go to a game of ball or to the circus; but in a little while they will tire of it, fall off, and the so-called experiment end in a failure. So it would be with music or any other science if the attempt were made to teach it in the same way. Would we expect the chemical or physical laboratory to be successful if treated in the same manner? Select your instructor with the same care that you would use in the selection of an instructor in any of the purely mental branches, and your practical training school is bound to be a success, like the Baltimore Training School, full to overflowing; five years after its establishment the people are demanding more of it.

If the cutting of papers and blocks is beneficial (and we know that it is) to the average and slow student, is it not of even more value to the bright child? If it is desirable to travel over one's country and abroad to liberalize one's education, what would be the objection (were it possible to do so) to go amongst the heavenly bodies for a still more liberal education? Do we not now go among them (as far as we can) by means of our telescopes and cameras? Did not Franklin bring the lightning from the heavens by means of his kite? Have not physicians had practical instruction at the dissecting table for years, and who of us would be willing to trust his case to the care of one who had not had such a training? Shall we ignore and do away with everything that is practical and useful to make room for the humanities? I know it is delightful to sing the song of Helen of Troy, or to quote Horace and Virgil, but as our work is where thousands yearly enter the lowest rank, and at most but a score or two can hope to complete the course, *is it not better* to give all some of this useful practical training while they are in the schools, so that when they do drop out they will have a strength

and reserve that, if necessary, will enable them to conquer the forest with the axe, build their own houses, or know how men have shortened the distance to the Pacific from six months to about as many days? Five years ago we started a school on this plan in the city of Baltimore; we commenced in a very small way, with sixty boys, average to poor in academic standing; we fitted up a carpenter, a wood-turning, a pattern-making, a moulding, a forge, and a machine shop, and as good a physical laboratory as our small means would permit. For the academic work we mapped out a high school course and a course of work in each of the shops and in the drawing room. This we found to be a difficult task, as there was no precedent for us. While work of various kinds was being done in different parts of the country, there was nothing that was applicable to our conditions and circumstances; so we made our own course, put the boys to work for two hours each day in the shops, with one hour at drawing, and three hours at literary work. At the end of the half year we changed the boy to another shop, but continued the drawing and literary work, only making it more difficult, more advanced, until at the end of three years we gave the boy a final examination, averaged the result with his record in the school, and gave him a diploma, and we are proud of our school and of our boys. We do not say much about those who have gone to the Naval School or to Lehigh, but of the three who are now instructors in our own school, the one who is an instructor in another high school in the State, those who are electricians, draughtsmen, machinists, civil engineers, etc., and of the twenty-six who have come back to us for a post-graduate course in mechanical engineering. The school has grown in favor; we have the four floors of our building proper (we commenced on the two lower floors); the yards are almost filled with annexes; we are compelled to use an old dwelling-house adjoining our own property, and have had to rent a building that is 50 by 50 feet, on the opposite side of the street. We have 513 boys on the roll now, besides the 26 in the mechanical engineering class, and if we had the room we could easily have another 500 or more. The Council has purchased three adjoining lots, upon which it is intended to erect a building this year, which will more than double our capacity. The school is, and from its beginning has been, patronized by the best people in the city—I mean best people from a social stand-point.

A well rounded training school, like this one, where the usual literary branches, elementary science, chemical and physical laboratories, free-hand and mechanical drawing, carpentry, carving, pattern making, wood turning, moulding, chipping and filing, blacksmithing, tin and other sheet metal work, machine-shop work and management and care of steam engine and boiler, and study of tools and machines all have their proper place and receive due attention, must, in the very nature of things, develop the highest type of man for any occupation in life. For will they not develop form, size, color, weight, perception, memory,

reason, and invention, so that, put him where you will, he will carve for himself comforts which no amount of purely intellectual training will enable him to do? For the mechanic, the engineer, and the scientist, perhaps, it will not be questioned; the farmer will be better enabled to select, repair, and use his tools, machines, and buildings, besides doing better work with them; will enable him to make "two blades of grass grow where but one grew before;" the lawyer will better understand complications in many cases of patents, divisions of land, of buildings, or the working of some machine; the physician and dentist can better care for and use the delicate instruments of their profession and devise others for the benefit of suffering humanity; the merchant, for a knowledge of the wares in which he deals and the houses and vessels in which his goods may be stored; the school-master and school officials, to plan and devise the best furniture and appliances for the pupils' comfort and advancement; jewelers, to fashion and use the delicate and complicated tools of their trade; the clergymen, to be in sympathy with the working portion of their congregations, and to be able to act intelligently on building committees when orphanages, parsonages, or churches are to be built.

But I have wandered from the question, and if you will pardon me I will come to the point and close. After due consideration, it is my opinion that to do least violence to the present system of schools it would be well to devote three hours each week to kindergarten methods, practical elementary geometry, and simple free-hand drawing on the slate, in addition to the present studies, for the whole time in the primary grades, for both males and females. Four hours each week to be devoted to free-hand drawing from industrial models, measurements with the rule, elementary practical geometry, together with the intellectual work of the grade for the first two years, for males. For the females I would recommend the substitution of simple fancy needle-work for the rule measurements. For the two next higher grades, for males, in addition to the literary work of the grades, I would have mechanical drawing for forty-five minutes each day, and one hour each day in carpentry, carving, pattern making, forging, chipping and filing, and moulding. For the corresponding grades for females, in addition to the academic work of the grade, free-hand drawing from models or geometrical drawing for forty-five minutes each day; needle-work, garment cutting and making, patch-work and darning, book-keeping, one hour each day; music one hour each week; at the end of this grade the girl to enter one of the female high schools; in addition to the present literary work, to receive instruction in free-hand, geometrical, or artistic drawing for one hour each day for the entire course of four years, as well as instruction in the art of house-keeping, garment making, needle-work, music, book-keeping and type-writing, cooking, wood carving, engraving, printing. On the completion of the seventh grade, for males, the young man to select his occupation or trade, devoting

four years at the school, from 8 A. M. to 5 P. M., with one hour at noon for recess, four hours each day to be devoted to literary work and science, and four hours to instruction and practice in the chosen occupation and drawing.

The following occupations to be thoroughly taught:

Carpentry, wood turning, carving; or pattern making, moulding; or sheet metal work, tin, brass, copper; or blacksmithing; or machinist; or book-keeping and accounts; or civil engineering; or architecture; or electrical engineering; or printing; or agriculture.

I grant that this advocacy of trade schools may sound radical, particularly to those gentlemen who have not convinced themselves or been convinced that manual or practical training is a valuable adjunct to one's education, to say nothing more of its assistance as a mental tonic, as it were, strengthening brain and muscles, and perception and invention; but public education for all children must end in something. Be as democratic as we may, States must be more paternal in these matters.

Associations of master builders, and mechanics, and parents on every hand are sending petitions to our legislatures and councils asking schoolmen to formulate a plan for such education. For the lower grades the work can easily be done by the present corps of teachers. For the specialties, graduates of technical or manual training schools can do the work. The change can be made gradually and at comparatively little cost.

The discussion was continued in the following paper:

HOW AND TO WHAT EXTENT MAY MANUAL TRAINING BE INTRODUCED INTO CITY SCHOOLS?

By H. W. Compton,
Superintendent of Toledo Schools.

If this were a question as to the advisability of introducing manual training into the city schools, or a setting forth of the advantages to be gained by this procedure, the topic would admit of easier discussion. It would present a theme susceptible of more fluent discourse. I could easier tell what 'twere good to do than be one of twenty to follow mine own instructions. I could easier set forth the advantages of manual training from a theoretical stand-point than tell just how to proceed in making it an integral part of the public school system in large cities. The mice of the fable were happily engaged in planning how to circumvent their foe, but were dismayed when it came to actually putting the bell on the cat. This question of actually putting manual training into the schools is rather too intensely practical and business-like. It is more agreeable for those who know but little about the subject practically to talk about the psychological basis of it and the economic prin-

ciples involved. It is interesting and respectable to hide one's self in a cloud of metaphysics and give forth oracular utterances for or against manual training in the abstract. When it comes to the vulgar and commonplace business of providing money, teachers, shops, tools, and materials, the philosophers naturally wish to retire from the discussion.

There is no longer room for fine theories, hair-splitting subtleties, and eloquent generalizations.

The framers of this programme have delegated to others the delightful and invigorating task of discussing whether manual training *ought* to be put into the schools. We have the cold, unadorned question of how to put it there—a question, too, unsusceptible of adornment. We have scarcely a fair opportunity even of assailing anybody or of ridiculing the views of others. We cannot help manual training along or annihilate it with our unsparing denunciation and withering invective. We have a very slight opportunity, it seems to me, to aid in promoting or retarding the unreasonable popularity of manual training.

This question submitted to us is, as I understand it, simply one of ways and means.

In most places where the manual training experiment is being tried in this country it is through the philanthropy and generosity of private individuals. Even where it is closely connected with public school systems in several cities this has been brought about largely by private gifts. It has come to certain schools and cities as the kindergarten system has come; in some places, first through the enthusiasm and munificence of private individuals, and then, after proving its claim upon all interests, it has been gladly adopted by boards of education and supported from the public funds. Manual training can be thus introduced wherever even a few have an appreciation of its benefits and can enlist private capital in its behalf. In introducing it in this way, what is needed is energy, enthusiasm, conviction, fanaticism, if you will, and money.

When manual training is to be inaugurated through the majority of the people by taxation of themselves, the case is somewhat different. Before active measures can be taken for the erection of shops and hiring of teachers, money must be provided, and before this can be voted there must be proper education and preparation of the public mind for the reception of industrial work into the public school systems. This, then, is the first thing to look to—*the preparation of the public mind.*

The people of the different cities are not likely to tax themselves for the purpose of making quixotic experiments. They will demand to know (at least the intelligent and moneyed classes) what is promised and what has been done by the introduction of manual training into educational institutions. If manual training is a beneficent reform, it must be generally made known. If it is an ephemeral craze, a transient fashion that is passing over the country to divert attention, dissipate money, and waste time, the people should know it. They *want* to

know the truth about it. The common people hear about this manual training gladly. For one thing they see in it their possible emancipation from the necessity of taking children from school at the age of ten or eleven years that these children may pick up around shop o factory a pittance of money and some knowledge by which they may support themselves in after life.

The people, in considering education, are beginning to ask for results, not theories; for bread, not stones. And the tendency is to ask, not "How much do you *know?*" but "What can you *do?*"

Thinking people have sense enough to perceive that God has joined very closely the mental and physical natures. They are beginning to ask in emphatic tones why it is that men have dared to put them asunder.

It is seen also that the exercise of the mental and physical powers causes them to interact beneficially upon one another. So much mental philosophy is readily understood because it is demonstrable in common experience.

Manual training, however, is to be tested among the people, not by theory and speculation, but by its actual benefits to society as shown in the minds, characters, and capabilities of those who have profited by what it has to offer. The avowed purposes of manual training and its actual results, as thus far gained from the pioneer experiments of Europe and America, should be placed in every possible way before the intelligent, thinking people of our cities. Let them know by generous publication and distribution of printed matter, by newspaper and magazine, and oral lecture and discussion, the claims and objects of manual training, and what is being done by it in Sweden, Switzerland, Germany, and France, in Chicago, St. Louis, Philadelphia, Baltimore, New York, Omaha, and in hundreds of other important fields.

We have been told, in a recent valuable treatise upon this subject, that in Sweden, partly by aid of the government, but mainly through the untiring efforts of several able and eminent men, manual training has been introduced into about one thousand schools with the most beneficial results to the population. Thrift, sobriety, economy, and industrious habits among the people have followed in the wake of this interest in manual training in the schools and homes of the Swedish nation. It is interesting and suggestive to read the history of that peaceful contest for social and industrial progress. The author of that paper, in closing his report upon the introduction of manual work into the Swedish schools, says:

In the beginning the economic conception of manual training was generally adopted. Everywhere it was looked upon as the means of preparing the children of the common people to earn their living. But gradually the question took on its true aspect. It was recognized that manual training has a more elevated purpose, and one, indeed, more useful in the deeper meaning of the term. It came to be considered as an educational process for the complete moral, physical, and intellectual development of the child. Thus were realized in Sweden the dreams of those illustrious teachers,

Comenius, Rousseau, Pestalozzi, and Froebel, in seeing combined in the primary school programme manual training and the teaching of purely theoretical subjects, so as to insure the integral cultivation of all the faculties and all the aptitudes which make up the complete man.

It is my own belief that far more active effort is needed to inform the public mind as to the claims and results of manual training, and especially as to its effects upon the mental powers. If you ask what are the facts of special importance which should be universally known for the education of public sentiment, I would say, briefly, without stopping now to reason to the conclusions, it must be known that where manual training is to be had in the grammar and high schools of cities, the boys stay to complete the course of study, instead of seeking the shelter of railroad offices, banks, and dry-goods stores; that pale faces become ruddy, and their feeble bodies usually grow round and strong, because proper exercise is given, and the true equilibrium of mental and physical forces is maintained; that it is as good for morals as for mind and body in doing away with the idleness, loafing, and dissipation, so apt to claim the evenings, Saturdays, and vacations of city-bred boys; that it develops and fosters new and wholesome views as to the proper relations between the poor, the middle, and the opulent classes, and banishes that tendency in certain circles to look down upon the horny-handed son of toil who wears the soiled clothes of the mechanic; that while it will give to the boys and girls an education which will better enable them to take hold of the practical business of life, with hand and eye so trained in the use of fundamental tools, processes, and principles as to be at home in any one of a thousand occupations; that while it does these things for boys and girls it is an educational process, a means of thought expression, giving the power to set forth, independently of language or gesture, in external, concrete form the subjective experiences of the soul, the ideas and concepts of the mind. These are statements which I have come to regard as indisputable facts because of six years of daily association with manual training work and the pupils engaged in it. These are a few of the facts which, if amplified, illustrated, explained, and widely disseminated and read by the people, will make the introduction of manual work into city schools or anywhere else a comparatively easy matter. But mankind is exceedingly conservative, and when closely analyzed, conservatism is often found to consist of an equal blending of the ingredients, laziness, obstinacy, and indifferentism. What is needed in this country to stir the people to action and prepare their minds for a complete educational system is a more emphatic and universal presentation of its claims. Those whom the opponents of manual training sometimes call "cranks and fanatics" may yet do for the schools of the United States what Ahlborn, the sculptor, Count Sparre, Abrahamson, and Salamon did for the schools of Sweden. These men devoted their time, their learning, and their fortunes to the cause of putting manual training into the schools of the

Kingdom of Sweden, and they have succeeded. These men worked for legislation, they wrote, they travelled, they lectured, they demonstrated by actual experiments, at their own expense, the utility of manual training, until it became a leading feature of the common school system of their country.

This is how to put manual training into the schools. It is done by interested, active, intelligent men who believe what they say, and who are willing to make personal sacrifices for their convictions. In my judgment it is of little importance to begin to talk about teachers, shops, and courses of study for this branch, until the people are aroused and instructed and are in a more compliant attitude of mind and are as willing to furnish the means for instruction in industrial drawing, wood and metal work, sewing and cooking, as for arithmetic, grammar, and algebra. I do not wish to be understood as saying that the masses of the people are opposed to manual training. I do not believe they are, so far as my experience and investigation go. I think they are rather favorably inclined to it. It is more indifferentism and lack of knowledge as to what it is and what it will do for them than active opposition. They do not know what the German manufacturer knew who, when discussing technical education, said, "What we fear is not protection or free trade; what we fear is that some day you English will wake up to the necessity of educating your industrial population as we do; and then with your racial and physical advantages it would be difficult, if not impossible, to compete with you."

The worst foes of industrial education are those who ought to be its best friends, and they are among the teaching forces of the country. I fancy that much of that opposition among teachers and practical school men exists because they know very little about manual training theoretically, and much less about it practically. They can teach and supervise the teaching of all the ordinary branches of the common school, high school, and academy, but when it comes to making working designs, conducting classes in cabinet-making, wood-turning, and carving, they are helpless and ignorant. They would like to remain monarchs of all they supervise, and manual work seems like an encroachment upon their absolutism and self-sufficiency.

The normal schools and training schools for teachers must take hold of the matter and provide instruction for teachers in the technical branches. Manual training will come, even if it has to wait for a new race of pedagogues with larger ideas and more progressive tendencies. When teachers know how to teach a branch successfully, they usually welcome it to the curriculum; and those who teach manual training must be *teachers*, not mere mechanics who know only manual processes, nor must they be specialists, developed only in one direction; they should be well-balanced, well-trained teachers who can understand the pedagogical value of the instruction, who will aim at developing the

powers of sensation, observation, perception, memory, imagination, and generalization; who can show to pupils that the best way to study matter and forces is not always from a dictionary or a text-book, but, with the various kinds of matter and force before their eyes and in their hands; who realize that a good way to study cohesion is with a chisel, and the property of malleability with a hammer. Much of the best pedagogical talent of the country now looks askance at manual training. And why? Because it does not know how to teach it, and knows but little about its history, its nature, and its results.

There are summer normals and all-the-year-around normals throughout the country for the teaching of methods, pedagogical history, theory, and the purely theoretical branches. When all these schools begin to give teachers an opportunity to study the manual work, as a very few normals have already done, the teachers will take hold of it, and one great obstacle to the introduction of manual training, the lack of competent teachers, will be removed.

I have now spoken of two essential preliminary movements in the introduction of manual training into city schools: first, the need of redoubled activity to arouse and educate the public mind and stimulate public interest; second, the preparation of teachers for the work and the education of pedagogical sentiment through the medium of educational periodicals, and normal and other training schools.

The extent to which manual training may be introduced into city schools is an important part of this discussion. I have thus far said but little about it, and I have but little to say. I can only offer an opinion, which is not very firmly established, and a few suggestions bearing upon this phase of the subject. My own experience with manual work has been with the four highest grades of pupils in a city of 100,000 inhabitants, the pupils ranging from thirteen to eighteen years of age. For these pupils the work has not only proved very interesting and attractive, but it has been most wholesome and helpful in many ways. But there are serious doubts in my mind whether manual training in the form of actual tool-work should go lower than these grades. I am aware of the criticism to be made upon this view, that but a small per cent., comparatively, of a city's enrolment ever reach the four highest grades. In the city from which I came it is about fourteen per cent. But to the best of my knowledge there is no place where the actual handling of tools by pupils under ten or twelve years has ever been attended with any great degree of profit or success. In the schools of Toledo, Ohio, we have provided a course of instruction, largely manual in character, to meet the course in tool-work, extending downwards from the higher grades. This course for the younger pupils has in it many features of the kindergarten system. It consists of tablet-placing, cutting and posting of designs from colored paper, stick-laying, clay-moulding, and the simpler elements of industrial and observative drawing. About the only tool used is the scissors, but the work exercises the mind, eyes,

and hands in a very important way. This work the children all take great delight in, and it leads up in a systematic way to the manual training work proper. This kind of manual or kindergarten work can be and should be put into all city schools.

But when I consider the state of the minds and bodies of children below thirteen years, and the amount of work which they already have to do, and when I think of the lack of knowledge and enthusiasm on the part of the people as yet concerning manual training, and also the great lack of competent teachers, I am of the opinion that manual training, comprising the various branches of tool-work, should not be extended lower at the present time than the five highest grades. This opinion is liable to change upon the acquisition of new light in the shape of new facts and ampler demonstration.

MR. ANDERSON (after the reading of Mr. Compton's paper, referring to the resolution appointing the committee of which he had made a report): Allow me to explain the condition of this resolution. In the first place the committee had no resolution to work upon, as read to them by the secretary, and I have to apologize for calling the attention of the association to the question, which it seems was called at the last meeting of this Department. I have learned recently from the president of the association that this original motion was laid aside and a substitute adopted. This substitute imposes upon the committee the duty of visiting the departments of training and reporting thereon. The motion for which this was substituted, required the committee to examine into the curriculum of elementary schools and report what changes might be made, as they thought desirable. Now, the whole question was killed. I question very much whether my colleagues are able to give the time and attention to this question, and ask to be relieved from acting upon this question further, and beg to name Dr. Butler in my place to report upon these improvements.

A MEMBER: When that paper was read by Dr. Allen this morning, that covered all God's creation, it seemed to me that I could not comprehend what manual training in ungraded schools meant. The paper may fit one thing as well as another. Now, it seems to me that this committee ought to bring in a definition of manual training. I believe we are all agreed in what Dr. White said last night; and I believe we are all agreed that manual training should be in all cities and large towns. But Lieutenant Ford said they should be training schools. But there were objections, I noticed; and we ought to know what we are going to talk about.

THE PRESIDENT: On motion, Mr. Butler is appointed on the committee and Mr. Anderson relieved.

MR. ANDERSON: I move that this committee be instructed to define, in their report, what is manual training, and to what phase of elementary work it is applicable.

PROFESSOR POWELL: As a member of that committee, I beg and pray that this Department will not pass that motion. I have not time to study my share of the work, to study up a definition. I have an eye to the future welfare of the children of this country, and all this Department, and when I think of the height to which a definition led us this morning in Dr. Harris' discussion, when I think of the impracticable ideas to which that led us, I hope, in the name of education, that this Department will not ask any committee to define it. I don't want a definition. I hope the gentleman will not insist upon this question; or, if he does, I hope the Department will not adopt it.

MR. SEABORN: I trust, Mr. President, we shall not, at this stage of discussion, undertake to define the question. At least, for the present, each man had better have his own definition. Dr. White may frame a definition that suits him but that does not satisfy me completely, and I do the same without satisfying Dr. White. It is the letter that killeth; it is the spirit that giveth life.

DR. NEWELL: Manual training is just like mathematics; when we speak of mathematics one person means arithmetic, another algebra, geometry, and the next means calculus; and he is right, too. And when we speak of manual training it is not of any specific thing, its general name including many specific things; it includes the training of the hand in the mechanical art schools, of which we heard to-day; also in the trade schools and technology schools.

DR. MARBLE: I move the adoption of the definition just given.

MR. ANDERSON: I rise to a point of order, that the committee——

DR. MARBLE: I move the committee be requested to report the definition just given by Mr. Newell.

DR. ALLEN: Mr. President, I think we ought to define education. We have had this morning a very severe criticism from a very eminent doctor—from a gentleman who stands as high in educational matters as any man in this country—and I had supposed that that definition that Dr. Harris criticised was a pretty good definition. But I was partly convinced this morning that it is not a very good definition, and I would like to reconstruct my opinions on that subject. If we are to define manual training, we ought to define education; and I hope at another meeting we may be able to define three or four subjects, so as to be able to tell these superintendents of normal schools, who want to learn everything in God's creation. I suppose they would settle religion and politics. I think we ought to let some things alone until the day of judgment.

MR. GOODY: It seems to me that the proposition to define manual training is simply a proposition whether we shall discuss manual training or something else. If one man means manual training and another means another thing, how can that answer the question? Now, of course, there may be differences of opinion as to what definition is desirable; but it seems to me that there ought to be no difference of

opinion whether we discuss the question of manual training or something else.

MR. WOODWARD: I have always claimed that we should present the thing before the name. I therefore suggest that it is better for us to have manual training, and after we have it we will name it.

THE CHAIRMAN: I think this discussion has gone far enough, and we had better return to the question in hand. It is probable you gentlemen will have an opportunity, from year to year, to give your opinion upon this question. If it lingers as long in our body as Congressional aid did, we will remain friendly. It does appear to the Chair that we are leaving the question in a somewhat mixed condition. When I was a boy, I looked up to Dr. Harris and Dr. Woodward for advice and counsel in educational matters; and now when I find all these gentlemen differing on this question, it mixes me up; and when looking at the matter, I am like the Scotchman—

> You can and you can't;
> You will and you won't;
> You'll be damned if you will,
> And you'll be damned if you don't.

It is now in that condition; but I mean we young members of the convention. There is nobody that can settle these questions; but we have the privilege of differing and discussing them, and out of this comes the survival of the fittest.

CITY SUPERINTENDENTS.

THE WORK OF THE CITY SUPERINTENDENT.

By T. M. Balliet,

Superintendent of Springfield (Mass.) Schools.

What is the chief end of man—when he happens to be superintendent of schools? What is the reason, or (to be modest) the excuse for his official existence? Although the law and the rules of the school board prescribe everywhere, in a general way, the same official duties, it would be found upon investigation that the purpose and character of the work of different superintendents vary widely and in essential respects. One makes a study of school-house architecture and devotes his time and energy mainly to manipulating an unwieldy and, perhaps, refractory board, so as to get them to erect good school buildings; another spends most of his time in attending to the routine work of the office, gathering statistics and compiling statistical reports; a third may make the mere machinery of school-work his chief concern, devising plans for managing the promotion of pupils, for conducting examinations and conveniently tabulating the results; still another may make some one phase of school-work, such as language-work, manual training, drawing, geography, etc., the main purpose of his effort.

Now, I have a good deal of faith in the "man of one idea." As a rule, he has one idea more than his critics. But is it not possible in our enthusiasm to build up one line of work that we may see the importance of this particular work in false perspective? Is it not possible that we may neglect the weightier matters of the law by allowing our interest and energies to be absorbed in the minor details?

The superintendent is, or ought to be, a specialist, capable of doing a kind of work which no one without special training can do. Many of the details of routine work, usually required of him by boards of education, can be attended to just as well by some one whose time is not worth as much as his is, provided he knows his work. It is bad business management for a board to pay the superintendent the salary of a specialist and then require him to devote his time to work which demands no special training. After paying a physician ten dollars for a prescription, it is not economy to pay him another ten dollars to go to the apothecary to have it put up—a service which a boy can do equally

well for twenty-five cents. There is a good deal of work which many superintendents are required to do that could be done quite as well by some person whose services could be secured for a small salary:

(1) In the first place, a superintendent ought never to serve as clerk or secretary of the board.

(2) In the second place, he ought not to spend his time in attending to the distributing of books and supplies to the schools. He ought to have a clerk or agent to attend to such details.

(3) Thirdly, he ought not to spend any time in gathering statistics and compiling statistical reports. All such work should be done by a clerk.

(4) Fourthly, he ought not to devote much of his time to the examination of schools and classes, except in so far as this is necessary to determine the character of the teachers' work. I have known superintendents in small towns to examine the manuscripts of every pupil in every school in examinations for promotion. Such work is a wicked waste of precious time.

(5) And lastly, the superintendent should not allow himself to have his chief interest in what may be called the machinery of public school work. The school system of a large city necessarily involves a certain amount of mechanism in its organization; there must be unity, continuity, and harmony of work. But unity is a very different thing from uniformity, and requires much less rigidity and mechanical precision in organization. Unity is consistent with variety, and is characteristic of life; uniformity excludes variety, and is only possible where life is gone. A tree has unity, a telegraph-pole uniformity. It is by aiming at uniformity that so many wheels are found necessary in a system of public schools that the superintendent has little time for anything but watching the running of the machinery, managing throttle-valves, levers, and cranks.

What, then, is to be the chief work of the superintendent? In what direction should his interest lie? If there are poor school-houses, he must urge the erecting of better ones; if the machinery of the system does not run without undue friction, he must give it attention; but his energy should not be permanently expended in these directions.

The superintendent must be, first of all, *a teacher of pedagogics.* His most important work must be to train his teachers to do thorough and clear thinking on all lines of educational work which they are doing. He must not simply, in a dogmatic way, teach them pedagogical truths, but he must train them to observe children, to interpret their observations, and to deduce from them the principles that must guide them in their teaching.

The superintendent must do a work that is almost identical with that of the teacher of pedagogics in a normal school or college. Indeed, I believe that he has more satisfactory conditions or facilities for teaching pedagogics than are found in the best normal schools and colleges.

Students of pedagogics in a normal school or college are often immature; most of them have never had any experience in teaching, and the course is limited to from two to three years. The superintendent, on the other hand, has a body of teachers who are mature, many of whom have had wide experience in teaching, to which he can appeal; they can, in their daily work, apply and test the instruction they receive; and lastly, the course is limited only by his own ability on the one hand and by his tenure of office on the other. I know of no opportunity for teaching pedagogics successfully anywhere quite equal to that of the superintendent of schools.

Such a course should include a thorough discussion of educational psychology, of the general principles of pedagogics, of the application of these principles to the teaching of the various branches of the curriculum, and a series of lectures on the most important chapters in the history of education.

In order that this work may be made a success, however, the teachers' meeting must be made the central interest for teachers and superintendent. It is here that the superintendent must do his most effective work. This meeting must take the place of the recitation in a normal school or college. It must be an occasion on which there is actual teaching of pedagogics done in the way of lectures and discussions. A superintendent can make no greater mistake in regard to the teachers' meeting than to convert it simply into an occasion for making criticisms on the minor details of the teachers' work, calling attention to the many little mistakes which he may have observed during the week, but had not the courage to criticise privately, and for giving directions as to the mechanical details of school work.

A mistake equally great sometimes made is, to devote the entire period of such a meeting to a discussion of the petty troubles and annoyances teachers have met with during the week or the month. If criticisms must be made and school-room annoyances discussed, the whole matter should be disposed of in ten or fifteen minutes, and the rest of the hour be devoted to legitimate pedagogical work.

The teachers' meeting ought to be looked forward to by the teachers as a source of real help, as an occasion for gaining new insight into their work, new inspiration for it and higher aspirations in it. At such a meeting a superintendent can give teachers more assistance in one hour than he could give them in two weeks by simply visiting their schools and giving individual help.

These meetings must not, however, be too few and far between. There ought to be a meeting of all the teachers in the smaller cities at least once a month; and, in addition, one grade meeting of the primary and grammar grades, respectively. I have found it wise to have them come more frequently—from five to eight or nine a month. There ought to be no difficulty in securing attendance even if they do come frequently. At all events, there should be no roll-call or compulsory attendance. I

should no more think of calling the roll at a teachers' meeting as a means of securing attendance, than I should think of calling the roll on Sabbath morning in church to secure the attendance of wayward members. When a minister's preaching is of such a character as to scatter his flock, thoughtful elders do not resort to a roll-call to bring them back, but they look about for another shepherd.

The meeting at which all the teachers are present should be devoted to lectures on educational psychology and on the general principles of teaching. These lectures should be of such a character as to present the subject, as far as possible, in an inductive way, leading the teachers to observe children and to acquire scientific habits of thought and scientific methods of investigation. Psychology and pedagogics should be taught, like botany and zoology, in a strictly scientific and inductive way. There is no more reason why they should be taught deductively in a dogmatic way than why physics or chemistry should be so taught. In pedagogics and psychology, as in natural science, it is only after the student has had a long, thorough course in experimental, inductive work that he is able to verify dogmatic statements of principles by referring them to the facts from which they were deduced and to intelligently receive instruction by dogmatic, deductive methods. To teach either pedagogics or psychology from the beginning in a deductive way is to present it to the student as a *tradition* and not as a *science*, for neither can assume for him the character of a science until he sees its principles as inductions from facts and phenomena.

I am aware that this position is questioned by some thoughtful men, but I must confess to a very strong conviction of its truth, and I suspect it would not be difficult to defend it.

If these subjects are presented in an inductive way in the teachers' meeting, every teacher will look upon her school as a sort of pedagogical laboratory in which to experiment, gather facts, and verify generalizations. She will observe and study children as never before. She will probably report valuable observations at the teachers' meeting which will throw further light on the particular subject under discussion. She will form the habit of constantly looking beneath the surface of her work for principles, and will do nothing for which she can not give a good reason. She has learned how to do independent study in pedagogics, and now has within her the means of unlimited professional growth. I am far from maintaining that a superintendent can raise the dead, but I feel confident that it is possible for him to infuse new life into the living, and to train the majority of teachers in any except our most backward cities to do independent thinking in pedagogics. To assume that this is impossible is to give up pessimistically that hope which, the proverb says, even those retain who have given up everything else.

The general teachers' meeting gives the superintendent a very good

opportunity to impress upon teachers the interdependence and the unity of the work of all the grades, to lead them to see the relation of the work in each grade to that of all the other grades. Teachers are very much disposed to assume that the human soul, somehow or other, is stratified to suit the grades of public schools, and that one layer is assigned to the first grade, another to the second, etc., and that all that the teacher needs to concern herself about is to study the particular layer assigned to her particular grade.

In the general teachers' meeting, where teachers of all the grades are present, this error can easily be corrected. Teachers can be led to see that in order to do intelligently the work of any one grade they must know what has preceded and what will follow the work of that grade. I have always found the general teachers' meeting my best opportunity for interesting the teachers of each grade in the work of all other grades. This is especially true of high school teachers and the teachers of the higher grammar grades, who, whilst they are quite willing to admit that primary work comes first in point of time, are generally disposed to consider it last and least in point of importance. It is a good plan to discuss the principles of teaching applicable to all grades in this general meeting; otherwise, teachers will fail to see the unity of the work of all the grades, and will be interested in taking the classes over the ground assigned to their particular grade rather than in developing their minds and character.

At the grade meetings, the instruction ought to consist of a thorough discussion in detail of the work in each of the branches in the course assigned to the particular grade. The instruction in educational psychology and in general pedagogics, given at the general teachers' meeting, must be made the basis of the instruction at the grade meetings. Out of these general principles must now grow the principles of grading the work in each study for each grade, and the methods and devices to be used in teaching. Each branch of the curriculum should be taken up in succession, analyzed, the natural order of its development determined, the various steps to be taken marked out, and devices be suggested. Whilst it is quite true that teachers should invent their own devices as far as possible, it is also true that sometimes the very best assistance the superintendent can give a teacher is to suggest some happy device for developing a particular point in her work. The demand on the part of teachers for such help is evidenced by the many articles in our educational papers giving devices instead of discussing principles. Some earnest men see in this a degeneracy of educational journalism, but I confess I fail to see the matter in this light. Teachers must know principles, and educational papers must discuss them; but I suspect that a more careful study of the teachers' needs and the order of their professional growth would reveal the fact that it is easier and more natural, for the majority of young teachers at least, to pass from and through devices to the principles which they illustrate and

which underlie them, than to pass from the principles to the devices. A device is simply the application of a principle, and pedagogical principles, like principles in other sciences, are more readily seen in their application to specific cases than in their bare, abstract form. After a teacher has been trained to look for and discover a principle underlying every device she employs, there is absolutely no danger in suggesting devices to her. The only circumstances under which it would be hazardous for the superintendent to attempt to suggest devices is when he does not happen to know any to suggest. Then is the time for him to take the ground, and take it boldly, that teachers must know enough to invent their own devices, and must not look to him for help with respect to such trifles; that his sphere is to be an educator, theirs to be teachers. In this way he will maintain the dignity of the craft, and may win for himself the reputation of being too profound as a philosophic thinker to trouble himself with superficial details.

What attention should be given to the study of the history of education in the teachers' meeting?

It is foreign to the purpose of this paper to discuss the importance of the study of the history of education, or the methods to be employed in teaching pedagogics; but it may be remarked that the teacher in the public schools ought to spend little time in reading the history of what was done to educate people in Greece, Rome, and over Europe in the Middle Ages, as long as she is quite unfamiliar with what is done to-day in the best schools of America and of Europe. Before a teacher has mastered to a fair degree the best educational thought, and has made herself familiar with the best educational practice of the day, I believe it is a source of confusion rather than of help to attempt to study the conflicting educational theories and systems of the remote past.

Indeed, it is possible for a person of good academic training to make himself quite thoroughly familiar with the history of education, talk and write quite intelligently about the various theories of education held by the philosophers of ancient Greece, about the schools of Charlemagne, the rise of the European universities, and the various attempts at popular education of still later times, without being able himself to apply consistently a single educational principle to the actual work of the school. The history of education is the one department of pedagogy on which a person can "cram," if you will pardon the use of the term, and it is by far the easiest department to master. It appears to me that it ought to come last in a course of instruction. I cannot help but look with much suspicion on the theory held by some thoughtful men that the study of pedagogics to-day ought to consist chiefly, if not wholly, of a mere interpretation of the masters of thought in past ages; that the history of education presents all the pedagogical knowledge there is and can be. It seems to me such a theory, whilst it shows a great deal of commendable reverence for the past, presents little hope for the future; and is in great danger of converting the science of pedagogy into a mere tradition of the

pedagogue, to be sacredly guarded and handed down from generation to generation in its pristine purity.

I believe, in short, that the superintendent should first train his teachers to think clearly on the pedagogical questions which confront them in their school work; that he should first give them thorough instruction in the methods of teaching the various branches and in the principles underlying them, and that he should above all train them to observe the child, interpret their observations, and make their own inductions, before he give them to any great extent instruction in the history of education.

Next to the teaching of pedagogics in the teachers' meeting comes, it would seem, the teaching of the details of methods, the application of principles to special cases in the school-room. This the superintendent can do only by visiting the school and giving the teacher individual, private help. His work as an inspector of schools ought not to be looked upon by the teacher as a species of detective work, but his visits ought to be welcomed as those of a friend who comes to help and not to find fault. His criticisms, if made with the proper motive and in the right manner, will be kindly received by the earnest teacher.

The superintendent ought, at all times, to be willing and ready to take charge of the class and illustrate the point on which he finds it necessary to criticise the teacher. A person of any tact at all can do this without having the pupils know that the teacher has been criticised. If we, superintendents, should make it a rule to criticise no teacher sharply for a mistake which we ourselves could not avoid making, were we in her place, teachers would have little occasion to deplore in us the "rarity of Christian charity."

How should the superintendent deal with poor, inefficient teachers—teachers who are pedagogically past redemption? "The poor ye have with you always;" you may as well thoughtfully make provision for them. A superintendent's attitude towards inefficient teachers, and through them towards the local politicians behind them, often determines his degree of usefulness and sometimes even his tenure of office.

The purpose of the superintendent must be to secure the best work that can be secured, both from the efficient and the inefficient, from the quick and the dead. How can he do so with the least amount of friction and antagonism?

In the first place, it seems to me that it is a serious mistake to criticise poor teachers severely when it is morally certain that they cannot or will not improve. Such criticisms only serve to create the impression that the superintendent is prejudiced against them, and if they are finally dismissed, the matter will arouse unnecessary feeling and antagonism. It is not wise to discuss a surgical operation with a patient before you perform it. It only increases the suffering.

If a superintendent commands their respect, the best way to criticise inefficient teachers is to say nothing about them and their work,

but simply commend as strongly as he can, truthfully, the work of efficient teachers. This is a mode of criticism that accomplishes a number of points:

(1) In the first place, it is a matter of justice to good teachers, encourages them, and makes them loyal.

(2) In the second place, it secures the good will of their friends.

(3) In the third place, it serves to arouse poor teachers, if they are worth arousing at all.

(4) In the fourth place, it makes them absolutely helpless. They cannot, with any grace, complain because they receive no praise. The worst charge they and their friends can bring against the superintendent is that he lets them alone.

(5) And in the fifth place, when he finally asks the board to dismiss them, it cannot be made to appear that he does so from any prejudice he may entertain against them.

It follows from all this, that the superintendent of schools must be a practical teacher himself. He ought to have had considerable experience, some time in his life, in teaching all the grades found in public schools. The man who has never taught school himself is wholly out of place in the position of superintendent; and the occasional appointment of such men by school boards through political wire-pulling is a sin which will be forgiven the present generation by that which is to come only through that charity, apparently innate in the human heart, which covers with a mantle the sins of the fathers, and refuses to say anything but good of the dead.

The superintendent ought to be the counsellor of the board on all educational questions, and in regard to the grading and organization of the schools, the construction of the course of study, and the methods of teaching to be employed. A board of education should no more feel free to ignore his counsel than they would feel free to ignore the advice of an attorney on a legal question pertaining to their official acts.

The superintendent ought, furthermore, to be recognized as the authority on educational questions in the community. He ought to demand such recognition, not, however, so much by his words as by his works. He ought to fashion the educational thought of the community and direct it into right channels.

It is needless to say that the superintendent must be a scholar, a thinker, and, above all, a student. The highest service he can render his teachers is to arouse their thinking, to direct it, and to stimulate them to do their work with enthusiasm. In short, he must stimulate their intellectual and professional growth. Unless he has scholarly habits himself, thinks clearly, and works with enthusiasm, he can not accomplish this. Physicists tell us that a body at rest is not very apt to make other bodies move. The superintendent can not afford to allow anything to interfere with his reading and study, especially as far as educational problems are concerned. The busiest superintendent

has as much opportunity, if not leisure, for study and keeping in the current of human thought as far as his own profession is concerned, as the physician or the lawyer. There is no valid reason why he should not live a life of as intense intellectual interest and activity as thinking men in other professions. The moment he ceases to study with enthusiasm, he ceases to grow and loses the power of stimulating and inspiring others. The dead may possibly be able to bury the dead; they can not restore them to life.

I may remark, in conclusion, that in what I have said I have had in mind the superintendent of the smaller cities and towns—those not exceeding 100,000 in population.

But what is true of small cities is equally true of our larger cities. Here, instead of doing all the supervising alone, with possibly the help of two or three special teachers, he must have a large number of assistants. It is absolutely necessary that teachers come in personal contact frequently with some competent supervising officer who will train them, as I have indicated, in the science and art of teaching. Each of these assistant supervising officers should be assigned a certain section of the city and be required not only to inspect the schools and report to the superintendent the condition in which he finds them, but he should be required to hold teachers' meetings, train the teachers, and make the condition of the schools what it should be.

Such a system of supervision is the only substitute, I suspect, we shall ever find for the complex machinery of the school systems of our large cities. The supposed need of a rigid course of study and frequent examinations, grows out of the feeling that there must be unity and continuity in the work of the various schools; but instead of securing unity, this system develops uniformity, and is fatal to genuine educational work.

Unity must come from within. It is a matter of growth. The only way to secure it is to train all teachers to understand and apply to their work the principles of teaching. As soon as they will all think alike on all essential questions pertaining to their work, there will be harmony and unity in the entire system of schools. There can be no clashing or friction between the various lines of work, because all are pervaded by the "unity of the spirit" and are therefore held together "in the bonds of peace."

DISCUSSION.

MR. BLAIR: I regret exceedingly that my friend, Superintendent Moses, of the Raleigh school, is not here; and I also regret that I am not prepared to go into the discussion of the question. But after such a full paper as we have had upon this subject, it seems to me it needs but little discussion. I don't know what is left for me to say. There are two points I wish to emphasize; one of those was the fact that the superintendent can not do the work in a school room; and the other is, that in working with the teacher, the teachers' meeting must be the centre. The power must go forth from that teachers' meeting. We find that a teacher in any subject is a better teacher if she is working along some particular line. And so the superintendent must keep in advance of the teacher all along the lines of his thought. We have heard of the great things the manual training schools are going to do for us; then the superintendents ought to take a course in the manual training school.

DR. HARRIS: I have nothing to say of the paper (Balliet's) except that it was a most excellent paper. One point I was most pleased with—and wish to emphasize it—and that is, that the superintendent should get his teachers together and have a kind of normal institute meeting once a week to discuss theoretic and practical questions; but I would say that the meeting of the whole body of teachers of a large city is impossible; but perhaps in a city of from forty to sixty thousand it is possible to get all the teachers together and hold profitable discussions. The first duty of the superintendent is to make the school strong in the community; therefore he should look out for the newspapers, because they have their opinions about things, and if they set the current against his good things it is not easy to counteract it. The next great point is, are his schools popular with the people? He ought to so present the work of the schools to the people that it will carry them in favor of it, that they may feel large interest in it and be proud of it. He should see his school board once a week, if he can, and see the members that have opinions of their own and are worth convincing. He should in this way carry the working majority always. And this is his work with the school board. Now let us take the school board in American politics. There will be always some persons elevated to the school board to use it as a stepping stone for the legislature or city council. Again, there will be some persons elected simply because they are always harping on the one idea. In the next place, the superintendent must influence his teachers. But that was very fully dwelt upon in the paper. The relation of the superintendent to the pupils is not an immediate one; his relation is, first, to public opinion; secondly, to the people whom he reaches through publications, his school report, and in various ways reaching the families of the citizens represented in his schools; third, with the school board; and fourth, with the teachers. It

the superintendent is strong with them, he can carry his schools on his back.

DR. WINSHIP: While we are all agreed with the spirit and largely with the details of this paper, there is one phase of it I think very unjust to the reader of the paper. We know there is no more charitable man in the world than he; yet the impression that paper has made upon me is, that whoever did not meet this ideal was not a success in teaching or as superintendent. It has been my privilege to see as many superintendents in their work during the last year as any one here, and I can not call up to-day a single superintendent, except Dr. Balliet, who preaches the idea he sets before us this afternoon. I do not believe there is one in this country that preaches that idea. I think this one thing ought to be stated at the close of the discussion here, that there is no one way and no one standard which is superior to every other way and every other standard. Success may come with different personalities, with different methods. There are superintendents in this country who are as successful as any other superintendents, who never have taught school to amount to anything in their life. I believe in the spirit and ideal of much of this paper; but I know some of the best superintendents in this country whose success is such as to command admiration of their work, who would not, if they could, teach psychology to their teachers. I have more than once gone to hear Dr. Balliet when he teaches his teachers, for it is better than any normal school training that I ever received in my life. But that does not say that others are not as successful in their way as he is in his. We want to go out feeling that this is not the only ideal of success for a superintendent.

MR. GREENWOOD: Mr. President, just one point presented by the essayist, and that is in regard to the teachers' meeting. It occurs to me, sir, that in a city with a population of not more than sixty thousand or even a hundred thousand, teachers' meetings can be held and the superintendents reach the teachers in those meetings successfully and effectively. To get the best results with the teaching force, meetings must be held, the teachers must be reached, inspiration must be generated, and I know of no way in which these influences can be brought to bear so successfully as in the teachers' meeting. I know the superintendent can work in these meetings and here study the higher form of these great educational questions; but I am fully aware of the fact that when he goes down to those just below and even down to the teacher who are just engaged in the very lowest work, there the work of the superintendent should be felt and should direct and control the work. The question may come up, how will you do this? Organize your teachers into sections; have your meetings each month; the teachers will come; the very ablest of the thinking corps called in, and those that come in presenting the exercises upon the theory upon the one hand and the practice on the other; and investigating those questions in this way, all can be reached, and the work of the teachers can be brought to

gether, and with the influence of the superintendent bearing upon these teachers, you get the very best work. I hold, then, that the most efficient work the superintendent can do, is that in which this influence goes down and permeates the whole force. I agree perfectly with Dr. Balliet, that the superintendent ought also be a teacher, not only a teacher of teachers, but, if he can, take hold from the very lowest grade to the highest. The doctor knows there is something wrong, but does not know what to administer. How can we get over this unless the person in charge can show this lady or gentleman how the work is to be done. There are many points in the work, but the strongest is with the superintendent.

PROFESSOR PARR: I want to say a word in emphasis of what Mr. Greenwood has said, and call attention to what the gentleman called an error of distribution, by arguing that the superintendent may not be a teacher, and that some superintendents who have never been teachers have been successful, whereas others who have been teachers have been unsuccessful. In that he takes up one isolated case and puts it over against another; but the gentleman in the paper was discussing a type and not individual cases; but what he says would not apply, because it does not apply to the type; it certainly must hold that, other things being equal, he who has the ability and experience, will make a better supervisor than he who has not been a teacher, but possesses the other elements.

THE CHAIR: This is a very important subject. It represents an ideal superintendent, and I hope the others will not be discouraged if they feel that they do not meet the requirements; because if you ever find a superintendent like the one described, running round loose, examine him closely, and you will find wings; you will find him sitting alone; modern degeneracy has not reached him. But the ideal is a good one to have before us. The paper is presented in good shape, but I think the ideal presented there unquestionable.

MR. HANCOCK: I have heard a vast deal of teaching of psychology, and I realize the importance of having had experience. All teaching must have a root in philosophic principles. But I want to ask Dr. Balliet whether he has done much in the way of directing teachers' reading of the best literature and thus improving their general culture. I think he must have done so, else he would not be the ideal superintendent Dr. Winship has declared him to be. Has he given much attention to the culture side of the teacher's work, or the culture side of what is supposed to be a part of the superintendent's work? I suppose we shall come to the question, What is the culture value of the teacher? Now, if I could have the choice, if one or the other should have to be omitted, I should choose the man or woman of culture, and use them in the instruction of the little children. I have not heard anything of that phase of the subject in this meeting.

DR. BALLIET: It is a question whether the superintendent ought to be expected to expend much of his energy in this direction. It is the duty of school boards to employ none but cultivated teachers. If he is a scholar and cultivated man himself, he will, without any direct effort, stimulate his teachers to read; if he himself lacks the instincts of the scholar and the man of culture, no effort, direct or indirect, will enable him to do so. I hold that the chief work of the superintendent is, and always must be, teaching his teachers how to teach.

MR. MERTZ: Why is it less the superintendent's office in respect to culture than to teacher's work?

DR. BALLIET: That might be made an argument to do away with the superintendent. If the teacher knows her work there is no use for a superintendent. I think the school committees do get some cultured teachers.

PRINCIPALS.

THE SCHOOL PRINCIPAL.

By George Howland,
Superintendent of Chicago Schools.

My fellow teachers:

Once again I come before you, not for the purpose of pleasing the ear with rhetoric, nor to excite your wonder by some deep question of philosophy, or new discovery in pedagogy, but with some plain thoughts based upon sound principles, I trust, which, it is hoped, may contribute to the pleasure and profit of both teacher and pupil.

In my efforts once and again to emphasize the personal influence of the class teacher in quickening the intellect, and developing the character of the pupil, I have neither lost sight of nor underrated the importance and value of that teacher of teachers—the school principal.

For whatever the character or qualifications of the assistants—whether versed in the details of the school room, or but just essaying her untried powers; whether running her little round of familiar and unquestioned school duties, or ever thoughtfully seeking for new and more fruitful methods, still, with the principal will rest the whole tone and spirit of the school; and its influence in enlisting and uplifting the thought of parents and people, or letting it sink to a low level of negligence and thoughtlessness, will largely depend upon the wisdom, the enterprise, the intelligence, the true manhood or womanhood of the principal.

Many a teacher, I fancy, wearied, worried, and worn with the ever-pressing and perplexing cares of the school room, with its inexorable demands upon her vitality and patience, often, in thought, turns her longing looks to the prize of a principalship, as a quiet refuge from care, from infinite detail, from troublous boys and annoying girls, from wearisome hours of examination papers and dull compositions.

Such do sometimes pass the examinations and become principals, and their influence is soon seen in the dull, routine school, in the easily-satisfied teacher, the memoriter recitation, the unthinking, careless pupil, the lounging, slouching, gum-chewing boy or girl, who had better never have seen the inside of a school room. The teacher who tires of her work, sees nothing but evil in the hearts and minds of the boys and girls,

praying for the calm haven of rest in the quiet office with its revolving chair and comfortable lounge, may, perchance, obtain a principal's certificate, but is not wanted at the head of one of our public schools.

The *teacher*, even when upborne by a deep love and a fond hope for her pupils, will often find the hours wearying and wearing; the vigilance of the *principal* must be ceaseless and untiring. The teacher, with her little ones ever under her eye, with ready discernment, soon learns of their childish ways, their natures and tendencies, and how to check their wayward fancies and thoughtless errors, and direct them into the right paths. With those of maturer years and more fixed habits of thought and action the principal has to do, and become equally familiar with their characters and dispositions—a task requiring a deeper study and a more profound philosophy to perceive the real causes of their success or failure in teaching and discipline, and guide the wanderers, often unconsciously, into better ways, and to more assured success, and these, too, seen only at intervals and for brief periods.

Instead of a single grade of work, he must be alike acquainted with the entire course of study, in its general outline, and in its smaller details, as ready to suggest a device for the toddling of six, as for the studious and thoughtful youth of fourteen, or even the tried and sometimes trying teacher of untold years.

His is the life, the impulse of the school; its controlling and directing power; its inspiration and its hope; adjusting and harmonizing its various parts, encouraging here and checking there, making his presence felt for good by teacher and pupil at once, omnipresent in his influence, never obtrusive, but alive to the working of all the mental and material machinery entrusted to his care.

Nowhere but in the school-room, seeing and hearing, with keen observation and nice discernment, can this knowledge, this power and influence be acquired.

Meditations in the office, and theories worked out at the desk furnish little material to nourish the minds and souls of teachers or pupils. There are few things more useless for the furnishing of a school than the office principal.

The organization of the school—the distribution of the pupils to their several rooms under the appointed teachers hardly need be mentioned as the first business of the principal; and yet the manner of its doing strikes the keynote, as it were, of the year, indicating to the observant eye of teacher and pupil, the character of the year's work—whether it is to be prompt, firm, and harmonious in its action, or weak, dawdling, and discordant.

In truth, the whole scheme of organization should be clearly and definitely wrought out in the mind of the principal before the opening morning, as far as the conditions can be known, with alternatives ready at his command for possible contingencies.

The plan of the school should be as clearly defined in his thought as

that of a coming battle in the mind of the commander, prepared, however, for this or that movement, should the necessity occur, but ready with well-digested devices and ample forces, in case of any unforeseen exigencies. With wise and calm decision and prompt action, should he put his plans into operation, unruffled by the countless questions and suggestions of pupils and parents, every teacher in her place, every pupil promptly to his seat, ready for the work, so that almost with the morning bell, the whole school may start off like the machinery of a vast factory at the touch of the lever that puts it all in motion, with no jarring, no friction, no undue tension, but quietly, smoothly, strongly, all in perfect accord for the working out of earnest, industrious, well-informed, self-controlled, intelligent, and worthy characters.

Little adjustments may afterwards be made from day to day, as characters and attainments may suggest, but by Tuesday morning, at the farthest, the school should be in good working order, with carefully prepared programmes on the black-board, with teachers ready for their assigned work, and pupils knowing their allotted parts, and eager to engage in them.

With scarce forty weeks in the year, we can not afford to spend all, or most of the first, in getting ready; and to whom shall we look for the realization of this possible ideal, but to the well-equipped, the wisely experienced, the alert, vigilant, calm, high-minded principal.

If it were true that "we learn to do by doing," which it is not, save in a very narrow and limited sense, the principal's work would now be well-nigh complete, and he might sit back in calm composure to observe with silent satisfaction the growing prosperity of his school.

"We learn to do by doing" is one of those aphoristic half-truths well suited to catch the ear and delude the mind of the unthinking. We may acquire a mechanical facility by repeated doings of what we already know how to do; but we learn to do by learning how other people do, and by the aid of this knowledge, striving to do something better. The mere continuous doing of what we can do dulls the intellect, deadens the inventive powers, and stifles progress. If it were true, there were no need of principal, or normal school, or any school. Froebel and Pestalozzi, Mann and Hopkins might be put aside, and our children be left to learn to do by doing, not by instruction, by skilful training, nor by study and reading the wisdom and historic records of the past. No, my friends; by the mere doing, the generations of men would not attain to the school crayon or the ham sandwich in a thousand years.

The whole past of our race, with its trials and its failures, its sufferings and successes, is ours, and are we to put aside all the teachings of the writhing centuries and learn to do by doing over again what the ages have condemned, and strive to reach, by our unaided efforts, what the poorest laborer has as his own?

Some years since, to a suggestion of mine with regard to teaching geography, the teacher replied: "I have taught this subject in this way

for fourteen years, and I think I know." She had learned to do by doing, and was just fourteen years behind the times. But she still had sense; she does not teach in just that way to-day.

Not very much does the best and the brightest of us learn, but what we learn from those who have gone before us. The one thing that has placed us in the fore-front of our race is, that when we have learned one thing we have made it the stepping-stone to something better, ever toiling onward and upward to the ultimate good of humanity, ever sought and never reached.

With the organization of the school, the work of the principal has but just begun. Here is the starting-point from which he is to advance to acknowledged success, or fall back into the ranks of the called, but not chosen.

Yes, my fellow teachers, though yours is the work, as has been my continual theme, and stronger and stronger my belief as the years go by, the principal is the school; the school is what he makes it.

The organization is his, the plan of the work is his, and his the spirit that shall animate, the methods that shall execute, and the character that shall control.

But what is the power of one over a thousand? What can the principal do for the individual pupils? And yet, just here, I feel, is the field of his usefulness; not in direct, personal influence, but largely through his teachers must he be made known to them; and yet, to no pupil, boy or girl, should his entrance into the school-room be an unimportant event.

To the pupils are his best efforts pledged, but by his teachers must his purposes be performed. With his assistants, by his wise conduct, his earnest purpose, his faithful discharge of duty, by his appreciation of excellence and worthy endeavor, his recognition of merit, and kindly charity toward unintentional error, he must be in full and hearty accord.

His censures should be without bitterness or humiliation, his suggestions timely and sympathetic, his personal interest undisguised. The strong, successful teacher deserves his approval, and the young and inexperienced his encouragement and advice. His personal sympathy in troubles, his aid in difficulties, and his tender guidance out of the meshes of mistaken efforts, will not return to him void of kind respect and unfailing loyalty. And I have sometimes expressed the thought which has wrought itself into my belief, that the principal who can not by his discretion, his nice discernment, his thorough devotion to his school and its duties, his interest in the success of pupil and teacher, win the approval and thorough respect of his teachers, during the year, or at the most the second year, is sadly lacking in some element of a successful principal.

They may doubt the wisdom of some of his measures, but only to put forth the stronger efforts to conquer success; he may meet with unmer-

ited censure, only to unite them the more firmly in his defense. And he who can not command this concurrence of good-will and unquestioning support of the better part of his teachers, will find his wisest art of little avail.

With the consciousness that the principal is with her in her efforts, feeble though they be, there can be no foundation, no suggestion, for the charge sometimes made that the teacher has no resource, no redress. She should feel that he is at hand, and but too willing to render any aid, ever ready with his counsel and full support to sustain her, or rather to enable her to sustain herself.

Not for every little difficulty and annoyance should she fall back upon his authority, with paltry complaints and petty questionings, thus stepping down from her true position, forfeiting the confidence of her pupils, and soon losing her own self-respect. Few things will sooner deprive a teacher of her power for usefulness before her class than this habit of sending pupils to the office for correction. In truth, her highest usefulness is already gone before the frequency has yet become a habit.

Quietly, calmly, and firmly, with faith in herself and in young humanity, unruffled by seeming failure and obvious reverses, hoping still, must she persevere, trustful where trust is found, kindly interest winning respectful love, and mutual regard finding expression in willing obedience, sympathetic effort, and unfailing gratitude.

Never in haste or in anger should a pupil be referred to the office, and, save in the rarest of cases, not till the principal has been seen by the teacher and fully informed of the nature of the fault or failure. Often this conference itself will render it unnecessary to send the pupil at all.

But when the need shall come, as sometimes come it will, the worthy teacher should find ready to her support the full authority of the principal, the board of education, and the entire moral force of the community. With each and every day should the principal be so well acquainted with the character of the teacher's work, and her manner of discipline and instruction, that no serious difficulty could come upon him by surprise, or find him unprepared for the crisis.

What greater folly than for a teacher, in a moment of irritation or weak despair induced by late hours, a hasty breakfast, or jangling nerves, or, it may be, by the weariness of too severe study, to send an offending pupil to the office! The principal is probably away hearing a recitation or visiting a room. The offender meets in the hall four or five companions on the same errand, all ready for a united raid upon the teacher's character, her weakness of temper and control, and listening with admiring glee to the recital of his shrewd devices, and their success in making the teacher mad.

And when, by and by, they subside into quiet at the principal's approaching footfall, what can he do? "Well, John, what do you want?" "The teacher sent me." "What for?" "I don't know." "What have you been doing?" "Nothing." "Did she send any word?"

"No; she just got mad. I didn't do nothing." The principal throws away a little good, but inappropriate advice upon him, and sends him back to his room to repeat his deviltries.

And she goes to bed in tears that the principal does not support her.

No redress for the teacher! The considerate, fairly intelligent teacher can always rest in the assurance that there is no public or private interest to which the entire people will always give such full and hearty support as to any reasonable measures for adding to the efficiency and success and the good name of the public school, in which are centred their highest hopes and deepest affections.

Now and then is found an unreasonable parent, it is true, but his unreasonableness is not lessened by an unreasoning teacher.

My experience teaches me that there is no more fruitful source of the irritation and unreasoning complaint of parents than the frequent notes of teachers to them that, "the child whispers," "your son looks around, he laughs," "John makes a noise with his feet," "Charles whistled," "was tardy twice last week," "I caught Mary to-day writing notes," "I wish to have you call and see me to-morrow," "your son cannot return to school again unless you come with him," "I told Fannie to stay after school and write her spelling ten times, and she went away;" "Harry pulled a girl's hair, and I wish you to punish him severely;" "Willie asked to go out, and I found he had been playing marbles."

How exasperating, how destructive to the order and scholarship of the school any one of these may seem to the sensitive, earnest teacher! What sleepless nights and sorrowing days are hers! Oh, that she could teach these young and erring natures to see as she sees! And yet, to the laboring, loving, doting father and mother, proud of the bright spirits and active minds of their children, how paltry, how frivolous, how petty it all seems!

"Our children are good children—playful, as they should be; they mean nothing bad; we wish them to do well, and we think they do. The school ma'am is a crank; that's what's the matter; and the principal isn't much better, or he would put a stop to all this nonsense."

Fortunately, with us no one can send a pupil from school for misconduct, for tardiness, or on an errand but the principal; and I have a growing belief that no note, no letter, should be sent to a parent which has not been submitted, at least, to the principal; that no parent come to the school in matters of misconduct without first of all meeting the principal. If he deems it desirable to call in the teacher, well and good; but the interview should be with the principal.

Most of the parents of our pupils are workers, and the need of calling at the school means a half day's pay. Almost all of these troubles should never go to the parent; he can do little, or nothing. The teacher must guide the childish heart into prompt, orderly, obedient, and industrious ways; and she is poorly provided for her work who has often to call upon either parent or principal for the thousand little *things which stand in* the way of the erring incompetent's success.

The co-operation of the parent is indeed desirable, and no worthy effort should be omitted to secure it; but it can never be obtained by the repeated letter and the frequent complaint. These too often result in irritation and the unguarded remark in the presence of the child, which sadly detracts from the teacher's authority, and is the fruitful source of much of the discontent and disorder of the school-room. The truly incorrigibles are usually from families in which an appeal to the parent had better have been omitted.

And when one or two conferences prove unproductive of good, the principal had better fall back upon his own resources, nor farther disturb the parental mind.

With the perfect teacher, who understands the thought of the child, there are, in my judgment, no incorrigibles of sound mind; with the average teacher, there will be here and there one; with the poor teacher, the good pupil is the exception, and for the most part, is goody-goody and dull.

The bright boy or girl of ten or fourteen years, who is to make his way in this world, is full of strong but untrained activities, which, unless grasped and guided by the sympathetic teacher, will lead to infinite trouble in the school-room and in the home. From the homes of the rich, from the homes of the poor, they come to us, and the wise teacher must, at the fitting moment, seize upon these vital forces and kindly turn them into the channels of truth and duty.

No sham, no cant, can impose upon the American youth; straight, honest, honorable conduct alone can prevail. The youth has his rights as well as the man of mature years, and he understands fair treatment and kindly interest. And with no corporal punishment in our schools, shall we ask a parent to beat his child?

Shall we thus admit our own incompetence, and request the parent to supply our deficiencies? Too often the severity of the parent is the thing to be deplored, and the kind consideration of the teacher the one element of humanity that can arrest and save the young heart from destruction.

But the true work of the principal is yet to begin. The teachers and their pupils are in their rooms; the morning song is sung, and the hum of busy life is heard. And no more trying time for the young teacher can be imagined. Sixty young minds and hearts to be interested and secured; sixty active bodies fresh from the home or the street to be brought into harmonious action, calmed, quieted, and controlled. And where shall she begin? Much of this first day's work must be helped out by the principal, in seeing that this temporary initial work is systematic and pleasing.

The older teachers need little aid; they start off without a jar, free from friction or idleness. With the closing bell they have their classes well in hand, their work wisely laid out and lessons assigned, and with a few friendly words of wise counsel their classes, with high purpose,

confidence aroused, and quiet demeanor, bid a cheerful good night and depart.

But with the inexperienced, who shall depict the slowly passing hours? With no definite aim, ignorant even of her pupils' names, with no assigned exercises, and with longing thoughts of the high school from which she has just come, and no developed interest in the little, loving, helpless, dependent beings, hanging upon her every word, to which she fears to give utterance; here is a field for the principal, if wise, to do his best work, and lay the foundation for the success of his school, and for the most trustful reliance and surest support of his teachers. Happy the principal who knows his opportunities!

The first temporary programme should early receive his careful attention. No unimportant item is this programme of work, and should not be left to the hap-hazard guess of a young girl, who cannot as yet, have given any special thought to the machinery of the school or to the development of the mind and character of the child.

The different subjects should follow each other so that each may be a change, a relief from the preceding. Some should command the freshest, brightest thought of the pupil, while others may require less mental effort, and yet serve as an incitement, an inspiration to better work. No principal, zealous of the highest success, can neglect the programme of exercises for the several rooms of his school. Upon their prompt preparation and wise arrangement depends, very largely, the success of the school and his fitness for his position as a school principal.

The weary assistant teacher will be pleased to observe that I make no weak apologies for the shortcomings of the principal.

He has accepted his position for the performance of certain, and several uncertain duties, and is to be held to a strict account for the proper performance of such duties.

Now, apart from his manifold duties of receiving and classifying pupils, must he see that the daily programme is faithfully carried out; that the teachers have gained a hold upon their children, and aroused them to the real purposes of the school and are directing their thought and action into the ways of growth and progress.

There are certain methods in numbers and language which they should follow; certain clearly defined ways in geography, in history, which every teacher should know and accept; and the principal, in these early days, should, by kindly counsel and timely suggestion, see that the approved methods and systems are observed, not disdaining, now and then, to take a class himself. Unfortunate indeed the school which has reached a point beyond which is no improvement.

The excellences of every teacher and her deficiencies should be well understood by him, and with a hearty commendation of the good and a ready discerning of the better elements of the less successful, and the fitting suggestion to remedy the defects, should the principal be ever alert, ever courteous, and always reliable.

To one the word of encouragement is needed to strengthen her weak spirit; to another must he suggest some method or device to enliven her work; and yet again endeavor to impart the true ideal of education and its purpose to one who knows and thinks of school only as the avenue to the regular salary; guiding and directing all, yet leaving always freedom enough for the teacher to test her own strength and ingenuity.

In a recent teachers' examination, in answer to a question as to the advantages of having a pupil complete the grade under a single teacher, I was not a little surprised at the almost uniform statement, in effect, that when a class is promoted to a new teacher, much time is lost in a complete and thorough review of the previous work to ascertain what the class knows.

It is a fact well recognized by every principal of a dozen years' experience, that no class in primary, grammar, or high school ever passes to a higher grade more than partially prepared for the work, in the opinion of the receiving teacher. This can be safely assumed with no loss of time in extensive reviews to learn it.

Not a day, not an hour, should be thus employed. The class has been promoted by the principal, upon what he deems a sufficient test, and it does seem a pretty severe reflection upon his judgment and discrimination for his assistant to institute a lengthened investigation into the fitness of the pupils for their work. The principal should make it sure that the new class enters at once upon the new work.

Lookout Mountain would never have been climbed if, after the first successful assault, the surviving officers had gone back to see how far they had got. It was the impulse of that success that carried the brave boys up and over, with little for the officers to do but try to keep up with them.

And so should the teacher, receiving a new class, avail herself of that advance of the pupils to go onward and surmount the difficulties before them. What though some expressions other than her own are used; some definitions given in a different form from hers? These can be easily righted, if need be, as the weeks go by, without disconcerting and discouraging these young, ambitious souls, by sharp criticism of their carelessness and negligence, or even their previous instruction. She may profitably recall that at the next remove her own forms of expression and statements are likely to undergo the same ordeal from her superior teacher.

By the very act of promotion, the principal has decided that the class has satisfactorily completed the earlier grade, and should allow no fancied insufficiency to stand in the way of an immediate, unconditional advance upon the new subject; and no teacher should, for an instant, stop to question the qualifications of the class. Every new topic involves more or less of the preceding, and any real defects can readily be remedied with no discouraging halt or demoralizing withdrawal. Little interest do the hopeful boys and girls find in beating over the old straw

and gleaning in already shaven fields; the progressive, loving teacher rather should, Boaz-like, taket hem to her heart, and share with them the fulness of the early harvest.

Perhaps there is nothing in which the guidance of the principal can be more fruitful of good results than in the arrangement and adjustment of the different parts of his school, that all by a united, harmonious effort may move on with a single purpose to a common end, and within the allotted time.

Here and there, it is true, an exceptional student may advance with quicker step and longer stride, or, perchance, fall behind the movement of the class; but, in our schools, the average pupil should compass the grade within the year, and move on promptly and sucessfully to the next, and the graduation of a class at an average age of more than fourteen or fifteen might well be a subject of investigation by the board. A pupil who has been two years in a grade should be peremptorily advanced without a question; and any member of the eighth grade, sixteen years of age, passed to the high school, unexamined, that they may have the trial, at least, of a new teacher.

Not till the end of the forty weeks should the principal wait to find that the class is not prepared to pass grade. The work of the year should be divided in his thought, at least into that of months or weeks, as at the races, I notice, they time them at the quarter and the half, as well as at the end.

The teacher may easily be too thorough, too attentive to minute detail and nice distinctions unsuited to the present powers of the pupil, but which, with the nicer discrimination of a higher culture, will prove but as a pastime for his thoughtful hours. One of a wider reading and a more extended view of the worth of a liberal education, may delight to lead the pupils aside into the pleasant fields of learning, and amuse them with the curiosities of literature, science, or philosophy. And there are those who become so attached to the little ones committed to their care that they fain would hold them a little longer, and finish the beautiful work, which no one else, they fancy, can do so well.

But it surely is a mistaken affection that holds back the pupil from the speedy accomplishment of his task; a false enthusiasm that would luxuriate among the beauties of a culture which can be truly discerned only by the mature and finely trained mind; a foolish pride or ambition that seeks or expects to know or teach all of everything or anything. With no uncertain or flagging step should the classes, as the months and years go on, pass from topic to topic and from grade to grade, promptly and surely according to the outlined course, with full ranks and ever growing powers and developed characters, under the watchful, wise direction of the competent principal.

The examinations too, should be within his knowledge and control. I have sometimes heard the complaint of principals that "the examination had taken him completely by surprise; that the class had gone

all to pieces." What real room for surprise except that he had not himself known it sooner. Where have been his eyes, his ears, his thought, his untiring effort for the last forty weeks? Perhaps in the office considering how teaching might be made a profession; possibly wondering at the public depreciation of the worth of the public school, and the consequent inadequacy of the principal's salary; or sometimes, it may be, pitying the littleness of those who can be content to attend teachers' meetings month after month, and year after year, discussing the same old questions; and labeling as new what they have had for twenty years.

He has a poor teacher! Then it should not have been a surprise; he should have known it before the end of the second week; should have heard and known whether they could read audibly, clearly, intelligently; whether they could comprehend a plain question, and answer thoughtfully; whether they understood fractions, could compute interest, draw an outline map, get the dimensions of a given field without turning to the book for the rule, or could avail themselves of a short cut to the result.

The discipline should not be suffered to become such as to make study impossible, nor the instruction such as to leave progress doubtful. His influence should pervade the poor room, like the sunlight, filling it with light and warmth, even into its foulest corners, that the hearts of teacher and pupils may fairly glow with desire and hope of something better, nobler. No real examination should be given for which he has not prepared or approved the questions, which should fairly fill but not exceed the requirements of the course, and he should be so familiar with the aim, the methods and results of the teacher's efforts, that he might safely promote a class without a stated examination.

Few, very few, are the teachers who cannot become fairly earnest, faithful, efficient workers under the kindly, wise, persevering influence of a worthy principal.

The principal, too, should so arrange the time of examinations and promotions that there should be no uncertain delay, but that teacher and pupil should start off strong and hearty for their work at the beginning of the second and third terms, as of the first, without the loss of five, ten, or fifteen days, in doubt where they are, or what they are to do; and with an impulse and impetus that shall carry them on with spirit and zeal undiminished to the very end of the year, till they pass the line, as it were, at the end of the race, with the closing exercises of the year.

There is no school, perhaps, which has not some points of marked excellence, some teacher, unknown to herself, it may be, who, in her wholesome influence over her pupils, in awakening interest, securing attention, in the presentation of some subject, or in winning a ready and thoughtful consideration and clear expression of topics and judgments, shows an unquestioned superiority in mental or moral gifts. There is, I think, rarely a teacher who does not present some meritor-

ious indications deserving recognition; at least, she may display some fault in common with ourselves, which we had not before seen in its true deformity.

Not the least important of the principal's duties is to perceive the excellences and to promote their spread among the other teachers, to assist the contagion of good and establish a quarantine against the bad. The good of one room should be carried to all the rooms of the school, like the fertilizing dust of the flowers, now borne by the busy bee in his search for hidden sweets, now wafted by the floating insect in his pleasurable rounds, and now on the soft air that breathes around us.

Let the teacher, weak in one point, visit another who there is strong, and discuss what she has seen with the principal; let her visit other schools, and bring back the report of her experiences. In her own school, the principal himself can take her room for a half hour, and for a half day even, in her visits to other schools, ascertaining thus the progress of her class, or its deficiencies.

In spite of the frequent complaints of poor teachers, they are not all, or generally, unqualified. They have been under able and skilful teachers; have passed a scholastic examination, to which many of our successful teachers would not care to submit; they have served two, six, ten months under the principal's eye, as apprentices or cadets, and if they now fail, is it not fair, is it not just and right to look for the reasons of the failure, in most cases, to the principal?

Herein do I find the most important part of the principal's work, and a partial answer to the question so often asked, "How shall we secure good teachers?" To the common reply of the theoretical teacher and pedagogical writer—that we must have normal schools—I desire to offer no word of dissent. If all our teachers could have a good normal training, it can hardly be doubted that the school systems of our city, our State and country, would be lifted to a higher plane, with a clearer and more life-giving atmosphere.

The normal school can do much. It gives something of the history of education, and the work of its great leaders; teaches the elements of psychology in its direct application to pedagogy; leads its pupils to observe the thought of the child, and the working of its yet undeveloped mind, and carefully and systematically to note the results of this or that method; it teaches its pupils to think, to think for themselves, to reason upon their own closely observed facts, and to express their thoughts clearly, concisely, and freely; it makes them familiar with various ways for interesting the childish heart and opening up his mind to the study of the things around him; and, best of all, it inspires them with a love of the work, a kindling enthusiasm, that shall go far to make them true students of childhood and successful workers, at last, in this noblest and most entrancing of pursuits.

And yet, with all this, so unlike are the conditions of the normal classroom and the school-room, with its sixty embodied activities, that the

normal graduate, with her training, her theories, her enthusiasm, and her high expectations, will, at first, prove a partial failure if left to herself, without the guidance, the encouragement, the help of the sympathetic, the great-hearted, capable principal.

Our good teachers must be made largely in our own schools; sooner, and better for the fitting preparation, but in the actual school-room, must she learn to interest, to instruct, to develop, and, at the same time, to control with a quiet, discerning watchfulness, an easy grace, and an ever-growing power, and by the aid and wise direction of the principal.

Vacancies in our schools are of daily occurrence. In one there are always those below ready and willing to advance to the vacant place—the double-division teacher to the single room, the cadet to the double division, all alive to the work, ambitious, able, progressive, with no necessity for looking beyond the walls of the school.

In another, how different the situation! The cadet is weak, unequal to the charge of a room, for which a supply is sought elsewhere. The first-grade teacher has become acquainted with her duties, and shrinks from the effort needed for a higher grade; a sixth or a seventh grade becomes vacant, and the city must be searched, the country scoured for a teacher equal to the place, while the several grade teachers plod on, as before, in their old familiar round, without promotion, without ambition, and without meritorious desert.

Many an excellent teacher do we draw from the outlying districts and from the normal schools; but the best, most progressive, most thoroughly in earnest and successful schools are those which make their own teachers; and from no one thing would I judge of the worth of a principal so confidently as from his success in converting these young, inexperienced, but bright and educated girls into earnest, studious, skilful, and inventive teachers, ready at the principal's call to take this or that position, whatever it be, with full reliance upon his wisdom and discrimination, nor standing upon any supposed or imaginary rights that may be in the way of the best interests of the school.

Not long since I read in an educational journal an article upon school discipline, in which the writer said that "obedience must be immediate and absolute." In a well-ordered school, the discipline should make a small demand upon the teacher's time or strength; should not be, as the same writer states, "the most painful part of the teacher's work," but kindly, loving, winning. What more pleasing than to observe with watchful care the daily development of the mind, the will, the character? "Obedience immediate and absolute?" For the soldier on the battle's edge, yes; but for the child with his instincts of selfhood, his budding reason, his untrained will, and his intuitions of freedom, the thing is unreasonable, absurd, and impossible. Which of us can at all times control his will or command his attention to a dull discourse, a stupid book, or an uninteresting recital?

Prompt and cheerful compliance, I admit, but "immediate and abso-

lute"—the words savor of the drill master, the martinet, the tyrant, the despot, rather than of the teacher and guide of youth, and are destructive of all true education and worthy development.

With the quality of the discipline of the school, the principal has much to do. The animating spirit that shall give shape to it all is his. Obedience, indeed, is a necessity, but an obedience based upon a respect for authority, and an appreciation of good order and regard for a respected teacher.

I should probably be misunderstood if I should say, as I firmly believe, that the principal should always sustain the teacher. He should make her feel—should let the pupils know that he is with her, even when in error, as a firm and faithful friend and support. And in any untoward event should he kindly see her through and out of her difficulties before the thought of censure has taken shape. Not censure, but counsel, should be his, showing where was the error, how the direct issue might have been judiciously avoided, and the insubordinate pupil led and lifted to a wiser way and a higher life where the beauty of order and the necessity of subjection to reason and properly constituted authority would be clearly discerned and gladly acknowledged.

The principal, too, has much to do with the mental growth of his teachers. Our teachers' meetings are, of necessity, largely given to the discussion of methods of the ways and means of school teaching.

She who would make teaching a profession must know of the underlying principles of which these methods are but the flower, must make her reading broader, her studies deeper than the adopted text-book and supplemental reader.

The spirit of inquiry, of investigation, and experiment, should be encouraged, a careful observation of methods and results, and the sound deduction of true means and methods. This rests largely with the principal. The reputations of to-day are not won in the high school and college, but in the children's room; nor by the self-seeker striving ever for a higher place, but by the self-forgetful worker, who sees in her little ones the promise of true, upright, honorable men and women, for whom her best is all too little.

The thoughts that I have thus tried to present are not the results of any fine theorizing, and hardly the conclusions of any formal reasoning, but rather a simple record of what daily comes under my observation. How often have I seen a teacher—a whole school, lifted from the low level of weak purpose and dead performance to a true realization of the educational ideal, receiving the breath of life from the living principal, become earnest, faithful, and zealous of good work.

No longer are their pupils turned upon the street, lost to all hope or chance of a worthy citizenship, but with an ever-growing self-control, and an increasing interest in the studies made attractive by a more pleasing presentation, are seen pressing forward into the higher grades, perhaps to the high school and college, and surely to a worthy manhood *or womanhood*.

And some, too, have I distinctly in mind, of bright souls and of high promise, who, for the lack of this inspiration and upholding, have seemingly parted with their former zeal and, grown weary of their unrecognized efforts, fill in the slow-going hours with half-hearted work and meagre results.

It makes little difference what stuff a teacher is made of; she can not long stand out alone in good, earnest, honest, healthful endeavor against the blighting miasma of an incompetent, unfaithful, unreliable principal.

The pupils themselves soon inhale the unwholesome air, and no longer respond to the touch of her quickening spirit, grow careless of their conduct, negligent of duties, and forgetful of their own good names and the fair fame of their school. No investigation is needed to learn the character of such a school; like the darkness of Egypt, it can be felt.

We no longer have the little school-house under the hill with its single teacher, principal and assistant in one, working out her own success or failure; but each is a part of the one great system. The principal alone can make or unmake it. The work which, in part, I have outlined, no one can do but he. Much is asked of him, but no more than I often see performed; a high ideal is marked out for him, but only because I have witnessed its realization, and made it my thought.

It is this that makes me feel, and feel confident that of our 1,700 teachers and 90,000 pupils in our schools, soon to be the men and women of our city, and, I trust, her pride, many, to the last hour of their lives, will look back with loving hearts and grateful thoughts for the right impulse, the worthy direction, and true inspiration they received at school, through the wise control, the kind interest, and the healthful influence of their school principal.

QUALIFICATIONS OF PRINCIPALS.

By J. M. Greenwood,

Superintendent of Kansas City Schools.

Boards of Education designate in general terms the duties principals are required to perform. Among which are the following:

(1) To devote themselves exclusively to the interests of their respective schools, and to have the general management of the schools under their charge, and to open and close the same on time.

(2) To maintain good order in the school building, on the premises, and in the neighborhood thereof, and to suspend refractory pupils when deemed best.

(3) To see that all pupils are properly classified and distributed.

(4) To advise with teachers and to assist them in regard to the best methods of discipline, instruction, and arrangement of exercises.

(5) To see that teachers are properly informed as to the rules and regulations governing the school, and that they carry out the same in every particular.

(6) To examine, or to assist in examining, all classes as frequently as may be necessary.

(7) To visit, as often as practicable, the rooms of their assistants and to help them in their work.

(8) To keep all school records according to prescribed forms, and make all reports required by the Board.

(9) To have personal care of all school property, furniture, apparatus, fences, walks, shade trees, out-buildings, and yard; direct and have control of the janitor.

(10) Order supplies under proper restrictions and suggest needed improvements.

These, perhaps, are the chief duties devolving upon principals.

While a principal may perform all the duties I have enumerated and be entirely competent to perform as many more, yet it does not follow that he possesses the requisite qualifications to manage a school properly. Do we not look for other and higher and broader and deeper qualifications than these? Are not all these prescribed duties the visible machinery, labelled "special," that pertain to the external of school work rather than to the school-spirit itself?

Do not school authorities look beneath this exterior for something of flesh and blood more nearly akin to humanity than the automaton described under the head of "rules and regulations"? Were we constructing a real, live principal, or head master, for use and usefulness, would we not endeavor to build one of broader mould and more comely proportions than a mere executor of registered decrees?

Suppose a large school in a city is to be supplied with a principal, does not the superintendent at once set before his mind's eye the kind of a man that is needed to fill that vacancy? Would he not take into consideration the school in all its minutiæ and the tastes and dispositions of the patrons of that vicinity?

I apprehend that an inventory of qualifications somewhat after the following would most probably run through the superintendent's head:

(1) Will his manner attract or repel teachers, pupils, and parents?

(2) Is his voice pleasing; or harsh and grating?

(3) Is he pedantic and pretentious; or manly and dignified?

(4) Is he fidgety and nervous; or quiet and equable?

(5) Is his eye restless and foxy; or calm and penetrating?

(6) Is his face deceitful; or pleasant and honest?

(7) Is his walk hesitating and unsteady; or direct and firm?

(8) Is his judgment wavering and fitful; or judicial and impartial?

(9) Is his judgment narrow and selfish; or broad and liberal?

(10) Is his scholarship weak and restricted; or comprehensive and accurate?

(11) Is his health tottering; or is it vigorous and strong?

(12) Is his moral nature weak and vacillating; or is it noble and elevated?

(13) Has he stagnated; or is he still elastic and buoyant?

These and similar inquiries would arise and each one must be determined positively, indifferently, or negatively. Granting that each is determined favorably, there are other qualifications that far transcend these and other factors that need to be taken into account. The foregoing simply pave the way for those to follow:

(1) THE PRINCIPAL'S ABILITY TO MANAGE.

Under management is included teachers, pupils, patrons, and the reflex influence on education in general.

A principal who is continually getting into "hot water" with his assistants, or keeping them in "hot water," will never succeed well. There is too much up-hill pulling for good work. At times a principal may have to stir up a "soldiering assistant" who is derelict in duty, and give vent to a little righteous wrath; yet this is only an occasional paroxysm and not a chronic condition. The principal who adopts the *spy system* never has the confidence of his assistants, and he, sooner or later, will be detested by them. There must be that cordiality of feeling and spirit of helpfulness, that mutual respect and forbearance which secure the happiest and best results with the greatest degree of smoothness in management and work. Impartial, cool, deliberative, inflexibly just, without harshness or severity, the principal must deal with his assistants as co-workers in school. Should an assistant fail either in work or management, it is his duty to strengthen her if possible; but if she be incompetent, then he must perform his duty with tact and delicacy. In no other situation does the principal's character show in its true colors so well as in his relations with his assistants. Should his assistants know more of schools than he knows, they then shape the policy of the school, and he echoes their wishes. If he finds that he is ensnared, breaking out of the net is usually attended with more or less discord. This condition arises when a weak principal is put in charge of a strong corps of assistants. The principal's knowledge of school work should exhaustively cover all that is taught in his school. In other words, he should be a first-class teacher in every grade from the lowest to the highest. As a preparation for this work, he should come to the management of a school with the experience such as actual work in the various grades gives.

His dealings with pupils are under two forms—instruction and discipline. The positive instruction in his room is designed to fit the finishing class for the high school. There is a time in the life of school boys and girls when the masculine influence is absolutely necessary. Woman's mind is differently constituted from man's. She does not see the world in action as man sees it. Her vision in some respects is microscopic;

man's the more comprehensive. She works more after fixed plans and models; man is more independent and frequently erratic; she teaches; man educates. Both influences are necessary—the one is the complement of the other. At this formative period the impress of the principal must be felt in the highest class. He should finish the pupils in arithmetic, grammar, and history, and send them up well prepared, to high school. If there are holes in their education he should patch them, and not relegate the work to his head assistant.

The disciplinary side is not confined to his own immediate class. It permeates all rooms and all classes. His influence is felt everywhere; not that the teacher is put into the background, but that, behind her, his presence re-enforces her authority, just as his knowledge is contributary to each teacher in her recitations. In the absence of the regular teacher, if he will conduct recitations or question the pupils, the effect is a mental tonic to both teacher and pupils. In other words, he is a teacher as well as a manager. If he be weak in either one of these particulars, he will never be a successful principal.

A principal may stand well with his patrons, and still be weak with his assistants, and positively injurious to the pupils. But it is not in this sense that the proper relation is to be considered. First, a principal, by his ability, wisdom, and superior judgment, must be able to convince his assistants and patrons that he can manage a school on those broad principles of justice and moderation, and in such a manner, as to command universal respect. If he be just and capable, and conducts his school well, he secures the confidence of those who commit their children to his care. Second, when a patron knows that any matter referred to a principal will receive prompt and respectful consideration, he has confidence, then, in the man, which it is hard to weaken. Whereas, if the idea once becomes wide-spread that the principal is prejudiced, partial, fractious, or unreasonable, his influence is gone. There must be confidence in his intentions, and this confidence can never be secured by playing off sharp practices or by evading issues when they are to be met. In all his dealings with patrons, candor and politeness should characterize all that he says and does. Tact in communicating unpleasant matters to patrons and making the right impression without prejudice, requires a degree of diplomacy of no mean order. A principal's dealings with the public constitute one of the most difficult duties he is called upon to perform.

If he can manage this part of his work with adroitness and skill, and still do honest work in school, he will combine the qualities of a statesman with those of a practical educator.

(2) THE PRINCIPAL AS A TEACHER.

It is as a teacher that the principal should exhibit the highest qualities. If he be weak either in discipline or in instruction, his weakness is felt in all the upper rooms of his school. The older pupils, if not

properly restrained, contaminate the lower ones until the entire school is more or less affected. The struggle of assistants to hold up the reputation of a school when the head is weak, vacillating, and rotten, is a hopeless effort. Again, if the principal is not first-class in conducting recitations and in securing good results in scholarship, his first assistant cannot make up for this defect. However much it may be glossed over, it leaves a blemish that the critical eye will readily detect.

Since every school contains some teachers that need constant attention and assistance, the principal is the proper person to give this help; but if he cannot help when it is needed, or he knows not how to assist in the proper manner and at the right time, the teacher is left to blunder along. By help is meant that the principal knows human nature well enough to get the teacher to do the very best work possible under existing conditions. Not only this, but that he infuses a proper educational spirit into both teachers and pupils, which causes them conjointly to attempt noble ideals. This comes from the mental atmosphere in which he works. If he cannot stimulate his assistants to their best efforts without driving or scolding, his mental machinery is deranged. In whatever department he appears as a teacher, he must exhibit all the qualities of a master workman. This necessitates a critical knowledge of all the branches pursued in his school, and how they should be taught, as well as entire familiarity with what is doing, or has been done, in other localities in this country or among foreign nations. A true principal will draw his inspiration from the world at large.

(3) AS AN EDUCATOR.

To perform routine duties perfunctorily, make out dry reports and then hide in a shell, and call it "supervising a ward school," is to add insult to injury, and to trifle with a sacred trust. A principal should be a true *educator* in every sense of the term. His scholarship, his general accomplishments should be such as to create respect for his ability wherever he goes. Among men he should be a man, not a mere "school-keeper," or pedagogue; among educators he should take a position that comports well with the dignity of his profession. His voice and pen—his entire influence at all times—should be used on the side of justice, goodness, and the elevation of humanity.

When classes pass out from under his control his connection with them should not cease at the school-room door. If he has done his duty, sympathetic relations have been established and cemented. As classes pass away, he should exact from each member a promise that at least one letter a year shall pass between them. They will cherish more closely the memories of their school days and feel that the links which once bound them so closely together have not all been severed.

I leave you to fill in the picture between teacher and pupil in after years, and how the influence of the one runs into and shapes the life of the other.

(4) AS A WELL-INFORMED MAN.

The true principal is ever a learner. He may choose to work along special lines. But whatever his taste may be, he must not stand still. If he imagines that a technical knowledge of the branch he teaches will suffice for all emergencies, a respectable funeral would be a blessing for his school. Mental growth prevents stagnation. Growth may be produced in many ways; in natural science; in law, ancient and modern; in medicine; in history; in politics; in social science; in any department of mathematics; in languages; in philosophy; in civilization; in literature; in religions; in consular and agricultural reports; in legislative debates; in political campaigns; in the science of governments; in magazine literature; in the drama; in the weather; in mining statistics; in political economy; in psychology; in logic; in art; in painting; in sculpture; in evolution; in manufactures; in commerce; in the habits of insects; in the habits of animals; in travel; in short, in every department relating to man's social, intellectual, moral, physical, æsthetic, or religious nature.

In addition to his educational or pedagogic knowledge, he must get outside of the school room and rid himself of the mere school-master idea, and jostle against the world and join in with one or more of the world movements.

(5) AS A PATRIOT.

Patriotism is not taught by politicians and an extreme partisan press. These teach partyism, and their influence upon the national mind of the country is of doubtful utility. Love of country should always transcend that of party. Men whose views are obscured by ignorance and prejudice are dangerous citizens at best. Half the time they are wrong, and owing to their blindness they will not be righted. Where, then, shall we look for the inculcation of those noble and exalted sentiments which should always inspire the American heart, except in the public schools of the country, and who can succeed so well in instilling these truths as the principals of our schools?

Their familiarity with the underlying principles of our Government and of the governments of other nations, and the rise and progress of political parties, and the development of social and civil questions, eminently fit them for imparting that kind of knowledge which lays the foundation for obedient citizenship.

Entire and hearty sympathy with American institutions is one of the highest qualifications that a principal ought to possess.

(6) THE PERCENTAGE INCRUSTATION.

The percentage mania is the worst form of acute insanity that can attack either a principal or an assistant. One consolation exists, however, and that is. the subject is never afflicted with it but once, unless

he lingers and passes into a condition rendering recovery hopeless. No other school malady that has ever come within my experience produces such dire effects. I can compare it to no other great upheaval unless I use the language of Chief Justice Marshall in speaking of the French Revolution, when he said, "*It was the admiration, the wonder, and the terror of mankind.*"

Whenever a principal boasts that his attendance, recitations, and "other figured affairs" have reached the highest possible results, there is just cause for alarm.

But one step remains to be taken which could sink the school still lower, and that is for the principal to spend all his time in picking up small bits of paper in the school yard. This is denominated unusual greatness in little things.

The only effective remedy for this stage of imbecility is to break every ideal belonging to this category the principal has set up.

(7) EVIDENCES OF DRY-ROT.

This insidious disease appears under many disguises, but its tendency is always in the same direction and it leads inevitably to the same result—*mental decay and brain atrophy.*

I will indicate a few symptoms: First, that of the technical grammar fiend, who will spend months discussing the verbs "went" or "drank" in the sentences "the dog went mad" or "he drank a bottle of wine." Of course these are weighty questions, but when a principal will waste years of his life upon such tiny matters, we are forced to exclaim, "That a little learning is a dangerous thing."

Sometimes accompanying the grammar disease is that of "catch questions in arithmetic," which branch off into *circle squaring* and *perpetual motion.*

Under such circumstances it is clearly the duty of the superintendent or some other friend of the victim to help him to get rid of the predominant idea, and put him on the main track of life and set him moving in other lines.

(8) JUDICIAL CAST OF MIND.

A principal is called upon almost every day to decide some question involving personal rights, duties, or obligations. As a law interpreter he is known. Frequently the success of his school depends upon his justice and moderation in settling conflicting interests or in harmonizing differences. As a preparation for such duties, every principal ought to be well grounded in the elements of civil and criminal law, as well as in the law of contracts and the law of evidence. These studies have a tendency to produce deliberation in the mind and the habit of sifting matters thoroughly before reaching conclusions. A year devoted to reading in these lines will be time well spent in giving broader views

to human actions, and juster and more liberal interpretations to human conduct.

(9) PERSONAL CHARACTERISTICS.

Promptness, vigilance, energy, decision of character, high and noble aspirations, industry, skill, tact, inventive power, integrity, sincerity, honesty, plenty of reserve power for emergencies, repose in action, ability to dispatch business or work without haste are traits of character, if harmoniously blended with favorable temperaments, which distinguish the most successful managers of graded schools.

EXAMINATIONS.

TEACHERS' EXAMINATIONS.

BY M. A. NEWELL,
Superintendent of Maryland Schools.

——— "Quæque ipse miserrima vidi
Et quorum pars magna fui."

Why should teachers be examined?

Because in other professions—law, medicine, theology—a course of preparation is exacted, and the proficiency of the students tested by examination and attested by the examining body.

Who should be the examiners of teachers?

By the same analogy it should be TEACHERS. As the law student is examined by lawyers, the medical student by physicians, the embryo preacher by preachers, so the candidate for the profession of teaching should be examined by teachers. Not necessarily by teachers *in esse*, but by teachers *in posse*, those who have been proved and put on record as having the necessary qualifications for teachers, and among them I place all *properly* qualified school superintendents. The idea of three farmers sitting down to determine on a teacher's qualifications would be comical if the result were not so often tragical.

What conditions should exempt from examinations?

So far as regards academic attainments, the diploma of a high school or college recognized by the State should be accepted as sufficient evidence. It would be advisable, however, for the proper State authorities to publish a list of the institutions which should be thus recognized.

What need is there for re-examination?

You do not re-examine lawyers, physicians, ministers, after they have received their license to practise or to preach. Why submit teachers to this additional test—to these repeated tests?

The necessity arises in part from the fact that young people often begin to teach just when they are beginning to learn. It is necessary that the habits of a student be kept up by *external* stimulus until the *internal* stimulus has been brought into action and the habit of study has become a "second nature." This process of re-examination should have a definite termination. Should there be manifested a necessity for continuing it

beyond three or four years, let the teacher and the examination terminate together.

On what subjects should a teacher be examined?

If the proposed teacher has no diploma from high school or college, he should be examined on the subjects he is required to teach, and should be tested also, outside of school text-books, on matters of general information which all well-informed persons are expected to know.

Teachers must be expected to know more than they are required to teach, but this surplusage should be of a general not a technical character. In a city not 300 miles from the spot where we stand, a young man, a candidate for the lowest grade of teachers to which men are usually appointed, must, if he has not the college diploma of the city, pass a satisfactory examination (85 per cent.) in history, book-keeping, arithmetic, algebra, geometry, plane and spherical trigonometry, analytical geometry, calculus, physiology, chemistry, natural philosophy, rhetoric, and drawing.

In all this inventory, is it not surprising that there is no mention of psychology, of principles of teaching, of methods, of the history of education, of the organization and grading of schools, of the large subject known as "school economy"? Is it not like undertaking to play Shakespeare's Hamlet, the character of Hamlet being left out?

Would it not be better to omit the "calculus," inasmuch as the teacher never gets beyond the elements of algebra, and insert some of the purely professional work, something that will distinguish a professional teacher from a simple college graduate?

For both academic and professional qualifications, the diploma of a recognized State or city normal school should be an adequate substitute; if it is not so practically, the normal school demands reconstruction.

Should examinations be uniform in the State? In the county?

If State uniformity were desirable it is not practicable. A set of uniform questions goes but a short way to the making of uniform examinations. The conditions, too, must be uniform. The standard of marking must also be uniform. The same man may mark the same paper differently at different times, according to the state of his digestive apparatus. It is quite possible for two teachers to take the same questions, and with different examiners, the better shall fail and the worse shall pass.

But State uniformity is not desirable, because if the same standard is set up for all localities, many places that most need a teacher would not be able to find one; even if the salaries are equalized the difficulty would not be removed, for there are districts in every State in which no highly qualified teacher would consent to live for any compensation that the district or the county could give him.

County uniformity we can secure partly, where there is but one examining authority; but even in a county some regard must be paid to

localities. It need not be added that where salaries differ it is absurd to expect qualifications to be the same.

Do examinations always examine?

Not always,—as my own experience as examinee proves.

DISCUSSION.

The discussion was opened as follows:

THE EXAMINATION OF TEACHERS.

By L. W. Day,
Superintendent of Cleveland Schools.

Ladies and gentlemen: I am exceedingly sorry that those who are now present were not present at the beginning of Dr. Newell's paper. I desire to commend it most heartily to the careful attention of every one present, and trust it may be read, in substance at least, by many who were not present. It deals very closely with the question that lies close to the entrance door of the public school. It is a question that is not yet settled, and from the very nature of the question itself it must forever remain a somewhat unsettled question. For, as the profession of teaching advances from step to step, as better methods of instruction and management are brought forward, the conditions upon which teachers are admitted to the profession or the school-room ought certainly to be advanced also. I desire to commend the paper. Upon one point I am not sure that I can quite agree with the doctor. I have respect to the advisability of greater uniformity throughout the States. The objections urged against such uniformity seem to me to hold with almost equal force against county uniformity. But I submit whether there is not a great possibility, in fact a probability, that if the questions used throughout the State were uniform, were sent out by the State board of education, publicly used by the various examiners, certificates issued upon them, and the manuscripts held subject to the order of the State board for revision, some good might result from it.

The law which requires that all who design to teach in the schools of the State shall be examined by the State as to their proficiency in the several branches in which they are to give instruction is an excellent one, the force and importance of which should not be lessened.

The authority to whom is delegated the duty of discriminating between those who are qualified under the law to teach and those who are not, has a most important work to perform; a work which affects more or less directly the vital interests of the schools at large; a work demanding that he should be in full and intelligent accord with the advanced methods of instruction and management that characterize the

schools of the present day. In the discharge of his delicate duties, he should recognize that it is not scholarship alone, vitally important as that certainly is, that should determine the matter of qualification. There are other elements of equal importance which enter very prominently into the question.

I would not, for one moment, undervalue the importance of scholarly attainment. Without this there can be neither breadth nor depth of work, grasp of means, nor clear comprehension of what is to be accomplished. Scholarship is essential, and every teacher should give satisfactory evidence of qualification in this respect. Examiners should carefully guard the door, and allow none to enter who are not possessed of an ample education. But of what avail is this knowledge to the teacher in the school-room if its possessor be lacking in the ability to impart instruction; if he cannot discriminate clearly between the means and the end; if he cannot so direct his work as to inspire confidence, stimulate thought, and encourage individual effort? Examiners should never certify to the ability of any one to teach unless such person has given much careful and intelligent thought to the professional side of the teacher's work. He who desires to teach, who seeks to aid and direct in the development of a human soul, should be willing to prepare himself to the uttermost for his work, and examiners should see to it that none are authorized to practise upon the children who have not gone deeply and earnestly into this matter. With institutes in almost every city, town, and county; with associations, sectional, State, and national; with normal schools located at numerous convenient points; with educational journals, the best the world affords, within the easy reach of all—with all these earnest invitations to proper preparation, is it too much to *require* that he who would teach must fit himself professionally for his work? Have not the children a right to demand teachers who are at least theoretically prepared, who understand the history of education and the grand objects sought by the best schools of to-day, and who have at least a good working knowledge of psychology? Witness the large number of pupils who have withdrawn from school, a very large per cent. of whom have done so because they have become disgusted with school-room work, preferring ignorance and labor to the uninteresting, uninspiring work of the school-room. Investigations show clearly that the number of withdrawals from schools taught by teachers who understand themselves, their work, and their pupils is very small, and confined to cases of necessity.

Admitting the very great importance of scholastic learning, and commending our examiners for what they have done in the way of elevating the standard of excellence in this respect, let us urge them to more strenuous efforts in elevating the standard professionally as well.

There are of course many difficulties attending such work. They are not, however, insurmountable. It need not be very difficult for the competent examiner to ascertain, by means of suitable conversation,

something of the extent and character of the professional reading of every applicant who does not come sufficiently vouched for in this respect by the principal of the normal or other training school, and at the same time to note the clearness and ability with which the required information is imparted. Such a conversation, judiciously conducted, will reveal several other elements vitally essential to the successful teacher. But, however close and searching this investigation may be, it would obviously be unwise to issue more than a trial certificate until the applicant has proven by actual school work an ability to instruct and manage a school. Such trial work should be carefully observed by the superintendent or other person qualified and authorized to supervise the work of instruction, and only upon his recommendation, based upon assurances of at least fair success, should the partial certificate be followed by the issue of a full one. Otherwise the partial certificate should lapse at the close of the term.

If it be the duty of the examiner to reject those who are deemed not qualified, he should be sure that his own methods are correct; that he himself has a clear conception of the requirements of the schools of to-day. He should be a master workman, comprehending the true relation of the teacher to the school, of the work of the school to the subsequent life of the child; in short, he should understand what an education is, and how best to secure it. He need not be an infallible man, but he must be a most earnest and devoted one, whom neither fear nor favor can swerve from the right, a man of close observation and of sound judgment, a ripe scholar, capable of discerning those qualities which enter so largely into the make-up of the successful instructor and manager. The duties of such an officer are arduous and important in the extreme. With proper care on his part, few will be authorized to teach in the schools of the State who have not made special preparation for their work, and surely none others should be permitted to teach. If the attorney, the physician, the minister must spend from two to four years in special training before he can be permitted to enter upon his work, why, in all reason, should not teachers be required to do the same thing? Is it claimed that our profession is so peculiar that no valuable preparation can be had except as innocent children are practised upon by the novice? Away with such nonsense! On the contrary, it is a solemn duty we owe the children to see that they are not practised upon by those who have no interest in the work beyond the securing of a comfortable position.

We are continually striving to elevate the standard of our schools; we are holding institutes, organizing associations, and publishing professional literature for the benefit of teachers already employed, but we are silently admitting to our ranks thousands who have given no thought to their work beyond preparing for their technical examinations. The few who attend the institute, do so, in many cases, in order to review for the same examination. This is all wrong. Let us require

a higher standard of the examiner, and stand by him in his attempts to establish it. With the doors thus guarded, we may select teachers from those certified as qualified to teach, to the very great advantage of the schools.

DR. HIGBEE: Mr. Newell ought certainly to have known the scholarship or attainments of the person who was before him. The question is not to do away with examinations; they are an absolute necessity. We must know the scholarship, the attainments, and professional skill of the applicant, so far as it is possible for us to know. We must know what is the difficulty; whether the difficulty is in the examiner or in those examined. I have gone through nearly the same experience that Dr. Newell has gone. I was examined in Lancaster, and the examiner didn't know anything; I found that out in a short time, although I was the one examined. The fault was in the examiner, and the whole question is this, who shall examine our teachers? That is the most important feature. In the Commonwealth of Pennsylvania we trust the subordinate examinations to the county superintendents. The reason we do this is that we suppose the counties will fortify themselves in the directors of the schools. That is the system we have there. Of course it fails in many respects. But what shall we do? You say that you will have the State superintendent examine. He don't examine. Suppose he sends down questions. That is not examining. It is foolish to suppose, for instance, that a State ever gets a uniform set of questions that examines. It is the examiner that examines. He has the man before him; he is the man to pass judgment. And how could I, as the State superintendent of Pennsylvania, from the answers that come up to me, ascertain the character and presence of the man himself? I could test his memory. I will give an instance. A gentleman came to me once after having endeavored to answer the questions of an examination, with this question, thinking he had made a mistake: On which side of the river is Geneva? I said, of course on the outside. That is the only answer I would give to such a question. I would be ashamed of myself, honestly, if I was summoned to examine a person, to examine him through the questions of another man. I would as soon court a girl with my grandfather's loveliness.

THE CHAIR: Mr. Day said something in the beginning of his paper about uniformity of questions in the State. That was the custom followed in California before the adoption of the new constitution. For some time preceding the adoption of that constitution, it was supposed that the passage of the questions through the mails would be risky. Finally it was suspected that by some means some of these questions occasionally got out; and the culmination came when one day in San Francisco, the evening before the examination, the San Francisco Bulletin published all the questions in full, and the examinations throughout the State had to be suspended. The convention met soon after and the whole system was broken up.

MR. WISE: One of the most difficult things I know of is how to examine teachers with a view to ascertain whether they are capable. It seems to me that the first requisite is to ascertain whether the candidate is healthy; and I think a doctor's certificate ought to be gotten to show that this party who is desirous to teach is in a sufficiently healthy condition to make a good teacher; and I think the moral character ought to be inquired into very carefully, whether the person is a proper person. After this is done, and not done simply because it is required, in a perfunctory way, the next thing I should inquire into with great care is whether he possesses the requisite culture. I think with the great number of opportunities that our cities and country hold out to people to become educated, that every board of education has a right to demand this of parties coming forward to teach and avail themselves of those appliances; not only to know them, but to look ahead and to adapt this work harmoniously to an extended education. Persons who teach in the primary school should supplement that by a course in the grammar school. Education is continuous, and in order to preserve this continuity, persons doing work all along the line should see the whole course to be gone over. I believe the greatest fault of the teachers is the lack of culture. There is too much stress laid on methods, psychology, etc.; but I believe that to the teacher who has culture, character, and a desire to perform properly the duties she is called upon to discharge, these things will come after. As Dr. Harris said last night, a good teacher will make good pupils. If they have this basis of culture, it seems to me this would be a good foundation upon which to build the professional knowledge that they must acquire afterwards.

The examination, in my judgment, should be partly written and partly oral. I have seen a great many persons who could pass a written examination by anticipating the questions to be asked upon the subject. If I were called upon to examine a person, I would simply get that person to read to me and afterwards ask oral questions, and I could ascertain more in that way than by the ordinary questions asked upon the subject of grammar. And another thing that is very important to ascertain: We all acknowledge that teaching is a profession, and persons who desire to teach but a short time should be rejected. Some eminent educator has said: "In choosing a teacher for your son, be much more careful to ascertain his moral character than his culture. A man of high character who sets before his boys an example of proper conduct will do more for his boys than a man of the highest culture will do."

MR. DICKINSON: I am quite interested in this discussion, because in my own State we are turning our attention more fully now than ever before, to the preparation of the teachers for their work. The statutes of our Commonwealth require that every teacher who enters the public schools shall have competent ability and good morals. The studies to be taught in the public schools are uniform in the cities, and the teach-

ers are expected to be examined in these branches. The examinations, according to the statute, are conducted by the school committees of the towns. They are the only authority known to the law having charge of the schools, their organization and management. But we feel that these gentlemen, although they are good men generally, and perhaps the very best that can be found in the towns where they reside, are not altogether fitted to examine the teachers who teach in our public schools. So there has been a great effort in the past few years to have the towns supplied with well-trained superintendents, who understand the work, who know something of the philosophy of teaching and the methods founded upon that philosophy, and to examine the teachers in reference to the subjects taught in the schools and in reference to teaching. The small towns of the Commonwealth are not able to provide themselves with superintendents. So in the past few years we have been making some arrangements to unite them, and, by aid from the State, to provide for them the desired advantages in this respect.

In the examination of the teachers, I think it is quite necessary that we should determine where these persons should receive their education. I feel that the teachers of our schools ought to have a professional training. There are some who graduate from high schools that make good teachers; but not as a whole. And so those who desire to enter upon the work of teaching should be encouraged to go to our normal schools and there prepare thoroughly for their work. The teacher himself, after all, under the direction of the authorities, will make the school what it is to be. So in the examination, these gentlemen do not depend altogether upon any verbal examination that may be made. Formerly, and it was true when I was examined to teach in a country town of Massachusetts, questions were asked with reference to the subjects to be taught. There was one favorite question always asked by the committee; it was, to bound Virginia. It was a stated question, and if you understand how difficult it is to bound this State you will see it requires a good deal of geographical knowledge to do it; and so I prepared myself carefully on the boundary of this State, but unfortunately the committee did not ask the question; but I remember the question he did ask; he asked me if I could understand the nature of a pupil by his looks; and I thought a good deal depended upon the answer, and I said I thought I could. He said I was just the man for the place he was going to send me; and that was all the question he asked me, and he gave me a certificate, and the certificate stated that "this certifies that we have examined the candidate in the branches required to be taught in the public schools, and we believe his moral character to be unexceptionable," and I entered upon the duties of a teacher. I found that before the close of the term I did need just such an examination. We do not depend upon such examinations now. The superintendents of our schools desire to see the teachers at their work and see the relation these persons hold to their pupils, what are the influ-

ences they are exerting over their pupils, and their method of teaching. Now, this can be determined perhaps in some degree by a verbal examination. If I were to depend upon a verbal examination, I would assume the method of teaching different branches, and would take pains to notice not only the answers themselves, but the kind of answers to be given by the teacher; and then I should want to know something of his professional training, and also of the character he sustains in the neighborhood where he was teaching. I think the utmost care should be taken by the school authorities in introducing teachers into the schools. Their minds must be of such a character that you will be willing to have the style of it impressed upon the children under their care. It is all-important, therefore, that the teacher who is to stand before the pupils to mould their character is just what we desire our pupils to become. And so we can not take too much pains in the selection of teachers. They must know what they are going to teach; they must be thorough scholars, and understand the relation their work holds to the discipline of the pupils that come under them; what a good course of study is; what faculties of the mind are to be trained; all these must be understood by the teacher before he is ready to enter upon the great work to which he is called.

I feel interested in this question, and it is an important one now in the country: By what means shall the teachers of the country be introduced to the schools they are to teach?

MR. SNYDER: The difficulty with us is largely on this line. We have our normal schools and our teachers graduate from them. We ascertained before we had been organized two days that the chief object of their coming to our school is to fix on a certain line of questions. We have to prepare these teachers on a certain line of questions. Let me illustrate: This question went the rounds last summer, "Why is the earth inclined 23½ degrees?" Why, ask the man who made it. Throughout our State we have a great many examining boards that are purely political. One county I have particularly in my mind, in Ohio, in which if the political complexion and the political relationship of the applicant be just right, he is going through for a certificate. There are no visitations made by the examiners; they do not understand the situation of the teachers; they do not understand the community to which these teachers go, and therefore do not comprehend what is fully required in an examination of their teachers.

DR. WHITE: As the Chair well knows, I begged to be excused from participating in this discussion, but being unsuccessful, I finally consented to have my name appear. I asked to be excused for the reason that, although I have been an examiner of teachers for years in different capacities, I know little about it. It is a problem in the administration of American schools that has not yet been satisfactorily solved, and one of those problems to which we must give very earnest attention in

the near future. The most I can do is to state, in a few sentences, several things that seem to me to be settled by experience.

In the first place, let me say that our examination systems greatly differ. In Pennsylvania the county superintendent is the examiner of teachers; and he is selected on the basis of being a practical teacher himself. He knows the teachers, and visits their schools, and has a stand-point for his examinations which the examiner in Ohio and several other States has not. This suggests one point on which we can all agree. The examiner should be himself an educator, a professional teacher, if you please. I think we have reached a point in this country when we can demand that the door to our profession shall be guarded by its membership, by those who know practically its needs, and that point carried will undoubtedly go very far to improve the character of our examinations, and to raise the standard of qualification required. I am very glad to see that Ohio, backward and conservative as it is in school legislation, has taken in the past year a step worthy of the highest commendation. It has provided that in cities of the first class, no person shall be appointed an examiner who has not had at least five years of successful experience as a teacher; that no person shall be an examiner of teachers who has not been himself a teacher. The whole profession ought to move in that direction by wise measures. We never can secure a proper standard of examination so long as persons who know nothing of teaching, who have little personal interest in school progress, are made examiners of teachers. There may be exceptions to the rule, but I think that the true position is that the examiner himself shall be an educator.

Another point: when the examiner is a superintendent, and can know the skill of teachers by personal inspection of their schools, the element of skill, of actual success, may be made one of the conditions of a certificate. But when this is not the case, I think it is wholly impracticable. As I view it, when the examining board is an independent body, the most that an examiner can test in his examination is knowledge. He can not test skill except as he sees it in the school-room. I believe that a great mistake has been made, throughout the West especially, and teachers have been very much misled by the assumption on the part of examiners that by a question they can test skill. A teacher may answer a question of method never so clearly, and utterly fail as a teacher. It is true that a knowledge of methods is a very important element in success, and this can be tested.

The first qualification of teachers to be tested by the examiner is knowledge, and his first duty is to test clearly the teacher's knowledge of the branches of study, his scholastic knowledge. And it seems to me that we have reached the time in this country when we may demand fair scholarship from our teachers. I know there may be exceptions, but as a rule we are not safe in putting a poor scholar into any school, and we ought to demand, and the time has come when it ought to be universally demanded, that the teacher shall be a scholar, clear, accurate,

and thorough as far as his scholarship extends. The saddest work done in our schools is the attempt of teachers to teach what they do not know. I stepped into a room a few months since to hear a teacher give a lesson on surface, and it was her purpose to distinguish between a plane and a curved surface. She had some idea of method, but her want of knowledge made that little lesson the saddest farce I ever saw in school instruction. A teacher may have tact, but if she be deficient in scholarship, she can not teach even the elements of knowledge accurately, and we need the very best of teaching right in our primary schools. So I insist upon it that the teacher's scholarship should be tested by the examiner, and also his mental ability and culture.

I come now to the second element of the examination. What can the examiner do to test professional qualifications? I repeat, that unless the examiner is an inspector of schools the most he can do is to test the teacher's knowledge of professional studies. We have now reached the point when we may demand that he who is to teach school shall know something of the guiding doctrines that underlie teaching—the essential principles of the art.

The next element that must be determined is character. I wish to emphasize this with the utmost strength of voice. It is not enough that the teacher be a scholar; it is not enough that the teacher have professional knowledge, or adequate skill in teaching; the examiner should satisfy himself that the applicant is a teacher of character. Now I do not mean one that is negatively good, free from habits that are wrong and injurious; not that alone. Negative goodness is well enough, but a teacher who seeks to be successful, should be one who loves purity, honor, beauty in human conduct and in human life; one who hates in the depth of his or her being that which is mean and low and destroying; and if I were to choose a teacher for my children, I would choose one whose life, influence, and spirit are all upward, instead of a teacher, though wonderfully learned and skillful in manipulation, whose influence is deadening morally; wouldn't you?

I think that we may leave skill to be worked out and tested in the schools, and those who employ teachers can best determine that matter, unless the employer is the examiner. Now, I am very favorably situated in that respect, wonderfully so, and almost, as I may say, grievously so. I am not only one of the examiners in Cincinnati, but as superintendent I have the appointment of teachers. But I can not depend upon the certificate in making an appointment. That is another matter. And so I think that we should make a clear distinction between what can be tested by examination and what can only be determined by actual experience, and if the examiner will determine in his examination the teacher's qualification on one side of that line, the other can wisely be left to be worked out by those in charge of the schools. I may add that the professional element in our teachers' examinations is sometimes made pretty much a farce by examiners. The questions asked test nothing. *The test of the* teacher's professional knowledge should be

an increasing one. As the teacher's experience increases, this professional test should be wider and more and more and more thorough. In re-examining experienced teachers, I would drop the scholastic part of the examination and make it purely a professional one. I hope teachers may soon reach a point when their future employment will not depend upon an examination, when they will have the evidence of their ability settled, and when they will not be harassed and humiliated by being subjected from year to year to these examinations.

I wish to add that Ohio has taken another good step; she has provided that when a teacher has taught successfully for three years, he may receive a five-year certificate, renewable *without examination*, provided he is teaching and is successful. I think we have great reason to be encouraged; and if we could work on these lines unitedly our profession would stand in a very different light from that in which it has stood in the past.

MR. MAXWELL: *Mr. President, Ladies, and Gentlemen*—I do not rise for the purpose of attempting to add anything to what has been so well said in this discussion; I rise simply because I want more information upon this very important subject from whoever may be in a position to impart said information. I believe that this question of examinations of teachers is the most important question that we, as superintendents, have to consider. I believe that the examination of teachers is the most important work that we, as superintendents, have to do. It is through this work that the character of the schools, the character of the teaching, is very largely determined. If the superintendent or examiner lacks in attending to this work, incompetent teachers will get in; those who are deficient in knowledge, those who are deficient in skill. Perhaps the only word of Dr. White's very admirable address to which I could take exception is, that the most the examiner can do in conducting an examination is to pass knowledge. I hold a slight modification of that doctrine, and that is, that the principal thing the examiner can do is to test knowledge and equally to test intellectual ability. We may argue thus: if a person has the mental ability to acquire a certain amount of knowledge in a given time, that person has the requisite amount of mental ability to perform the work of the teacher. It remains to be determined after the examination, to be determined by actual experiment before the class, whether that person has the acquired or natural skill to perform the work of the teacher. Now, admitting all that has been said of the importance of this work as to the necessity of making examinations strict, making them thorough tests, whether of knowledge or mental ability, I have felt in my own experience that the business of examination, particularly with regard to scholastic knowledge, may very easily be carried too far. I became superintendent of schools in Brooklyn about a year ago, and there found a system of examinations which I have been obliged to carry out. I *believe there is* such a thing as having examinations in public school

work of such a character and conducted in such a way as to bar out some of the noblest characters and best scholars in our country who would otherwise come into our schools. It is a pet theory with me that the public school and the university should be very closely connected. I shall offer the following resolution:

Resolved, That a committee of five be appointed to formulate the scholastic and professional attainments that should be required for admission to the positions of class teacher and of principal, and how far diplomas of graduation from high schools, normal schools, colleges, and universities should be taken in lieu of examination, and to report at the next meeting of this department.

I will not attempt to say anything in advocacy of this resolution, except that I believe that if we could have some doctrine formulated on this subject as the expression of the unanimous opinion of the superintendents of this country we would all feel the benefit of it in our whole work. This country is pre-eminently the country of local home-rule. Each county, city, and State has its own system of public education, all more or less alike, but differing in details. Very different it is in the educational countries of Europe, where there is a central board, or minister of public instruction, and where the work is done in the same way all over the country. I suppose every superintendent here has met with the same difficulty I have met with in trying to carry out any systematic plan of qualification for applicants for position—that of local political influence. That is something that every superintendent has to fight. Now I believe that if for no other reason than for the purpose of having something behind the local superintendent, having the voice of this great department behind him in his work, it would be well that we should formulate some definite doctrine. It may not be the best; but I should like to see some definite doctrine, however defective, formulated by this convention and spread before the country as the unanimous wish and opinion of the superintendents.

DR. WHITE: In my notes I had reference to the test of professional knowledge. The test of scholarship should test knowledge, power, and skill.

EXAMINATION FOR PROMOTION IN THE PUBLIC SCHOOLS.

BY WILLIAM DEWITT HYDE,
President of Bowdoin College.

This is a question on which there is abundant evidence at hand, and on which, although the doctors disagree, the arguments on all sides have been ably and exhaustively presented.

In favor of examinations it is urged that they afford a stimulus to the pupil, making study definite, systematic, and sustained; that they are a guide to the teacher, making instruction responsible and efficient; that they are a guarantee to the superintendent of faithfulness on the

part of both pupil and teacher, and that they render grading impartial and uniform.

Against examinations it is urged that they foster in the pupils nervousness and disease; intermittent strain rather than steady advance; superficial and hurried cramming, rather than substantial and permanent progress; the cultivation of a particular kind of smartness, rather than a firm and thorough grasp of knowledge; that they beget in those who are gifted by nature with an abnormal preponderance of portative memory a shallow vanity in its possession; and that they give over to discouragement and disgust those in whom nature has so mixed the intellectual elements as to render them good for something besides the passing of examinations. It is urged that they rob teachers of originality and independence, that they strip instruction of all spontaneity and inspiration, inducing in their place uniformity, constraint, routine, servility, and deadness. And finally, it is claimed that in so far as superintendents rely upon examinations for their estimate of the work of pupils and teachers they are sure to be misinformed; that their grading will be one-sided and unfair; that the precocious adepts at verbal memorizing will be pushed ahead so fast that they never will master anything, and that the slow substantial plodders, who take time and pains to assimilate what they learn, will be compelled to go over the same ground so often that they will be discouraged and drop out before the course is finished.

This sharp division of opinion is expressed in a great diversity of practice. Some superintendents insist on examinations for promotion, attach much weight to them, and say that they work well. Others have discarded examinations altogether, and say that they are better off without them. Others regard them as a necessary evil and retain them as a matter of form, but base promotion almost entirely upon reports of teachers as to the age, character, capacity, and proficiency of their pupils. Others employ examinations as a convenient penalty to inflict on the stupid and negligent pupils of a class, and hold up immunity from this dreadful evil of examination as a reward to the bright and studious.

Such is the sharp division of opinion and the wide diversity of practice on this subject.

I find myself in agreement with every argument advanced on both sides; and yet neither one of the four practical solutions of the question seems to me satisfactory.

On the one hand a graded school system is an impossibility, a contradiction in terms, unless there is included in it some thorough, broad, systematic means of ascertaining the proficiency of the pupils. On the other hand examinations, as they have been conducted in many of our schools, have been prolific of injury to the physical, mental, and moral natures of pupils and teachers alike.

Not the continuation of examinations as they have been; not the aban-

donment of them altogether; not a half-way compromise between such examinations and none at all; but a more reasonable and just system of examination is the true solution of the problem.

The subject of examination has not received the thought and attention which it deserves. The existing methods of examination are altogether behind the times. We have been making rapid progress in instruction. The old theory of instruction, which made it consist chiefly in stuffing the pupil's mind with a lot of isolated facts, which were to be kept stowed away in the pigeon-holes of memory, is exploded, and the practice which was based on that theory has been abandoned by all good teachers. The teacher of to-day aims not chiefly to cram the memory with a load of particular verbal propositions, but rather to develop the powers, organize the faculties, and awaken interest; to couple fact with principle; to see the particular proposition in the light of its universal relations; and to grasp and retain facts under the form of laws which include them, and in connection with processes which embody the practical workings of law and fact combined. Not bare possession but power to use; not naked apprehension and arbitrary retention, but rational comprehension and vital assimilation are the chief ends at which our best teachers aim to-day.

While instruction has been moving rapidly forward under the impulse of psychology and pedagogics, examination has been standing comparatively still. We have been testing new methods by old standards. Is it then surprising that we hear from many quarters complaints like this, "The best teachers do not obtain the highest per cents. from their pupils?" Of course they do not, any more than new wine confined in old wine-skins produces the highest per cent. of well-preserved wine. New methods require new tests. Instruction which aimed chiefly at filling the memory with isolated facts rightly enough was tested by an examination which aimed to call out on a given occasion specimens of all the particular propositions that had been stowed away within the previous month or term or year. But to test the work of a well-taught pupil in a modern school by such an examination is as absurd as testing a locomotive on a turnpike. Such an examination is an imposition upon the mind of the pupil, and an insult to the intelligence of the teachers; an injustice against which every wise parent ought to protest; a nuisance of which every superintendent ought to rid his schools at once. If examination for promotion means of necessity a single set of questions, at the close of a period of study, covering minutely all the details included within that period, then let us by all means do away with this relic of educational superstition and pedagogical barbarism, and leave our pupils to a "go-as-you-please" course through the public schools until maturity or the necessity of earning a living compels them to withdraw.

Before consenting to such an entire abandonment of system as this involves, let us consider what examination is; what it is for. Let us see if there is not a more rational method of examination which will ac-

complish the desired ends, and at the same time avoid the evils that have so generally accompanied them.

An examination is simply an exhibition of what the pupil has learned. Its aim is to show how far the pupil has profited by his study and instruction, and how much practical good he has gained from them.

Now a pupil may get hold of what he learns in a variety of ways. The good he derives from study may be of various kinds. There are at least three distinct forms in which he may possess that which he has learned; apprehension, application, and comprehension.

The first, apprehension, simply lays hold of the lessons as presented by book or teacher, and carries them in that precise form in the memory. The second, application, consists in the power to use what has been learned, in forming new combinations, solving new problems, and dealing with new cases. The third, comprehension, grasps the meaning of the subject as a whole, distinguishes the main features from the subordinate details, and sees the subject in its broad relations to other domains of truth and life.

Since knowledge may take these three distinct forms, examination, which is to exhibit broadly and fairly the pupil's attainments, should call for the display of knowledge in each of these three forms. The methods of conducting such a threefold examination will vary with different subjects of study and modes of teaching. Not as a model of what all systems of examination ought to be, but as a specimen of what in some cases examination might be, the following outline is suggested.

The three kinds of examination, testing apprehension, power to make application, and comprehension, should be distinct in method and separate in time.

The first kind of examination, testing apprehension of the precise details of the particular lessons, should be very frequent. It may be either oral or written. It may take the form of a weekly review or of a daily review at the beginning of the regular recitation. The period covered by this examination or review should be brief; not extending over more than the work of the previous week. These daily reviews or frequent examinations serve a double purpose. They are an indispensable aid to teaching. As a recent writer has said, "nine-tenths of all we remember in life is very much more due to conscious or unconscious reconsideration than to any primary vigorous mastery of it." Of course every teacher begins his lesson with at least a few hasty questions on the lesson of the day before. But in the mind of both pupil and teacher this review is apt to be regarded as a secondary matter. By making this review a separate thing, and by making the results of these reviews an element in promotion, several important advantages are secured at once. The pupil feels free to display ignorance and difficulty on the advance lesson, and will ask questions; this gives the teacher a chance to teach the lesson to the best advantage. It gives each pupil a chance to have the benefit of the teacher's instruction and explanation on difficult

points, before he is held finally responsible for knowing them. It compels the pupil to go over each lesson three or four times, and gives the teacher an opportunity to bring out three or four times the prominent features of each lesson.

These results, tabulated and accompanied by the teacher's comments as to the age, character, capacity, temperament, health, and proficiency of the pupil, afford the superintendent one very important element in the problem of promotion. He knows by this the pupil's fidelity to regular daily duty. He is sure that the pupil who stands well in these reviews, not for one day or one hour only but for three or four days, has had in his memory at least the contents of his daily lessons, and since the period covered has been in each case brief, this has been accomplished without requiring the pupil to carry at any one time an excessive load of memorized details.

The second kind of examination is to test the pupil's power to make practical application of what he knows. The pupil should be required to hand in the results of work assigned by the teacher in connection with his studies. The pupil should be allowed all the time he needs to do this work, and should be taught never to hand in any work until it represents the very best that he can do. The kind of work will vary with different subjects. In manual training, of course, the actual things made by the pupil constitute his answers to this kind of examination. Problems in arithmetic and algebra, the demonstration of original propositions in geometry, the writing out in the pupil's own language of a story told by the teacher, in grammar and rhetoric, a record of experiments witnessed or performed in physics and chemistry, the analysis of flowers in botany, maps in geography, summaries or narratives following a different thread or order from that of the book in history, translations in language, are appropriate subjects for such collateral examination work.

This kind of examination also has a great educational value. It teaches the pupil to turn his knowledge to account. It trains him in neatness, accuracy, and method. It enables him to test himself as he goes along. It gives the teacher an insight into the strength and weakness of the pupil, and affords an objective point toward which supplementary reading and instruction can be directed.

Furthermore, this test is more nearly like the test of actual life. We seldom in real life have catch-questions sprung upon us. We know what is expected of us beforehand, we have time to think it over, to consult our books, to make a few rough experiments, and then if we fail it is solely because we do not know how to do the thing. Now, this second type of examination, giving the pupil, as it does, all the legitimate helps he can get and all the time he wants, and with nothing to fret or worry him, tests him precisely as the world will test him after he leaves school. Hence it is at once a most valuable feature of education and a most effective test. The only objection to it is that it gives an opportunity for

cheating. Well, so does the actual world for that matter. But cheating, whether in the world or in school, is in the long run unprofitable and easily detected. An observing teacher can easily detect work which is above the level of the pupil's own powers; and the school, by trusting its pupils to be fair and honest, and at the same time exposing and punishing dishonesty and unfairness when it is detected, can introduce a moral discipline of great value in connection with this kind of examination. And even if the work is to some extent done dishonestly it can not all be done unfairly; and even the neat and orderly and intelligent copying of work has some educational value, even if it has no value as a test and less than none from a moral stand-point. Notwithstanding this single objection, such collateral and original work, representing the best the pupil can do with plenty of time and plenty of books, in the same freedom and responsibility as he will have in later life, may fairly enter as the second of the three elements determining his promotion.

The third kind of examination should come at the end of the course. This final examination should aim to test solely the pupil's comprehension of the subject; his appreciation of its main features and more important bearings. The questions should be set by the teacher, or by the superintendent with the advice and consent of the teacher, and with special reference to the points emphasized by the teacher in the final review. These questions should never go into the details of particular lessons. They should be confined strictly to those prominent features of the subject which have been so reviewed, reiterated, and dwelt upon that every pupil who has paid attention and taken an interest in the subject will be perfectly familiar with them. The questions on the final examination should be based on the review as conducted by the teacher, not on the text-book. The questions should be suggestive to the thought rather than reminders to the memory. The pupils should be told plainly and repeatedly that this final examination will be such that no amount of cramming of the text-book will help them to pass it; that all that will be necessary is a clear understanding of those main topics which have been dwelt on in the class during the final review. Such an examination will be as easy as play to those scholars who have been attentive, interested, and thoughtful. It will be blind as Egyptian hieroglyphics to those who have been listless and indifferent. It will be impossible for any one to pass it who has learned the book by rote, and done nothing more.

This examination, too, has a great educational value. It furnishes an objective point toward which the oral instruction of the teacher may be directed in the last few weeks of the term which are devoted to comprehensive review. It will help to fix in the mind those leading features of the subject which such a review, as conducted by a good teacher, seems to bring out. It cultivates in the pupil the habit of thinking about his studies, and accustoms him to see the meaning of what he *learns.*

The results of this examination may rightly enter as a third element in determining a pupil's promotion.

Now, putting the results of these three kinds of examination together we know all that we need to know respecting a pupil's attainments in his studies and his fitness for promotion. We know, with respect to each pupil, how well he has learned his daily lessons; we know how intelligently, neatly, and effectively he can put in practice what he has learned, and we know how firm a grasp he has on the broad outlines of the subject as a whole. We have secured these ends without worry or fret on the part of the pupil; without subjecting our teachers to distrust or constraint, and without the bother of any nice mathematical calculation on the part of the examiner or superintendent. We have given each type of mind among our pupils a fair chance to do his best on his own lines. The memorizer has had his opportunity in the frequent reviews. The careful, plodding, painstaking pupil has had his chance to take all the time he needed to do his best on the work to be handed in; and the pupil of quick, keen, intuitive perceptions has had his turn in the final examination. Every pupil who is fitted for promotion on any ground whatever has had a fair chance to make his fitness manifest. And more than that, our examinations have in every case been important instruments in furthering the acquisition of accurate, available, and significant knowledge, as well as tests of its possession. Such a system of examination meets every requirement for the sake of which examinations are advocated, and avoids every evil on account of which they are opposed. At the same time, by making the final examination only one of three determining considerations, it accomplishes the end aimed at by those who do not lay much stress on the final examination; and by making this final examination of such a broad and general nature that it will be easy as play for the faithful, and difficult for none except the listless and inattentive, it attains the end of those who examine one portion of a class and exempt the other.

Such a system of examination gives the pupil definiteness and stimulus in study, with no temptation to cram and no occasion to worry. It gives the teacher freedom in the methods, and enforces responsibility for the results of his teaching. It enables the superintendent to know and appreciate every kind of excellence in his teachers, and to judge them by a broad and just standard, and to know and appreciate every kind of capacity and attainment in the pupils, and to grade and promote them on the basis of a fair and comprehensive exhibition of proficiency and power.

It insures an education which is neither so loose as to be desultory and demoralizing, nor so mechanical as to fall into narrow routine and dead uniformity; an education which thoroughly masters details, while it does not overload the memory with unwieldy burdens of disconnected facts; an education which puts its knowledge into practice, and yet

does not allow principles to be forgotten; an education which is broad and comprehensive, without becoming vague and superficial.

In a word, examination thus conducted is a system. It recognizes that there are more types of mind than one, and that knowledge has manifold processes, as apprehension, application, and comprehension. It gives to each type of mind and to each process of knowledge scope and recognition, and at the same time holds them all in due subordination to the great governing aim of education, which is to develop in symmetry and harmony the minds of all its pupils.

EXAMINATIONS FOR PROMOTION.

By William M. Giffin,

Newark, N. J.

Mr. President, Ladies, and Gentlemen: This is a timely subject, one that has been far too long neglected. I desire, independently of anything that has been or may be said on the question, to offer a few earnest protests. Let me add, however, as an introduction, that I am in full sympathy with the following thoughts which must have been written by a practical teacher, inasmuch as they show a perfect familiarity with the subject, and the opinions are expressed as only a man of experience can express himself. They are as follows:

Examinations, as ordinarily conducted, do not give the results of good teaching, because they are based upon the supposition that knowledge is everything. A cross, selfish, and even brutal teacher may make good text-book scholars.

They may know a wonderful number of facts in history and geography, they may be quick in mathematical calculations, and excellent in the languages, and yet with all this they may send their pupils out into the world fit only to become Wall street sharpers, boodle, vicious, and tricky politicians. But are these things the measure of their success? By no means. Just such men pulled Rome down, and just such men will cause the ruin of our country should it fall. The imparting of knowledge is of minor importance. We are running wild over strength of body and mind, and neglecting the culture of the soul.

There are some who will say that all this is "nonsense," "preaching," and all that. It is not nonsense, and if it is preaching, the more of it the better. We want some earthquake that will shake a few of these fundamental truths into the inner consciousness of thousands of teachers who are wild over facts. They are everlastingly asking, "Who?" "What?" "When?" "How?"

This is the beginning, middle, and end of all their teaching. If they find a pupil who can tell the name of Queen Victoria's great-grandmother, or conjugate the Greek irregular verbs, and give Cicero's idiomatic ex-

pressions, they at once pronounce him "excellent." Special results stand at the end of all their ideas of school work.

Taking this, then, as a text, I protest (1) against any of the powers that be, so arranging their course of studies, and so conducting their examinations, and so judging their teachers as to make them (the teachers) feel that not only their salaries and their positions, but almost their "everlasting salvation," depend upon just such teaching as above described. How absurd to judge of the competency of the teacher by the results she may obtain from term or annual examinations, thus causing her to become a machine for cramming, pouring into, and stuffing the minds of her pupils with words, words, words, in order that she may prepare them for the annual farce, causing her to give as much time to the G. C. D. and the L. C. M., and that other father of frauds, alligation (because, you know, they *may* be in the examination), as she gives to the common sense practical principles of arithmetic.

It also tempts her to compel her pupils to con by rote the chronological tables in history so that they may be up in all the dates, thus making the settlement of New Hampshire or the battle of the "Kegs" of as much importance as the discovery of America or the Declaration of Independence; and hence instead of awakening a love for history in the minds of the pupils, causing them to acquire a life-lasting dislike for one of the grandest studies in the curricula of our public schools.

(2) I protest against the unkind, unjust, and arbitrary regulation in too common use, which says that a child cannot be promoted who obtains less than sixty-five per cent. in any one study.

I am willing to have any amount of patience with a child who knows four of five studies so well as to be able to obtain an average of seventy-five per cent. when getting absolutely nothing in the fifth study. Heaven only knows where we would have been to-day had we, when at school, been obliged to obtain sixty-five per cent. in our spelling examination.

We were filled with admiration for Sir Isaac Newton; we admired Benjamin Franklin; we appreciated the plays of Shakespeare; the force of Webster; the statesmanship of Hamilton, and the generalship of Washington; but these did not awaken our indescribable wonder, our unbounded amazement, as did the performances of Mr. Philips, of Hoosier schoolmaster fame. It was 'way beyond our comprehension how any man, woman, or child under the starry-decked heaven could roll out letter after letter which, combined in regular or irregular, wise or otherwise order, make up the words of our English language.

And yet such ability *was* or *is* no more an evidence of brains than the horns of a snail are an evidence of rapid transit.

I have a dear friend, who towers head and shoulders above me intellectually, who can write page after page of manuscript without so much as *thinking* of consulting the dictionary. He is also well up in historical information; he can, at almost a moment's warning, give wings to his imagination and fly off into space, filling page after page with beautiful

word pictures. Yet, even to this day, let him be soaring ever so high heavenward, I can bring him down to earth more quickly than Darius Green ever thought of coming, by simply putting the following question to him: "John is thirty-six years old, and one-fourth of his age is three-ninths of William's; how old is William?" Not only will it bring him down to earth, but unless instant relief is given there are alarming symptoms of a congestive chill. Oftentimes have I been riding in the horse-car with him, when, seeing a dime in his hand, I have taken it, placed a nickel there, and when the conductor came in I paid both fares; he in the mean time looking at me in a dazed sort of way, says, "Well, I suppose that is all right, but I'll be hanged if I understand it."

Many of the brightest lights ever known could not have been promoted under such a system; *e. g.*, John Locke, who could write a masterly work on the understanding, but who, it is said, did not and could not master the multiplication table.

(3) I protest most emphatically against the too common practice of measuring the child's brain by the answers he may give to a set of pet questions proposed by a disinterested, fully-matured, non-professional committeeman who has no more knowledge of the principles of teaching than has a frog of the tonic sol-fa system of singing, and who is just about as successful as an examiner as is the frog as a songster.

(4) I protest against the idea that a pupil may spend the whole year in acts of pure cussedness, idling away his time day after day, using up more of the teacher's nerve force than any other half-dozen pupils, and finally receive a promotion to a higher grade because he sat up until the "wee small hours" during the last month of the school year learning the words of his text-book by heart, and on the examination day gave three-fourths of his answers to the above-mentioned pet questions correctly, and who, notwithstanding his wordy description, *e. g.*, of the battle of Gettysburg, could not tell whether it were fought in Pennsylvania or the Fiji Islands were he given all the glittering gold of California and the sparkling diamonds of Brazil for doing so.

Do not conclude from these remarks that I have no sympathy for the unruly element in our public schools.

I had occasion not long ago to express my views on the subject under the following circumstances: I enter a class-room from which a class has just been excused and there find the young teacher with a pale, care-worn face. I ask why she looks so care-worn. She tells me she feels down-hearted and discouraged, in short, like giving up entirely. "Why?" I ask. "Well," she answers, "Johnnie Blank is so bad; I do not see any improvement in him; I fear I shall never reach him. Why not suspend him? I could do so much better were he out of the class." "Let me see," I reply; "how long have you had the class?" "Eight days." "Indeed, so long! What is expected from your class in language this term?" (The work as laid down in the manual is here explained by the teacher.) "Has Johnnie mastered the term's

language yet?" "Why, no, indeed! How could he?" "What is expected of you in arithmetic?" "Subtraction and multiplication." "And can Johnnie work all problems or examples in these two rules?" "Why, no; this is only the second week, and we are not expected to finish these subjects till the last of the term." "Has Johnnie had any influence brought to bear on him that will make it difficult to master either one of these subjects?" "I think not; how could he?" "Which is harder to build, subtraction tables or character?" "Character, no doubt." "And yet you thought it strange that I should expect the subtraction tables in two weeks, when you are looking for the character in eight days." A change begins to come over her face; I continue: "By whom are our schools supported?" "By the people," she answers. "Why do the people support them, some of whom have no children?" "That all may receive an education," she answers. "And why do they desire that all should receive an education?" Her answer is, "That all should become better and more useful citizens." "Is there any danger of the good element in our schools becoming bad citizens?" She replies, "As a rule, no." "Is there any danger of the bad element becoming bad citizens?" "Yes," she says, "there is danger." "Then," I ask, "how can you best serve the State, by teaching the good boys the subtraction tables or by teaching the bad boys kindness, love, sympathy, and a due respect for the rights of others?" "Certainly the latter," she answers. "Then, will it not be better to keep Johnnie in the class, so that while you are teaching Henry the 'Good' his subtraction tables you may also be building up the character of Johnnie the 'Bad,' who will soon master the tables when once made to have a liking for better things?"

I am rewarded by seeing the face that but a few moments before was the picture of despondence now covered with smiles of hope and joy, and I say to myself when alone, "Surely the time spent in studying such a work is far from being wasted."

Hence, you see, I am in full sympathy with the bad boy, on the other hand. I have in mind at this moment four pupils who were as faithful workers as any I have ever had, and, morally speaking, were beyond reproach. One of them, a perfect little lady in every respect, was obliged to pass through a saloon every time she came to and from school, as there was no other way of reaching her home. These children worked faithfully every day; gave undivided attention, and, one of them particularly, asked more common-sense questions than any of her classmates. They were not all members of the school at the same time, and hence were at different times candidates for admission to the high school. They each failed, one of them lacking something like four-tenths of one per cent. of receiving the required seventy-five per cent. average. Another lacked two-tenths of one per cent., another eight-tenths of one per cent., and I now recall still another who lacked but eight one-hundredths of one per cent.

None of these children were admitted to the high school, since they did not obtain the seventy-five per cent. average at the annual examination.

(5) Then, I protest with all the force that within me lies, against the practice of not promoting a conscientious, hard-working, faithful pupil, who, because of, perhaps, a little indigestion, over-anxiety, or sleepless night, caused by over-excitement brought on in anticipation of the forthcoming test, may lack a few tenths of one per cent. of answering correctly the ten pet questions, which, *if* answered correctly, give no idea of the real power and skill of the mind of the answerer.

I can give you a chapter here from real life, illustrating my meaning. A few years ago a young lady was transferred from one school to another. In the past everything had depended on her class average. A few weeks before the term examinations began she became pale, nervous, and irritable; her new principal noticing this, asked her the cause, when she expressed surprise at his having noticed anything unusual in her conduct.

She then frankly acknowledged that the forthcoming examination was worrying her greatly. She said that this being her first examination in this school, she was particularly anxious to have a high class average. The principal smiled and replied, "Should your class happen to have a low average, I presume you will have been a failure." "Yes," she answered, "I presume I shall have been." Her trembling voice and downcast eye spoke louder than her words.

The principal then said, "My dear child, go on with your work, and if you do as well in the future as you have been doing in the past, I shall be perfectly satisfied with your results, and shall not care whether your class average is forty or twice forty per cent. By the way, do you know you might have a class average of ninety per cent. and be a failure, while on the other hand the average might be forty per cent. and you be a perfect success?" "Why no!" she replied, "how can that be possible?" "I'll show you," said the principal, turning to the class of little second-year pupils; "Children," said he, "I'm going to teach you a new lesson to-day. You may repeat after me, 'Geography is a description of the earth's surface.' Say it again. Again. Once more. Now, who can tell me what is geography? Willie may tell me. May, tell me. Class, tell me. Johnny may tell."

"There," said he, turning to the teacher, "they know that, don't they?" "Yes, there's no doubt they do." "Then if I were to give them an examination, and the first question was, 'What is geography?' you would admit that it was a fair question?" "Yes, certainly." "Very well. 'Children, an island is a body of land surrounded by water.'" This was repeated and recited as before. "Now," said the principal, "the second question will be fair if asked as follows: 'What is an island?'" "Yes, perfectly fair." "And if the children answered as they have answered me now, you would give them perfect marks?" "I

certainly should." "Very well, I shall now prove to you that they know absolutely nothing about the subject." He then began questioning them as to how many had ever seen a geography. Up went their hands. When asked about how it looked, they answered "A description of the earth's surface." The question was then put, "What is a geography itself?" The definition was again repeated. When asked how large they thought a geography was, one thought it was as large as his fist, another as large as the desk, still another thought it was as large as the blackboard, when at that moment a little fellow in the back part of the room with the most intense earnestness pictured on his face, raised his hand and exclaimed, "Oh! I know, sir; I know! I know!" "Well, my boy, what is it?" "It's a great, big, live nanny-goat."

There was not a smile upon his face, nor did any members of the class laugh, evidently thinking his answer was right. The little fellow, no doubt, had some time heard that goats were a destruction to the earth, hence his error.

Think of a child being promoted after such a test, with perhaps an average of 75.1 per cent., while the conscientious child who works faithfully during the year is left behind as he receives but 74.9 per cent.

Such a system simply impresses upon the minds of the pupils that it is not our daily life that is of importance, but that all is to be summed up at the eleventh hour, when it will be determined, regardless of our every day record, whether we are to be rewarded or punished. Is it at all surprising that hundreds and thousands of our young men learn to take the chances when they come in contact with the world, inasmuch as their whole education has tended to impress them that such is life? God be praised that He has allowed us to live to see the day when such a system has been forever banished from our beloved city. And, oh, what a change in the atmosphere of our schools. We now teach things, not words. Instead of one text-book in history, we are using all we can find, besides reference books. Some that have been on our shelves unused for years are becoming so worn as to necessitate the purchase of new ones to take their place. I may as well stop right here, as there are so many grand improvements, "The which, if they should be written every one, I suppose that even the world itself could not contain the books that should be written."

(6) I protest against the ridiculous farce of subjecting the first-year pupils to any formal or official test taken from text-books in order to ascertain who shall or shall not be promoted, or to find out the competency of the teacher.

By so doing there is impressed upon the minds of the young teachers, who generally have charge of these pupils, that the first and only thing for them to do is to give the children a certain amount of book knowledge.

Had we the examining of these little folks we should find out the ability of the teacher and the progress of the pupils by such questions as these:

"How do you like your school?" "When should you start for school?" "How should you fix your hands and face before starting?" "What should you do to your shoes?" "What just before coming into school?" "Let me see you take your slates out," "Clean your slates," "Show me how you hold your pencils when you write," "Put away your slates," "Tell me some nice little verse you have learned," "What is a tooth-brush?" "When should it be used?" "You may get ready for an in-door recess," "Take your recess," "Attention," "Stand," "Sit down," "Stand, and pass to your line," "Pass to the yard," "Place your slate on the teacher's desk, each one in turn," "What is the first thing your teacher says to you in the morning?" These are a few of the many things I would ask the first-year pupils, in order to test the competency of the teacher and the progress of the children, rather than the following: "How many bones in the human body?" "What is a scalene triangle?" What in the room may be said to be semi-transparent?" "Write by the Arabic notation 16998," "Express the same by the Roman method," "In which hemisphere do you live?" "What is language proper?" etc.

There are thousands of children in our country this very day who have no idea of the true value of an education. Their idea of it is to get a per cent. in an examination. "What are you studying for, children?" asked a certain examiner in one of our largest cities a few days ago, when with one voice the class shouted, "*Marks!*"

If given their choice in knowing much and ranking low in their class, or knowing little and ranking high, they would unhesitatingly choose the latter. We know of a young lady who not many years ago had an average of ninety-nine per cent. in five studies and nearly went into hysterics because she did not get one hundred per cent.

What was the trouble here? She longed to outrank somebody. She wanted to say she stood higher than somebody else did. We know many, very many others who did not care whether they knew a subject or not, if, by any hook or crook, they could answer a sufficient number of the questions to obtain the seventy-five per cent. which entitled them to promotion. The only incentive these children ever had was, "If you don't study you won't pass." The forthcoming examination was the first, last, and only thing used to incite them to effort, and this was used from the beginning of September till the last of June.

Oh, the lying, copying, cuff-defacing that has been done at these annual, to-decide-all, farcical, examinations.

My pen is too feeble, my vocabulary too limited, my patience too weak, my abhorrence too great, to undertake a description of them.

And now in conclusion let me ask you not to misjudge me. Do not think me so swinish, so long-eared, so narrow-gauged, so old-fogyish, as to do away with the all-important element in teaching knowledge and increasing mental power, viz, the drill and testing exercises. I should use them every day of my life, since such exercises, as Dr. White

says, "arouse interest, increase attention, and add an increased energy and persistent mental action." Nor would I underrate the value of the written examination when "supplementing it with the current work of the school, and used in the same spirit, and with equal common sense as the oral test," for when thus used "the written test is a most valuable means of school training."

DISCUSSION.

MR. LITTLEFIELD: *Mr. President and Fellow Superintendents*—I can add little to what has been so well said in this discussion and nothing to the substance of what I have said upon the subject of examinations elsewhere, possibly in the hearing of some present. If, however, one may assume that his remarks are remembered, he may further flatter himself, with the Autocrat of the Breakfast Table, that his thoughts are for repeated use, like a carpenter's tools, and not like so many postage stamps, each to be only once uttered.

Examinations are a conspicuous feature in modern school methods. At their best they are a process of teaching as well as of testing. The recitation, like the merchant's petty cash account, must be balanced daily; the examination, like his trial balance, covers a longer period; both are necessary to good book-keeping. Reviews are considered indispensable in some form; judicious examinations are reviews, pure and simple, with an extraordinary power added to compel attention. Useful as are the innumerable helps for teachers, in their proper place, there is still very little room in school hours for ready-made instruction. The clothing for each child's mind must be fitted to order; recitations are the process of measuring, cutting, and making—examinations that of trying on to wear. The best teachers are least confined to routine methods; and, if left free, are able to use the very odd individualities of their pupils as avenues for instruction. In teaching, as in other affairs, results must constitute the chief criterion of success. Examination day, with its conclusive measure of results, corresponds to the dividend day of a corporation, to the harvest home upon the farm. It is not a sufficient test of a good teacher to find him using good methods from time to time; it is not fair to judge a pupil by the brilliant or the dull acquittal he may make of himself in recitation upon the spur of the moment; both ought to be judged also by the staying quality of the instruction imparted. Scholars must be trained to grasp and hold, not only the lessons of the day, but the whole subject analytically, covering the study of months. Recitations cultivate critical power in matters of detail; examinations the power to generalize with breadth of view. The former must be daily to prove constant study, the latter infrequent in order to give time for the assimilation of whole subjects, both being kept subordinate to the instruction as aids and measures, not as ends in themselves.

There are as many kinds of examination, good and bad, as there are methods of teaching. The unreasoning hostility, therefore, in certain minds, to examinations in general, aiming as it does to make the very term odious, suggests the lawless scene in Julius Cæsar where the mob tear the innocent Cinna to pieces because "his name's Cinna." Evidently a defender of examinations should be privileged to specify the chief characteristics of the instruction he would consider worth examining, as well as of the discipline to be maintained in the schools to be examined. The more teachers are occupied with labored compromises upon misconduct, the less time they will have for the term's work of instruction. Examinations are distasteful chiefly to ill-disciplined schools, and they are worthless as an exponent in such schools, for they can not be taken in disorder.

Another preliminary question, interesting to the friend of examinations, concerns the moral atmosphere in which they are to be taken. Examinations originate largely in the purpose to introduce into school life searching experiences, like those of manhood, which test the whole moral and mental fabric of character. Absolute fairness on the part of an examiner in all matters connected with the examination, the method of conducting them, the marking of the answers and the explanation of the marks, entire self-reliance on the part of the pupil, and perfect honesty on the part of both, are essential conditions without which examinations may become harmful, if not positively immoral.

Satirical critics seek to depreciate examinations by asking you to fix, if you can, a percentage upon the religious devotion, the business fidelity, or the various moral qualities of your various neighbors, as if that were not just what happens in every testing experience of real life. A moral estimate, an examination mark, is being placed upon every human being, with approximate accuracy, by those who know him on earth, and with perfect accuracy, as we are taught, by the recording angel. So that it is not only true that examinations involve the question of good morals, but that among the young even more than among the old the subject of morals and manners is always set for examination, and with this added emphasis, that nowhere may human character be so thoroughly analyzed and so readily moulded true as in the school-room, in the presence of a noble teacher, where it is "wax to receive and marble to retain."

The methods of teaching employed in the schools to be examined must largely determine the character and the usefulness of the examinations given. Text-books are aids only. It is the subject that must be taught. Printed questions assist the pupil to learn his lesson, but the teacher should ask his own, without a book. A few definitions and concise rules should be learned verbatim, but not the ordinary paragraphs of the text. Empty rote forms of recitation will disappear if the pupils be trained to consult reference books by indexes, cyclopædias, dictionaries, magazines, and supplementary text-books, wherein they *may find* everything they have to learn stated in several different ways

and may thus be compelled to choose their own language. If a text-book says "New Hampshire, from its high mountains, is often called the Switzerland of America," let the comparison be fully explained. The words "from its strength" should never have been accepted, as I once heard them, in full answer to the question, "Why was Louisburg called the Gibraltar of America?" The geography lessons will accomplish the highest purpose by awakening in the minds of the pupils a desire for more information than any single text-book can give concerning the manners, customs, and resources of a people, thus leading to the preparation of lessons out of such works as the Conquest of Mexico, Miss Woolson's Southern Sketches, Travels in Central Africa, etc. Geography may be made as fascinating as are the zigzag tales of travel that should accompany it into every land.

Reading, with its necessary adjunct of physical training, is the most important branch of school instruction, considering that the good reader is good at everything. Teachers and pupils ought to become imbued with the enthusiasm of the college gymnasium. And, yet, reading is the most neglected branch of instruction, owing to the fact that generally it is not examined and marked as it should be.

Penmanship in many schools is not examined, and hence is in an extremely ungraded condition, as every subject must be which is not regularly criticised. Scholars will resolve to command the pen only when they see the teacher sit at a conspicuous desk and do with a pen the very things they are called upon to do.

In arithmetic the aim must be to dwell upon the simple essentials, with much analysis of concrete examples, for the sake also of the language and the logic. The four fundamentals must be made familiar during the three primary years. Fractions of things, as well as mere expressions of fractions, must be dealt with daily, the little odds and ends being never disregarded. In teaching money matters, let the pupils make out bills for goods bought and sold near by, let them make change with toy or real money, let them reckon the actual taxes that are assessed at the City Hall. Let them handle the pound, the peck, the yard-stick, the right angle, and the cubic inch, as well as living notes, checks, and, if possible, government bonds, loaned for the purpose. Simple accuracy is the highest goal in numbers. Let it be understood that a miss is as bad as a mile; that it is of no practical value to get common problems pretty near right.

All such subjects as arithmetic must be taught with the aid of vivid illustration and, if possible, with the aid of visible objects. True, the crime of illustrating a simple subject to death is sometimes committed by teachers, or by speakers who have been teachers, but the power to call up an ingenious example still remains an unfailing exponent of the good teacher.

One of the chief benefits that will accrue from manual training when soon that branch shall be engrafted upon the curriculum, will result from the *closer union* that will be established between things and

words, from the physics of wood and iron, from the chemistry of cooking, from the physiology of work. Every day the schools widen their swath of practical knowledge. Here, a school will be found assorting and naming specimens of the wild flowers gathered in the vicinity, to speak from my own experience; there, another school absorbed for an hour in the study of a well-filled cabinet of woods and minerals; and there, another school closely watching the development of a fine collection of cocoons, to observe the first emergence of the insect; and there another, scanning with microscope a selected portion of meat structure in order the better to understand the facts of physiology. Many a good teacher has evidently heard the grand injunction: "Let mother Nature come into your school-room and be your assistant. She is not too proud to do so. She will help you if you will let her."

The study of English is profiting most by the reforming methods. The actual use of language now occupies attention, and simple rhetoric, without its hard names, becomes familiar in the common schools. Technical syntax may be made as absorbing as a game even to the boy who hates grammar. Ask him by way of introduction to the subject to analyze the sentence "A letter may be carried three thousand miles for two cents," rather than the sentence "Attention is focused consciousness." Beautiful supplementary readers abound in all the best schools, their selections serving as appetizers for the rest of the same author's writings. Public library lists, like these I will leave here, together with a few copies of our manual, are doing wonders to improve the children's taste for reading and to extend their horizon of studies. Such fundamental biographies as those of Franklin, Hamilton, the Adamses, Jefferson, and Webster must be included in the story of our country. Shakespeare, Scott, Dickens, Cooper, and Longfellow are perfect electric search-lights upon the by-ways of general history. Every lesson, in whatever subject, must be made a language-lesson, orally at first, but finally in writing, which, as Bacon says, maketh an exact man. Letter-writing, the chief literary occupation of life, begins now in the lowest primary grades. Translation of narrative poetry or prose into the pupil's own words is a good exercise in language, with care to express the exact meaning. For example, one of our pupils wrote from an original which you will recognize:

All night long the snow had been heaping itself silently upon the fields and highways, covering everything. Every fir, pine, and hemlock was clothed with ermine, which an Earl could not buy, and the smallest twig of the elm-tree had its coating of snow and ice.

The household classics, like Webster's American Union, or the Old Clock on the Stairs, must not be practised upon in this way for fear of mutilating their strength or their beauty of form:

"Every day is a fresh beginning,
Every morn is the world made new;
You who are weary of sorrow and sinning,
Here is a wonderful hope for you,
A hope for me and a hope for you."

What better warnings could ring in their ears forever than are contained in the school collections of memory gems for children.

Incisive maxims, too, are much in use to point a moral and to convey sententious language lessons. "Politeness," said a little girl in our schools, "is like an air-cushion; there may be nothing solid in it, but it eases the jolts of this world wonderfully." "Give your tongue more holidays than your hands or eyes," was what a thoughtless boy repeated when called upon at school, in the midst of one of my addresses.

In spelling, teach the meaning and use of the word, as well as its form, so that it shall become an available addition to the pupil's vocabulary. Every illustrative sentence should contain, in good English, a thought worth expressing. "Why did England impose taxes upon the Colonists?" is a better interrogative example than "Who is at the door?" "The crater of the extinct volcano was full of ice, and from it an immense glacier extended down the valley," is a good example of a thoughtful sentence written by one of our pupils. "The queen with her magic wand caused fairies to come forth from huge paper flowers," is another. In teaching the word *beautiful*, for example, notice also its synonyms with their shades of meaning, as a beautiful picture, a lovely character, charming manners, a handsome face, pretty dresses, elegant furniture. With the word *export*, teach also import, transport, support, purport, report, portable, deportment, porter. Children like to wander thus in company with an inquisitive teacher among the family trees of words, and they may easily be led to love the grand old classic tongues, whose bequests have made our fortunate English the richest of all the modern languages. The wisdom of requiring pupils to use the words they spell in original sentences is confirmed quite as much by their ignorance of the meaning of common words at first as by their ultimate command over the same words. "I bought a pound of *promiscuous* candy" is the faulty example of one of our pupils, which, after all, may have expressed the fact. In the sentence "Mr. Smith made a *coincidence* to sell his farm for two thousand dollars" the writer was evidently thinking of *coincidence* as, in general, an agreement. "The *collision* at the fair consisted of ice-cream and cake" speaks better than the pupil knew of the typical *collation* on such occasions. A somewhat disappointing effort to write us a thoughtful sentence was that of the lad who said "The colonists became *saturated* with the gold fever of 1849, and they all died but Captain John Smith." The little boy who wrote "The bear resorts to *stratagem* when he wishes to catch a fish" had a better command of the new word than the other, who said "I made a *stratagem* and hung it on the wall." The same may be said of the two boys who said, respectively, "Ida Lewis is the *heroine* of Newport Harbor;" "I went *heroine* and caught a great many."

Having thrown out a few hints concerning the kind of instruction I would aim to encourage, permit me to describe briefly our unique system of examinations, which we think grows naturally out of such methods.

Our school year of forty weeks is divided into four equal terms, and our manual apportions the work accordingly, referring to subjects, for convenience, by pages as well as by name, despite the ridicule of certain enthusiasts who would no doubt like to abolish street numbers, door-plates being so much more topical. At the end of the Fall and the Spring terms, each of our teachers conducts in her own way a review or examination, marking each pupil excellent, good, passable, poor, or very poor. The teacher's recommendation at the end of the year is one of the necessary requirements for promotion. Near the end of the Winter and the Summer terms, each teacher prepares and sends to the superintendent's office a paper of specimen questions, suitable for the average pupils of her class, upon the half year's work in each subject and embracing many of the distinctive features of her instruction. These specimens are grouped by subjects. Each group is sent to a teacher of the next higher grade, who, with the curriculum before her, prepares a second paper containing no question copied verbatim from the specimens, and yet none surprisingly remote from them. These second papers, with the specimens, are sent again to the superintendent, revised by him, if necessary, and then printed, ready for examination day. After the examination, the specimens, and sometimes the pupils' answers, are circulated among all the teachers of the grade. A teacher will put her latest device, her brightest thought, into her specimen papers, and by this system of circulating everything, good things become common property.

The paper thus finally set, being the joint work of the teacher, the teacher of the class above, and the superintendent, is at once novel and yet free from surprises. Tests must be aimed at the average pupil. If harder questions come in for the bright minds, let them come as alternatives, not to discourage the faithful plodders. Monosyllabic answers are convenient to examine, and often that is all they are good for. The ability to reason and describe must be tested as well as the memory.

We allow pupils an ample stated time to answer the questions, and then send the answers promptly to be marked by the examiner who prepared the questions. Thus each of our teachers is charged with the duty of marking all the answers to some one set of questions for a grade below, and for the sake of greater fairness she marks first all the answers to the first question, then to the second, and so on; setting down in the margin with a blue pencil the value of each portion of an answer, and indicating by means of a series of well-known critical marks any special faults or excellences. The advantage is great of having all the answers to a test paper judged by one person unacquainted with the pupils. The standard is more uniform and impartial, and each answer is measured by just what it contains rather than by what the pupil is believed to have once known upon the subject. Answers upon all subjects should be marked also in some degree with reference to arrangement, penmanship, spelling, and construction, and the marking should be

done with mechanical accuracy. One of our professors at Cambridge, they said, used to give minus marks, so that students with whose work he was specially displeased would get twenty-five or thirty per cent. less than nothing. After the answers are marked, before they are placed on file at the office, our examiners return them to the pupils who wrote them, and who now have opportunity, hearing the correct answers given, to see wherein they fell short, as well as to appeal from any error in the marking. With the marked answers, the examiner sends to each teacher a memorandum of observations made upon the answers of her class; and each of the older pupils is sometimes requested after seeing his mistakes to write a sort of confession. "I must not use so many abbreviations," says one, "or divide a syllable at the end of the line." "I must make shorter sentences, and not omit small words," says another. "I must think better what is called for in questions which ask how or why," says a third. There is drudgery about a critical examination, but it seems business-like to the pupils to hand them back their papers carefully marked and later their report cards. It impresses upon them indelibly the lessons that form the subject-matter of the examination. The parents in the community respect the verdict which issues from what they consider a fair and square system of examinations.

There are many opponents of examinations actuated by all sorts of motives. One class, whom we may dismiss with a word as trimmers, fancy they will catch the favor of doting parents and superficial teachers by depreciating so laborious an institution as examinations confessedly are. Another class of honest objectors were formerly teachers, famous, perhaps, for their searching examinations. They remind me of the school commissioner who said that as a young man he considered corporal punishment inhuman, and resolved never to use it; that later as a teacher he often found it a salutary measure, but that now, being no longer a teacher, he considered it a relic of barbarism which ought never to be employed.

As to the objection that examinations cramp the teacher and check the delightful excursions he would make laterally by way of illustration, that depends upon the character of the examinations. They can be made as comprehensive as can good instruction. Any line of knowledge upon which clear inquiries cannot be framed and answers given sufficiently definite to be measured must be too intangible for the common schools.

The fear that examinations put too great a strain upon children is an effeminate notion which would exempt them from all tasks. An intelligent paper of questions, upon a whole subject thoroughly assimilated presents no terrors to children. Pupils who are unnerved by an examination are, as a rule, unprepared to meet it. The traditional best scholar who always fails, through nervousness, to do himself justice at examination, is simply not the best scholar. His liability to nervous disturbance is an element of weakness which needs strengthening, as

would weak spelling or arithmetic. The best lesson he can learn is that of self-possession. The chief characteristic of the great men, living and dead, whom we ask children to imitate, is the nerve they have to face whatever comes. Washington passed creditable examinations at Braddock's defeat, at Trenton, at Valley Forge. Grant did not get nervous while working out the problems of Vicksburg and Richmond. Lincoln listened for three mortal days to the critical instrument in the next room ticking off the mighty scenes as they were enacted in the awful tragedy at Gettysburg.

As to the unusual effort exerted at examination time, to which various odious terms are applied by the critics, it is simply a process of calling up for ready use the knowledge gained, just what the lawyer does with his cases, the clergyman with his sermons, the statesman with his legislation. The sustained energy necessary for such trials constitutes one of the chief nourishers of mental vigor. As to the alleged strife for mere marks at examination time, if the pupil be prepared and the examination be conducted fairly, the marks are not "a low motive," but only an exponent like the figures on a dial. It is as natural to characterize good scholarship briefly at eighty per cent. as to style him a millionaire who owns certain lands, houses, and privileges. In either case the significant thing is what the figures represent. Competitive examinations and prizes given to rank pupils and teachers one above another are vicious, for they foster the desire to win at all hazards, as much through the misfortunes of rivals as through one's own merit. But when we remember that in the contest of life it is the duty of every aspiring youth to win at least qualifying excellence, we should be careful not to fall in with the enfeebling fashion of the times to remove from the young all the common incentives to honorable emulation. "Cromwell, I charge thee fling away ambition," was the injunction of an insincere man, disappointed, soured, and such an injunction it often is, when repeated in effect from various sources; for example, by those subtle politicians who say that the office should invariably seek the man, never the man the office. Let our boys and girls be brought up under the influence of no such hypocrisy. Teach them first to fit themselves well for whatever duties await them, and then, in the spirit of the golden rule, to grasp those duties boldly and firmly, ever proudly remembering, as the President of the United States said at the dedication of the Garfield monument here, ever proudly remembering, especially in the free schools of a free people, that to every American citizen the way is open to fame and station, even until he

> Moving up from high to higher,
> Becomes on fortune's crowning slope
> The pillar of a people's hope,
> The centre of a world's desire.

MR. PARR: It strikes me that this question could be more sensibly settled upon a basis of thought than upon a substratum of feeling. It

does seem that the moving principle upon what has been said on both sides is rather one of feeling than of thought. It is the conservative element against the following of the advance element. Any discussion of the question that leaves out of sight all the conditions, and which does not take into account a difference in the value of these things, must be personal. I do not recall now that any one has said what shall be the principal test. Some of the gentlemen are talking about modes of testing knowledge as a butter inspector would test a piece of butter. It seems to me that those gentlemen who are advocating the old question of dealing with what the pupil has acquired, are simply putting into practice the same mode of test the butter inspector uses. Now, to my mind, the chief test of the pupil's work has been what he has done from day to day in his school in the presence of the teacher. An examination may utterly fail to reach that, fail to test the pupil's power to organize, to apply his knowledge, and utterly ignore that large substratum of unconscious knowledge which the pupil possesses. Unconscious knowledge is worth more than all the conscious knowledge any one of us have. It makes no difference about the name, however. That unconscious knowledge which enables us to take facts and use them is the most powerful knowledge we can get. Therefore it seems to me that some fusion of these ideas, some reasonable, centrally connecting link between them, would come nearer to the truth than what has been uttered from the standpoint of feeling on both sides.

DR. WHITE: I have been interested very much in both of these papers. I think in the discussion of this question we shall simply argue and antagonize if we fail to make a discrimination between the examination and the use made of its results. I don't know any considerable number of teachers or any very eminent teacher that denies the value of the tests as an element of teaching. I think we all agree that the teacher must test, and test wisely, the results of his instruction. So that the examination is an essential element of teaching. The oral recitation, with its test, had a great power. And so the oral test runs through all our teachings; but the written test is more modern, exact, and can be used more efficiently. And so the paper I read this morning covers this truth and shows the examination is a valuable element in school administration. Now, as to the question of the use made of these results. Shall the pupil be permitted, shall the right of that pupil to undertake the work of the next year be determined by written examinations periodically given and the work of that pupil be described? That is where we differ. So I think we must make very clearly a discrimination between the examination as a teaching process and the examination as to the majority of the pupils' right to be promoted in the grade. I will not enter into the discussion of this question, except to make this distinction. I wish, however, to say this, that I do not think it profitable to get up a controversy over this question. In my judgment, we will not settle this in this way. I think every superintendent, every

principal of a school, if he should be the head of it, in connection with those who work with him, must determine for himself what he shall do with the examinations. Much depends upon the condition. The longer I live and the more I see of school work, the more I am satisfied that it is unwise to throw out the conditions under which the school is administered. I threw out at Cincinnati two hundred written examinations for promotion. It is now universally conceded to have been wise. But we were under peculiar conditions; we were in ruts thirty years deep; and every turn I made to improve the instruction of that city I ran right against that examination wall. It is grooving our teachers' work, making it ruttish, mechanical. "I must prepare my wares for the market; I can't answer the question whether I am teaching right or wrong; those who are over me must answer that. My business is to prepare my wares for the market; I will not ask myself whether this is right or wrong." Such was the language of one of the teachers who had the first school in that great city, and she taught right to the market, straight. I found that in Cincinnati and struck it down. We are going to work it out on that line. I am not sure I would have done so in a city where the examinations had independency. But we have just as many examinations in Cincinnati as we ever had, but no pupil is promoted on the results; they are to disclose to the teachers how well they are teaching and the pupils how well they are learning. It is solely a teaching appliance, and when the year closes, thirty thousand pupils are promoted, and the next year's work begins. The thirty thousand pupils promoted last June were promoted more wisely and justly than they were under any written test that could possibly have been given in that city; and the classification was better. When I entered the city of Cincinnati, the upper third of every class in that city was a year below the other class; and the lower third was drumming on the work until they reached the seventy per cent. required. We had very little scholarship. The standard has been changed with us.

Let us test our appliances by the result in good teaching, and in good scholarship, and in good character. If you can get good results in your way, I am not going to fight it; and if I can get good results in my way, let me alone, and let us work away with the single purpose of making the public school worth the money that is put into it, and making this country strong and pure.

MR. MAURY: Suppose you have written examinations in the high school, or normal school, or grammar school; may I ask Dr. White his opinion as to who shall prepare those questions for examination?

DR. WHITE: That depends altogether on the circumstances. In a city of ten thousand inhabitants, where the superintendent knows every teacher and parent, I presume that superintendent could prepare those questions more wisely than any one teacher could prepare them. His questions doubtless would be fairer than those prepared by a teacher. But, in a city like Cincinnati, you will find that a little more difficult,

and so in a city like New York you will find it very difficult to manage. In Cincinnati the principal prepares the questions for their tests; sometimes I prepare them. I send them out simply to see what results the teachers are securing. The principal wishes to see how well his teachers are improving in their work, and we have all varieties of questions during the year. When I was a teacher I always assumed the right to prepare written questions and test my own class, whether they were tested by anybody else or not. I always felt that was my right.

Question. Is it a very valuable test?

Answer. No; they show to the teachers that they don't know as much as they supposed they knew. They are really teaching questions, and their value is in the influence they exert on the school.

MR. MAURY: Suppose a class is to be examined for promotion, and the topic be science, or mathematics, or any other subject; is it the province of the teacher of that school to examine, to ask questions; or does that lie as a matter of right in the superintendent to prepare the questions for examination, or does it lie with the school-board? I only wish to make this question practical, how to get at the result, not to ask the leading question but the question to be considered. Can any one else prepare questions for examination of a class so well as the teacher?

DR. WHITE: I think if I had charge of that school and the pupils were promoted on the result of this examination, I should assume the right to prepare all examinations. I have teachers in science, for instance, for whose classes I would not think of preparing questions. They are so much higher than I am in science and so much more competent than I am that I would not undertake the preparation of questions for their classes. I think that the teacher, in the final analysis, is the one factor to determine the right of the class to be promoted. If I had two science classes, of course I must prepare these examination questions or get somebody outside. I can't answer this question very wisely.

MR. MAURY: I had an object in bringing this question before this body of superintendents. There is a principle at stake, it seems to me, and that principle is, what are the respective duties of the teachers, principal in a high school, and the superintendents to the school board? I take it that the school board is largely legislative, that the superintendents possibly sometimes might be inclined to hold some reins in their hands that were better to be left in the hands of some others; and right here is a very important point—that of examinations. It seems to me that if Dr. White would answer that, it might well claim the attention of this company of superintendents. No one but the teacher can know what ground has been gone over, and therefore I think no accurate test can be given by questions prepared by outside parties. That is the thought that I have wanted to leave on the minds of this great body of educators.

HIGHER EDUCATION.

THE STATE AND THE HIGHER EDUCATION.

By Fred. M. Campbell,

Superintendent of Oakland (Cal.) Schools.

We are living in an age and in a country where, more than ever before, and more than anywhere else on the globe, the good things of life belong to all men in common. In other ages and in other countries, the many have toiled that the few might be idle; the many have been ignorant that the few might be intelligent; the many have been slaves that the few might be free. It is the very corner-stone of our Government—the principle that to all men shall be secured the enjoyment of every free privilege that belongs to human nature. It is for this that the greatest minds of our times have labored; it is towards this that every good influence of the time is tending. Even the "communism" of the ignorant immigrant is but a frantic and misguided attempt to help on the same effort of the age; frantic and misguided, because he fails to see that the wealth of the capitalist, and the art of the artist, and the learning of the scholar, and the wisdom of the statesman already are common property. Not a great industrial enterprise is undertaken, not a vast scheme of public improvement, not a scientific discovery but the poorest man and the most illiterate man reaps the advantage of it. For him also the telegraph works, and the railroad runs, and the ship sails, and the picture is painted, and the book is written. Nothing that adds to the commonwealth but makes every man the wealthier. It is not only that for every man the sun shines, and the rain falls, and the air is sweet, but for every man also the law is just, and the community is peaceful, and society is industrious, moral, and intelligent.

For what is it we mean by that grand word the *commonwealth*? The etymologists tell us that just as health is derived from hale, and means the condition of being hale or whole, so wealth is derived from well, and means the condition of being sound or well. It is in this original sense of the word that the compound term is used. The commonwealth means, therefore, not the common riches or money, but the

common *well-being*, that soundness or health of the community which necessarily is common to all, because every man's well-being, in the highest sense, is a contribution to—nay, is an essential condition of—the well-being of all. Public virtue, then, and public intelligence, these constitute the true commonwealth. And these can be attained in but one way: in the attainment by every individual member of the community of personal virtue and personal intelligence.

What, now, is the state? It is the organization of society to conserve this common weal. Whatever else the state may do, or may leave undone, its one indispensable function is to secure to society those two foundation-stones without which no civilized society can exist—virtue and intelligence. Other good things can be left to individual effort to accomplish. The getting of a living, for instance, is a thing that chiefly concerns the individual, and can safely be left to the urgency of his own wants, for a motive. It is a good thing, no doubt, that every man should have the means of livelihood; but it is no part of the state's functions to furnish this to him; for it is an axiom in all free governments, that nothing shall be done by the state that can and will be done by the individual for himself. It is only a parental government, and that means a tyrannical government, that oversteps this limit. But there is no nation which has ever attained these two fundamental elements of well-being—virtue and intelligence—by merely separate, individual efforts. To put down crime, and to put down ignorance, have everywhere and always required that combined and persistent effort which can be put forth successfully only by the organized forces of the community, or what we call the state. These, then, are the two mighty arms of the state; the one arm encircling the honest and peaceable citizen, and protecting him against the murderer and the thief; the other arm infolding the coming generation, and protecting them against the brutishness or the rapacity that would withhold from them their birthright of free intelligence. And this protection simply means self-protection; for what is left of civilized society if it fail to protect its *present* against crime, and its future against ignorance—that prolific mother of all miseries, and wrongs, and disasters!

Such, then, being in the truest sense the common weal, and such the function of the State—to conserve this for its own self-protection, what is the relation to it of the higher education?

To begin with, what do we mean by the higher education? The term is vaguely used by many persons, and much of what is said about it, therefore, goes wide of the mark. And yet, if one reads the writings of those most competent to speak on such subjects, it is plain that they use the term for a perfectly definite and intelligible idea; an idea as to whose definition the foremost minds of our time seem entirely to agree. The term "higher education" is used by them to mean, not any particular study or set of studies, nor any particular method or plan, or grade of instruction; but every study, and all instruction which is wisely adapted

to a certain higher end; the end, namely, of the complete development of full intellectual and moral manhood and womanhood.

Nor is this, by any means, the end had in view by all the advocates of education, and by all their various schemes. There are, in fact, two totally different theories about education, and about the office, specially, of public education. The one is the theory that the schools and colleges, at least so far as they are supported by the State, should confine themselves to teaching how to get a living, or how to make money; we may call this the narrow education (if, indeed, it is proper to dignify it by the name of education at all); the other is the theory that the schools and colleges should first insure virtue and high intelligence as the safeguards of society; and it is this higher end that is denoted by the term, "the higher education." This is no new idea. It has been the view of the broadest minds of all times. It is expressed in those noble words of Milton:

I call, therefore, a complete and generous education, that which fits a man to perform justly, skilfully, and magnanimously, all the offices [that is, the duties], both private and public, of peace and war.

And John Stuart Mill says:

The very corner-stone of an education intended to form great minds must be the recognition of the principle, that the object is to call forth the greatest quantity of intellectual power, and to inspire the intensest love of truth; and this without a particle of regard to the results to which the exercise of that power may lead, even though it should conduct the pupil to results diametrically opposite to those of his teachers.

And Matthew Arnold says:

The aim and office of instruction, say many people, is to fit a man to get on in the world. It is not this, and the modern spirit more and more discovers it not to be this. This is, at best, but a secondary aim of instruction. Its prime, direct aim is to enable a man to know himself and the world. Such knowledge is the only sure basis for action, and such basis it is the true aim and office of instruction to supply. To know himself, a man must know the capabilities and performances of the human spirit; and the value of the humanities is, that they afford for this purpose an unsurpassed source of light and stimulus. As our public instruction gets a clearer view of its own functions, and the relation of the human spirit to knowledge, and to the entire circle of knowledge, it will certainly more learn to awaken in its pupils an interest in that entire circle, and less allow them to remain strangers to any part of it.

And again Matthew Arnold expresses the essential liberality of the idea implied in the term "higher education," thus:

This one's special aptitudes are for knowing men—the study of the humanities; that one's special aptitudes are for knowing the world—the study of nature. The circle of knowledge comprehends both, and we should all have some notion, at any rate, of the whole circle of knowledge. The rejection of the humanities by the realists, the rejection of nature by the humanists, are alike ignorant. Evidently, the beginnings of a liberal culture should be the same for both. The mother tongue, the elements of Latin and of the chief modern languages, the elements of history, of arithmetic, of geometry, of geography, and of the knowledge of nature should be the studies of the lower classes in all secondary schools, and should be the same for all boys at this stage.

And Sir John Lubbock says:

It will, no doubt, be said by some, that it is better to know four subjects well than to have a smattering of many. This is no doubt true, but no one wishes that boys should have a smattering of any. It is one thing to know a few stray facts of a subject; it is quite a different thing to be well grounded in it.

President Gilman, in an address delivered at Baltimore, asks this question:

What, then, in our American system, is the right scope and aim of a college? It is not [he says] a place of professional and technical study—not a place where lawyers, doctors, preachers, engineers, army and navy officers, and teachers receive their special training. Schools for such purposes may exist in connection with colleges, but are not what we commonly call colleges. But it is a place where a foundation, liberal and thorough, is laid for future study; and where the mind is well trained, according to the best experience of the world, in those habits and traits which are essential to intellectual success.

And if I may add one more quotation to illustrate the meaning in which this term, "the higher education," is used by our foremost men, let me quote from an address by Bishop Harris at a commencement of the University of Michigan:

The educated man [he says] can always command and use his faculties for all they are worth. He may be a man of much or little capacity, according as nature has endowed him. He may be a man of much or little power; but if he is truly educated, he will count for all that he is worth. He will fulfil his destiny. He will do his part. To be completely and symmetrically educated in this sense is the birthright of every man; and the denial or perversion of this inalienable right is a terrible wrong, for which there is no earthly compensation. Therefore, I hold [he continues] that it is wrong, unspeakably wrong, to require a child to work for his living. It is perfectly true that it is good for a child to learn habits of industry and self-reliance; but these things are good only when subordinated to the purposes of education. They become evil when they are allowed to usurp its place. Therefore, I repeat, it is unspeakably wrong to require a child to work merely for his living. The pitying heavens yearn over no sight so dreadful as children bound like galley slaves to their cruel tasks in factory or field, and toiling with joyless faces to earn their daily bread. The story of wronged and oppressed and distorted childhood, neglected by worldliness, or held in slavery by mammon, has yet to be fitly told. A few years ago England's poetess thrilled the heart of Christendom with a wail of agony as she told the horror of it in the Cry of the Children. Let it resound throughout the world, I say, till all earth's little one are emancipated, and the sun in his course shall no more look down upon the joyless face of a child that pines in bondage to mammon. For the birthright of childhood is education, and it is a sight to make angels weep to see it forced or permitted to barter its birthright for its daily bread. Hardly less cruel is the introduction of a false utilitarianism into education. The usefulness of a study is not to be measured by its availability for the business purposes of later life, but solely by its fitness to educate or develop the student's powers. Till that is completed he should never be required or permitted to learn a thing simply because he hopes to use it to make money with. The object of education is not to learn useful things, but to become able to learn and to use them; and it is a great wrong to the student to intrude the instruments and the spirit of money-getting into his educational life. The allurements of mammon and worldliness are too often permitted to call our youth away from the proper business of the school and college. Short roads and by-paths are opened up to tempt them to abandon the proper work of education, and to go, prematurely, to schools of professional or technical instruction. The consequence is the sending forth of half-educated men, and inexperienced men, to plead the causes, and

heal the diseases, and lead the thinking of the generation. Let us all protest against this great evil; for, unless it is counteracted, it will lead to the impoverishment of the age. Let our colleges and universities make men first, and then make lawyers, and physicians, and teachers of them. For that nation is greatest, not whose natural resources are greatest and most abundant, not whose wealth, or civic or military achievements are most splendid, but whose people are best filling up and realizing the capabilities of their being; whose men are counting for most in individual and national life; whose men are best able to use themselves for all that they are worth, and so are true lords of the earth beneath, and true children of the heaven above them.

This, then, as expressed in these quotations, these utterances of some of our leading minds, is the sense in which we understand the higher education—the education, namely, whether in school or college, not with any lower aim of ministering to selfish greed or ambition, but with the higher aim of developing high intelligence for the service of society.

And now, if the true well-being of society consists in the virtue and intelligence of its individual members, and if the true function of the State is to secure these, guarding its very existence from crime in the present generation, and from ignorance in the coming generation, is it not easy to see what are the true relations of the State and the higher education? Can any one doubt that this education is the thing of all others which the State must, at any cost and at all hazards, secure and maintain?

Yet there are many who seem to be as blind as noonday owls to this vital truth. Probably there is no subject on which so many fallacies and false doctrines are afloat. It is, as I have said, an age when all things are diffused among all men, and both the wisdom and the unwisdom of the age are common property. Every one talks, and nearly every one writes; and it would be strange, indeed, if such a question as that of public education did not get its share of sophistry and shallow misconception from many an idle tongue and pen. Men do not know what vital interests they are aiming to destroy. Indeed, one is sometimes reminded of the famous mountain howitzer of which our earliest American humorist, John Phœnix, told in early California days. He describes his experience on a wonderful surveying expedition. They were called upon to explore a very dangerous part of the mountains, and in order to arm themselves adequately against the savages, they conceived the bold and original idea of mounting a howitzer on the back of a mule. On the first occasion of attack they rapidly wheeled the mule into position, aimed the gun with beautiful precision, and—lighted the fuse. But no sooner did the sagacious animal become aware of the fizzing of the fuse than he commenced a series of rapid revolutions, bringing the howitzer to bear on all points of the landscape in quick succession. The surveying party is said to have disappeared in all directions, and—the end never was known. So, when any speaker, or writer, or sect, or party takes frantic aim in their shallow fanaticism, or bigotry, or ignorance at public education, we look to see them shortly

fleeing for life from their own fire, and we think of the mountain howitzer and the revolving mule.

Of the many sophistries which are thus scattered in a more or less promiscuous way, there is time to note but two or three. One of these notions is that the training of a boy's hands to a particular trade is of equal importance, *to the State*, with the education of his mind. The truth of the matter is simply this: Such a training of the hands is a good and useful thing, especially to the individual concerned; and there are a number of pressing necessities which will drive men up to this, but the education of the *mind* is an absolutely indispensable thing for the well-being of the State; and yet, there are no such immediate pressing urgencies felt by the individual and driving him up to furnish this to his children. Accordingly, while the one can be left to the individual, the other must be secured, beyond all peradventure, by the State. Mark the essential difference: the necessity of getting a living forces itself upon every man, for his own, immediate, selfish interest. The necessity of educating his children has no such visible urgency upon the ignorant man; that is for the interest of others, rather than his own selfish interest; and the consequences, even to them, are too remote and far-reaching to be appreciable by his dull mind. No doubt the State would be better off for having an abundance of skilled artisans, but intelligent men it *must* have, or it is on the broad road to ruin. And it is for precisely this reason that every wise community looks out first of all for public education of a high grade. The security of society, the stability of all our institutions, the progress of all good things among us, absolutely depend, not on the training of the fingers to certain trades, but on the education of the mind to high intelligence.

Education by the State tends to none of those forty different evil things which the revolving demagogue points at in his successive wild attacks. It is simply the determination of the State to protect itself, and to secure the safety and progress of society. The evolution of mankind from a savage state has consisted simply of this, the growth of human intelligence. There is but one way to secure this as a permanent possession: it is by taking the children and youth and educating their minds. It is a way that was discovered a long while ago, and unless we are going back to the dark ages we are not likely to abandon it now.

People should remember that in talking about public education, they are discussing a very serious problem. We have a great mass of ignorance and vice already in our midst; and already a great mass of children who will, as surely as the successive suns rise, grow up to ignorance and vice unless we all, *i. e.* unless the State itself looks out for them. If our institutions are to be preserved, to say nothing of improving them, men had better take sober and conservative ground on those matters.

A second sophistry is the assertion made by illiterate persons (and by those more literate whose business it is to pander to them) that the schools

and colleges encourage idleness, and do not train boys and girls to useful work. They imply, if they do not assert, that the activity of the intellect—that good, hard, thorough study is not honest work. The truth is, if a man affirms that learning a difficult subject is not work, it simply shows that it is so long since he learned anything that he has entirely forgotten the sensation. And if he affirms that it is not honest work, he insults the whole world of active brains. If there is any one thing that public education does accomplish, it is the training of children and youths to work. Day after day they come to their field of labor in the school-room, each with an assigned task, which, in spite of any feeling of indolence, in spite of distractions and hindrances, it is his duty, and if the school is properly conducted his pleasure, to do. There never was a more shallow and utterly unjust accusation against our schools than the one we sometimes hear, that they do not teach boys and girls to labor and to respect labor. For it is the very core and essence of the whole public school system, that it trains the pupil daily *to do some definite piece of work, and to do it well.* The truth is, that, proportionally to the child's powers, his daily task in the school-room is probably as hard work as he will ever be called on to do in the whole course of his life; and he learns there a habit of self-denial, of self-control, of conscientious application to duty, which would *alone* go far to make a man of him; and this, moreover, is a moral training of the very highest order. There is no work which a boy can do that is half so useful to society as the labor of his intelligence; for it is that, and that alone, which can fit him to serve society in whatever best way he is capable of. We do not need the labor of children and boys in carrying on the industrial work of the world. The best use we can put them to, the use we *must* put them to if we would secure the future of society, the only use we have any right to put them to, in fairness to their own birthright, is to give them the opportunity to be intelligent men. Then, if they become mechanics, they will be intelligent mechanics; if they become farmers, teachers, writers, statesmen—whatever they are, they will do their work intelligently and well; and they will be safe and useful citizens of a country that requires for its safety, not machines, but thinking men.

And yet there are prosperous men who begrudge the tax they pay for public education; and there are even ministers of prosperous churches who decry all but the three R's in the free schools of our country.

The truth is, the opponents of the higher education catch much of their talk from abroad. In aristocratic governments there is naturally great fear lest the lower classes should be educated above their station in life. These governments want, first of all, to have a contented peasantry. But, fortunately, in this country, we want no such ignorant peasantry. How dare these aristocrats in disguise stand up and say to our people: "I am a superior being; it is safe for me to be intelligent; I may study, and read, and think, for I belong to the higher classes. For you, only a low grade of education is safe. There is danger that

you will be educated above your station in life! Grovel there in your ignorance and degradation, and be contented, while I walk by in my higher intelligence, and decide for you how much arithmetic and geography it is prudent to let your children learn!" It is a wonder they do not alter their Bibles and read there, "Suffer the little children of the *higher classes* to come unto Me."

No, it is too late, in these days and, in this free country of ours, to limit our public education to the bare prevention of absolute and brutish ignorance. We must give our children—all our children—of rich and poor—of citizen and countryman—the State's children—for they are hers as well as ours—those liberal opportunities to make the most of themselves which we name the higher education. Nor must it be left to the uncertain establishment and maintenance of institutions by individuals or jealous sects. We must sustain, by and through that organization of society which we call the State, the whole system of free public education, open to all who will come, generous and ample in its scope, from the kindergarten up to the State university. We claim it in the name of justice and fair play to the coming generation; we claim it in the name of our reputation among the foremost peoples of the world, and we claim it in the name of that *commonwealth*—that possession of high virtue and intelligence, which has slowly lifted the race from barbarism to enlightenment, and which alone can insure its future.

THE STATE AND HIGHER EDUCATION.

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This is an era of educational endowment upon a generous scale. A recently published report of Colonel N. H. R. Dawson, Commissioner of Education, shows that the sum total of noteworthy educational gifts during the year 1886-87, was nearly $5,000,000. More than two-thirds of the entire amount were distributed among nine institutions, four of them collegiate, one academic, three professional, and one technical. The institution most highly favored was Harvard University, which received from individual sources nearly a million dollars. From one man came a legacy of $630,000. Haverford College, supported by the Society of Friends, received $700,000 in one bequest. Of the 209 gifts recorded by the Commissioner of Education, 25 represent $50,000 or more; 72 were sums between $5,000 and $49,000; and 112 were sums less than $5,000. The most striking fact in all this record of philanthropy is that such a large proportion of the entire amount, fully two-thirds, was given to higher education. The year 1888 is richer than 1887 in individual bounty to institutions of learning. Nearly ten millions were given by three persons for the encouragement of manual training, but there are rumors of even larger benefactions for university endowment. The collective returns for 1888 are not yet published, but it is certain that the past year will surpass any hitherto recorded in the annals of American education.

Whatever forms modern philanthropy may take, one thing is certain, universities are not likely to be forgotten. At the founding of the new Catholic University in Washington, Bishop Spalding said that a university "is an institution which, better than anything else, symbolizes the aim and tendencies of modern life." Will not broad-minded people recognize the truth of this statement and strengthen existing foundations? Senator Hoar, at the laying of the corner-stone of the new Clark University, said, "The university is the bright consummate flower of democracy." Will not American patriots cultivate endowments made by the generosity of sons of the people? Are the noble gifts of Johns Hopkins for the advancement of learning and the relief of suffering likely to be forgotten by present or future generations? All history

testifies to the gradual up-building of universities by individual benefactions. The development of European and American colleges is one long record of private philanthropy. *Private philanthropy will do all it can*, but public interest demands that the State should do its part.

The encouragement of higher education by government aid, in one form or another, has been a recognized principle of public policy in every enlightened state, whether ancient or modern. Older than the recognition of popular education as a public duty was the endowment of colleges and universities at public expense for the education of men who were to serve church or state. It is a mistake to think that the foundation of institutions by princes or prelates was a purely private matter. The money or the land always came from the people in one form or another, and the benefit of endowment returned to the people sooner or later. Popular education is the historic outgrowth of the higher education in every civilized country, and those countries which have done most for universities have the best schools for the people. It is an error to suppose that endowment of the higher learning is confined to Roman and German emperors, French and English kings. Crowned and uncrowned republics have pursued the same public policy. Indeed, the liberality of government towards art and science always increases with the progress of liberal ideas, even in monarchical countries like Germany, where, since the introduction of parliamentary government, appropriations for university education have greatly increased. The total cost of maintaining the Prussian universities, as shown by the reports of our Commissioner of Education, is about two million dollars a year. Only about nine per cent. of this enormous outlay is met by tuition fees. The state contributes all the rest in endowments and appropriations. Prussia now gives to her universities more than twice as much as she did before the Franco-Prussian War, as shown by the report of our commissioner at the Paris Exposition in 1867. In that year France gave her faculties of higher instruction only $765,764. After the overthrow of the second empire, popular appropriations for higher education greatly increased. The budget for 1888 shows that France now appropriates for college and university faculties $2,330,000 a year, more than three times the amount granted under Louis Napoleon. Despotism is never so favorable to the highest interests of education as is popular government. Louis XIV and Frederick the Great, according to the authority of Roscher, the political economist, regarded universities, like custom-houses, as sources of revenue, for the maintenance of absolute forms of government. The world is growing weary of royal munificence when exercised at the people's expense, with royal grants based upon popular benevolence and redounding to the glory and profit of the prince rather than to the folk upholding his throne. Since the introduction of constitutional government into European states, representatives of the people are taking the power of educational endowment and subsidy into their own hands, and

right royally do they discharge their duty. The little Republic of Switzerland, with a population of only three millions, supports four state universities, having altogether more than three hundred instructors. Its cantons, corresponding upon a small scale to our States, expend over $300,000 a year upon the higher education. The federal government of Switzerland appropriated, in 1887, $115,000 to the polytechnicum and $56,000 in subsidies to cantonal schools, industrial and agricultural; besides bestowing regularly $10,000 a year for the encouragement of Swiss art. The aggregate revenues of the colleges of Oxford, based upon innumerable historic endowments, public and private, now amount to fully two million dollars a year. The income of the Cambridge college endowments amounts to quite as much. But all this, it may be said, represents the policy of foreign lands. Let us look at home, and see what is done in our own American commonwealths.

Maryland began her educational history by paying a tobacco tax for the support of William and Mary College. This colonial generosity to another State has an historic parallel in the appropriation of a township of land by Vermont for the encouragement of Dartmouth College in the State of New Hampshire, and in the corn that was sent from New Haven to the support of young Harvard. In colonial days Maryland had her county schools, some of them classical, like King William's School at Annapolis. All were founded by authority of the colonial government and supported by aid from the public treasury. The principle of state aid to higher education runs throughout the entire history of both State and colony.

The development of Maryland colleges began on the Eastern Shore. In the year 1782, representatives of Kent County presented a petition to the Legislature, saying that they had a flourishing school at Chestertown, their county seat, and wished to enlarge it into a college. The General Assembly not only authorized the establishment of Washington College, which still exists, but, in consideration of the fact that large sums of money had been subscribed for the institution by public-spirited citizens of the Eastern Shore, resolved that "such exertions for the public good merited the approbation of the Legislature and ought to receive public encouragement and assistance." These are the very words of representatives of Maryland more than a century ago. Their deeds were even better than their words. They voted that £1,250 a year should be paid from the public treasury for the support of Washington College. That vote was passed just after the conclusion of a long war with England, when the State and indeed the whole country lay impoverished. Toward raising this government subsidy for higher education, the Legislature granted all public receipts from marriage licenses, from liquor licenses, fines for breaking the Sabbath, and all similar fines and licenses that were likely to be constant sources of revenue.

The founding of St. John's College occurred two years later, in 1784. This act by the State of Maryland was also in response to a local de-

mand. It was urged by the citizens of Annapolis that King William's School, although a classical institution, was inadequate to meet the educational demands of the age. It was very properly added that the Western Shore, as well as the Eastern, deserved to have a college; and so St. John's was established as the counterpoise of Washington College. The legislative act is almost identical with that establishing the earlier institution, although the appropriation was larger. The Legislature gave St. John's four acres of good land for college grounds and building sites and an annual appropriation of £1,750 current money. This sum, in the words of the original act, was to "be annually and forever hereafter given and granted as a donation by the public to the use of said college on the Western Shore, to be applied by the visitors and governors of the said college for the payment of salaries to the principal, professors, and tutors of said college." The establishment was to be absolutely unsectarian. Students of any denomination were to be admitted without religious or civil tests. Not even compulsory attendance upon college prayers was required; so modern were the legislative fathers of Maryland.

The next step in the higher educational history of Maryland was the federation of the two colleges into the University of Maryland. The two boards of visitors and two representatives of each faculty constituted the University Convocation, presided over at Annapolis on commencement day by the Governor of the State, who was *ex officio* chancellor of the University. One of the college presidents acted as vice-chancellor. Thus more than a century ago Maryland inaugurated a State system of higher education which, if it had been sustained, would have given unity and vigor to her academic life. But unfortunately, in 1794, the Legislature yielded to county prejudices and withdrew £500 from the £1,250 annually granted to Washington College and began to establish a fund, the income of which was distributed among various county academies on both shores of the Chesapeake. This was the origin of the subsidies still given in one form or another to secondary institutions in the State of Maryland. In 1805 the remaining appropriation of £750 belonging to Washington College and the entire £1,750 thitherto granted to St. John's College were withheld for the avowed purpose of "disseminating learning in the different counties of the State."

For six years there was famine in the land as regards the support of higher education. At last in 1811 the Legislature resumed appropriations to St. John's College. Realizing that it had misappropriated to local uses subsidies "granted annually forever" to St. John's, the Legislature endeavored for many years to compromise by giving a smaller allowance. The court of appeals ultimately decided in 1859 that such a readjustment was a breach of contract, and that the college could collect what was due it from the State. There is, perhaps, some excuse for the economy of Maryland in its treatment of St. John's College, namely, "hard times."

A State that went through the financial crises of 1837 and 1857 without repudiation deserves some historical credit. St. John's College was suspended during the Civil War, but appropriations were renewed in 1866, and have been continued, with slight variations, down to the present day. The amount granted in 1888 was $3,000 for the institution itself and $5,200 for boarding twenty-five students, one from each senatorial district.

The first University of Maryland ceased to exist by the act of 1805, which withheld appropriations from St. John's College; but in the year 1812 a new University of Maryland was instituted by authority of the State, in the city of Baltimore. The proceeds of a State lottery were granted to the institution for a library, scientific apparatus, botanical garden, etc. The corporation was to have a full equipment of four faculties, representing the arts, law, medicine, and theology. Two faculties of law and medicine still perpetuate the spirit of the founders of the University of Maryland, and are honorable and distinguished promoters of professional education. It cannot be said that they were ever treated with adequate generosity, though they actually received from State lotteries between $30,000 and $40,000, and were never taxed.

The present generation has not been so generous to the cause of higher education as were the fathers of the State, but nevertheless Maryland, in her entire history, has appropriated something over $650,000 for what may be strictly called college education, not counting $60,000 given to the State Agricultural College, nor $40,000 proceeding from State lotteries. While this collective bounty is small, it is money given by voluntary taxation and not taken from institutions of learning. Most of the amount was raised in times when the State was poor or heavily in debt, and when public money came with difficulty. Moreover this financial generosity of Maryland establishes the principle for which we are contending, namely, that this State, like all other enlightened States in the world, has recognized the duty of support to higher and unsectarian institutions of learning. She has at different times appropriated $650,000 to colleges and the University of Maryland from her public treasury.

Let us now inquire what other States in the American Union have done for higher education, always recognizing of course great inequality in State population and in the taxable basis.

Virginia, whose earliest educational foundations Maryland helped to lay by her tobacco-tax, has expended upon colleges and university over $2,000,000, during her history as a State, not counting the colonial bounty to William and Mary. Since the war Virginia has given her University $40,000 a year. Before the War, she gave $15,000 a year. The original university-establishment cost the State about $400,000. The people of Virginia are proud of their University, and it would be suicide for any political party to cut off the yearly appropriation from the institution founded by Thomas Jefferson. The State of South Carolina was Jefferson's model for generous appropriations to the cause of

sound learning. She has given $2,800,000 to that object. Georgia has given $938,000 for the same purpose. Louisiana has given $794,000 from her State treasury for the higher education in recent years, and, according to the testimony of her own authorities, has distributed over $2,000,000 among schools, academies, and colleges. Texas has spent upon college education $382,000, and has given for higher education 2,250,000 acres of land.* The educational foundations, both academic and popular, in the Lone Star State, are among the richest in America.

Turning now to the Great West, we find that Michigan has given over $2,000,000 to higher education. She supports a University which is as conspicuous in the North-West as the University of Virginia is in the South, upon one-twentieth of a mill tax on every dollar of taxable property in the State. That means half a cent on every hundred dollars. This University tax-rate yielded last year $47,272. Wisconsin pays one-eighth of a mill tax for her University, and that yields $74,000 per annum. Wisconsin has given for higher education $1,200,000. Nebraska is even more generous to her State University. She grants three-eighths of a mill tax, yielding about $60,000 a year. The State of California grants one-tenth of a mill tax, which yielded last year over $76,000. Besides this, the University of California has a permanent State endowment of $811,000, yielding an annual income of $52,000, making a total of $128,000 which the State gives annually to its highest institution of learning. Altogether California has expended upon higher education two and one-half million dollars. The State of Kansas, the central empire of the Great West, gives already its rising university at Lawrence $75,000 a year, "levied and collected in the same manner as are other taxes."

It is needless to give further illustrations of State aid to American Universities. These statistics have been carefully collected from original documents by historical students, who are making important contributions to American educational history, to be published by the United States Bureau of Education. The principle of State aid to at least one leading institution in each commonwealth is established in every one of the Southern and Western States. In New England, Harvard, and Yale, and other foundations of higher learning appear now to flourish upon individual endowments and private philanthropy; but almost every one of these collegiate institutions, at one time or another, has received State aid. Harvard was really a State institution. She inherited only £800 and 320 books from John Harvard. She was brought up in the arms of her Massachusetts nurse, with the bottle always in her mouth. The towns were taxed in her interest, and every family paid its peck of corn to make, as it were, hoecake for President Dunster and his faculty. Harvard College has had more than half a million dollars from the public treasury of Massachusetts. Yale has had about $200,000 from the State of Connecticut. While undoubtedly the most generous gifts have come to New England colleges from private sources, yet every one of them, in time of emergency, has come boldly

before representatives of the people and stated the want. They have always obtained State aid when it was needed. Last year the Massachusetts Institute of Technology became somewhat embarrassed financially, and asked the Legislature for $100,000. The institution got $200,000, twice what it asked for, upon conditions that were easy to meet.

Turning now from historic examples of State aid to the higher education by individual American Commonwealths, let us inquire briefly concerning the attitude of the United States Government towards institutions of science and sound learning.

Washington's grand thought of a National University, based upon individual endowment, may be found in many of his writings, but the clearest and strongest statement occurs in his last will and testament. There he employed the following significant language:

> It has been my ardent wish to see a plan devised on a liberal scale, which would have a tendency to spread systematic ideas through all parts of this rising empire, thereby to do away local attachments and State prejudices, as far as the nature of things would, or indeed ought to admit, from our national councils. Looking anxiously forward to the accomplishment of so desirable an object as this is, in my estimation, my mind has not been able to contemplate any plan more likely to effect the measure than the establishment of a *University* in a central part of the United States, to which the youths of fortune and talents from all parts thereof may be sent for the completion of their education, in all branches of polite literature, in arts and sciences, in acquiring knowledge in the principles of politics and good government, and, as a matter of infinite importance in my judgment, by associating with each other, and forming friendships in juvenile years, be enabled to free themselves in a proper degree from those local prejudices and habitual jealousies which have just been mentioned, and which, when carried to excess, are never-failing sources of disquietude to the public mind, and pregnant of mischievous consequences to this country. Under these impressions, so fully dilated, I give and bequeath, in perpetuity, the fifty shares which I hold in the Potomac Company, * * * towards the endowment of a university, to be established within the limits of the District of Columbia, under the auspices of the General Government, if that Government should incline to extend a favoring hand towards it.

Here was the individual foundation of a National University. Here was the first suggestion of that noble line of public policy subsequently adopted in 1846 by our General Government in relation to the Smithsonian Institution. The will of James Smithson, of England, made in 1826, was "to found at Washington, under the name of the Smithsonian Institution, an establishment for the increase and diffusion of knowledge among men." A simpler educational bequest, with such far-reaching results, was never before made. Whether James Smithson was influenced to this foundation by the example of Washington is a curious problem. Smithson's original bequest, amounting to something over $500,000, was accepted by Congress for the purpose designated, and was placed in the Treasury of the United States, where by good administration and small additional legacies (in two cases from other individuals) the sum has increased to over $700,000. Besides this, the Smithsonian Institution now has a library equal in value to the original endowment, and acquired by the simple process of government exchanges; and it

owns buildings equal in value to more than half the original endowment. During the past year, as shown by the Secretary's report, the Institution was "charged by Congress with the care and disbursement of sundry appropriations,"[1] amounting to $220,000. The National Museum is under the direction of the Secretary of the Smithsonian, and the Government appropriations to that museum, since its foundation, aggregate nearly $2,000,000. The existence and ever-increasing prosperity of the Smithsonian Institution are standing proofs that private foundations *may* receive the fostering care of government without injurious results. Independent administration of scientific institutions can coexist with State aid. It is a remarkable testimony to the wisdom of George Washington's original idea, that Andrew D. White, who, when president of Cornell University, happily combined private endowments and Government land-grants, lately suggested in The Forum[2] the thought of a National University upon individual foundations. This thought is a century old, but it remains to this day the grandest thought in American educational history.

George Washington, like James Smithson, placed a private bequest, so that the General Government might extend to it "a favoring hand;" but in those early days Congress had no conception of the duties of government towards education and science, although attention was repeatedly called to these subjects by enlightened executives like Thomas Jefferson, "Father of the University of Virginia," James Madison, James Monroe, and John Quincy Adams. It took Congress ten years to establish the Smithsonian Institution after the bequest had been accepted and the money received. Unfortunately, George Washington's Potomac stock never paid but one dividend, and there was no pressure in those days towards educational appropriations from an ever-increasing surplus. The affairs of the Potomac Company were finally merged into the Chesapeake and Ohio Canal, which became a profitable enterprise, and endures to this day. What became of George Washington's "consolidated stock" of that period, history does not record. Jared Sparks, Washington's biographer, thought the stock was "held in trust" by the new company for the destined university. There is probably little danger that it will ever be thrown upon the market in a solid block by the Treasury of the United States, to which the stock legally belongs, unless the present surplus should suddenly vanish, and the General Government be forced to realize upon its assets for the expenses of the administration.

George Washington's educational schemes were by no means visionary. His stock in the James River Company, which like the Potomac Company, he had helped to organize, actually became productive and was by him presented to Liberty Hall Academy, now Washington and

[1] Report of Samuel P. Langley, Secretary of the Smithsonian Institution, 1887–88, p. 7.

[2] The Forum, February, 1889.

Lee University, at Lexington, Va., were General Lee died and was buried, having served his native State, as did George Washington, in the capacity of a college president. Washington raised Liberty Hall Academy to what he called "a seminary of learning upon an enlarged plan, but not coming up to the full idea of university." He meant to make it one of the three Virginia supporters of the University at Washington. Liberty Hall, or Washington College, his own William and Mary, and Hampden-Sidney, were all to be State pillars of a national temple of learning.

Washington's dream of a great University, rising grandly upon the Maryland bank of the Potomac, remained a dream for three-quarters of a century. But there is nothing more real or persistent than the dreams of great men, whether statesmen like Baron von Stein, or poets like Dante and Petrarch, or prophets like Savonarola, or thinkers like St. Thomas Aquinas, the fathers of the church and of Greek philosophy. States are overthrown; literatures are lost; temples are destroyed; systems of thought are shattered to pieces like the statues of Pheidias; but somehow truth and beauty, art and architecture, forms of poetry, ideals of liberty and government, of sound learning and of the education of youth, these immortal dreams are revived from age to age and take concrete shape before the very eyes of successive generations.

The idea of university education in the arts and sciences is as old as the schools of Greek philosophy. The idea was perpetuated at Alexandria, Rome, and Athens under the emperors. It endured at Constantinople and Ravenna. It was revived at Bologna, Paris, Prague, Heidelberg, Oxford, and Cambridge under varying auspices, whether of city, church, or state, and was sustained by the munificence of merchants, princes, prelates, kings, and queens. Ideas of higher education were transmitted to a new world by Englishmen who believed in an educated ministry and who would not suffer learning to perish in the wilderness. The collegiate foundations laid by John Harvard in Massachusetts and Commissary Blair in Virginia were the historic models for many similar institutions, north and south. George Washington, the chancellor of William and Mary, when he became President of a Federal republic, caught up, in the capital of a westward-moving empire, the old university idea and gave it national scope. There upon the Potomac he proposed to found a National University, drawing its economic life from the great artery of commerce which connects the Atlantic seaboard and the Great West. As early as 1770 Washington described this Potomac route as "the channel of the extensive and valuable trade of a rising empire."

Was it not in some measure an historic, although an unconscious, fulfilment of that old dream of Washington when, a hundred years later, Johns Hopkins determined to establish upon the Maryland side of the Potomac a university with an economic tributary in the Baltimore and Ohio Railroad, which follows the very windings of that ancient channel

of commerce? Forms of endowment may change, but university ideas endure. They are the common historic inheritance of every enlightened age and of every liberal mind; but their large fulfilment requires a breadth of foundation and a range of vision reaching beyond mere locality. Universities that deserve the name have always been something more than local or provincial institutions. Since the days when Roman youth frequented the schools of Grecian philosophy, since the time when ultramontanes and cismontanes congregated at Bologna, since students organized by nations at Paris, Prague, and Heidelberg, since northern Scots fought southern Englishmen at Oxford, university life has been something even more than national. It has been international and cosmopolitan. Though always locally established and locally maintained, universities are beacon lights among the nations, commanding wide horizons of sea and shore, catching all the winds that blow and all the sun that shines, attracting, like the great light-house of Ptolemy Philadelphus on the island of Pharos, sailors from distant lands to Alexandrine havens, or speeding the outward voyager.

The nations of the Old World are proud of their universities and colleges. Three years ago all Germany and the learned institutions of all Europe united in celebrating the five hundredth anniversary of "Alt Heidelberg." Last summer at Bologna, under the auspices of the Italian Government and of the minister of public instruction, the whole civilized world was represented by academic delegates, who had come joyfully together to celebrate the thousandth birthday of "the mother of studies." Every country in Europe takes pride in the history of its universities and of its system of public education. It is time that something should be done for the history of learning in these United States. Dr. G. Stanley Hall, the president of Clark University, in his Bibliography of Education (page 41), says: "A history of educational institutions in this country is greatly needed. The field is very rich and almost unknown. No comprehensive history exists."

Before educational specialists can have a History of American Education that is worthy of the name, there must be a vast amount of special investigation. There must be many local and State contributions to the subject before national generalizations of any permanent or practical value can be drawn by educators. One might as well generalize upon the character of the American people without an historical study of immigration and without taking a census of the population, as to write a History of American Education before obtaining the local facts.

A great deal of pioneer work in this direction has been done in Barnard's American Journal of Education; in the Annual Reports and Circulars of Information published by the United States Bureau of Education; in the periodical and educational journals of the country, and in the local histories of particular institutions of learning and of particular systems of schools. A strong and novel impulse in the direction of or-

ganized inquiry concerning the history of educational institutions in this country was communicated to the country in its centennial year, 1876, by General John Eaton, then Commissioner of Education. The spirit of local co-operation was enlisted in many of our American colleges, and considerable historical work was then done. Some of it was locally published, but most of it never saw the light. Popular support and Government appropriations were lacking for the adequate prosecution of the work. One magnificent result, however, of this new spirit of organized inquiry was the great volume on the Public Libraries of the United States, their History, Condition, and Management, published in 1876 by the Department of the Interior for the Bureau of Education. A single contribution to the history of education, edited by Dr. Franklin B. Hough, was published by the Bureau in 1883. It was a pamphlet of seventy-two pages, called Historical Sketches of the Universities and Colleges of the United States, and related to the University of Missouri.

The idea of systematically investigating the history of higher education in this country was revived anew in connection with an inquiry undertaken by the speaker, at the instance of General John Eaton, concerning The Study of History in American Colleges and Universities. Although concerned primarily with the history of a single department of instruction in a few representative colleges, like Harvard, Yale, Columbia, Cornell, the University of Michigan, and the Johns Hopkins University, the writer could not fail to discover something of the general historic interest belonging to the development of certain institutions of learning north, south, and west. To represent a school of history and politics in the South, he had proposed to introduce an account of William and Mary College into the above report, but this institution proved so generally interesting, as representing the history of education in Virginia, that the present Commissioner of Education, Col. N. H. R. Dawson, under whom the report on The Study of History was completed for publication in 1887, encouraged further elaboration of the above account for a special Circular of Information. The mongraph on The College of William and Mary; a Contribution to the History of Higher Education, with Suggestions for its National Promotion, was issued as Circular No. 1, 1887, and was cordially welcomed by the friends of higher education in all parts of the country—north, south, east, and west. Aside from the generous public interest kindled in the honorable history and sad misfortunes of this oldest of Southern colleges, next to Harvard the oldest in the country, the publication of this Circular accomplished the more practical result of arousing the State of Virginia to a consciousness of its educational inheritance and to an appropriation to restore the old college to a career of active usefulness. If no other end than this had been effected by the above Circular, the Bureau of Education would have been justified in entering the field of Southern educational history, where historical and quickening work is

most needed. To illustrate the effect upon the educators of the North as well as at the South, it may be added that this monograph furnished materials for a presidential address at a well-known Northern university and for an historical oration at one of the most influential Southern universities.

The immediate success of this pioneer monograph on William and Mary College led the way to the larger thought of treating the history of higher education by States. Accordingly the remaining colleges of Virginia were grouped together by the editor in authorized sketches, supplementary to a study of Thomas Jefferson and the University of Virginia. The idea was favorably received. The need of making generally known throughout the whole country the higher educational systems of individual States and sections is illustrated by the remark of a college trustee in Massachusetts concerning the University of Virginia: "I had not the faintest idea that any such university ever existed or that education ever was on so high a plane in the South." Jefferson's ideas concerning university education, and indeed concerning education in general for this country, were far in advance of his time. Through the instrumentality of professors like George Long, Thomas Hewett Key, Charles Bonnycastle, Dr. Robley Dunglison, and other professors introduced from Europe, Jefferson's plan for an elective system and for real university work in schools of language and science, was practically realized more than fifty years ago. The publication of the facts regarding Jefferson's unique creation, in the vicinity of his own home at Monticello, has proved not only of historical interest but of positive educational value.

The work of organized inquiry into the history of American higher education by States and groups of States was demonstrated by experience to be practicable, and, by general encouragement, to be welcome to all parts of the country. Certain general principles were adopted in the further prosecution of the investigation. Under the direction of an editor, aided by the resources and documentary collections of the Bureau of Education, the preparation of the State monographs was assigned to representative and scholarly men from the State or section of country especially concerned. In all cases the active co-operation and assistance of the various higher institutions of learning in each State were enlisted through a sub-editor. An attempt was made to make the reports at once compact and readable, with a good analysis of contents and a few attractive illustrations of college or university buildings, the plates being by no means confined to the showing of externals, such as dormitories and façades, but picturing also in many cases library and laboratory interiors. In compensation for the lack of absolute historical completeness, full bibliographies of the sources of information were to be appended to each chapter or great subject, so that future students of our educational history might profit by the way-marks left by pioneers.

Although unaided by any special appropriations, and absolutely dependent upon the slender resources of the Bureau for the preparation of Circulars of Information, the work has been extended from Virginia, the oldest of American Commonwealths, throughout all the Southern States, where monographs are either completed or well advanced. The report on North Carolina has lately been published. The returns from South Carolina, Georgia, and Florida are already in the hands of the Government Printer. The work has not been restricted to the South. In anticipation of the historical interest connected with the observance of the centenary of the settlement of the old North-West Territory organized inquiry was early extended beyond the Ohio River. A monograph upon the History of Higher Education in Wisconsin, prepared by Mr. David Spencer, under the general direction of Prof. William F. Allen, of the University of Wisconsin, has been accepted and sent to the Public Printer. At a meeting of the American Historical Association, held in the National Museum during the Christmas holidays, an introductory paper upon the whole subject of Higher Education in the North-West was read by Prof. George W. Knight, of the Ohio State University at Columbus, a graduate of the University of Michigan and author of a scholarly monograph upon Federal Land Grants for Education in the North-West Territory, published among the Papers of the American Historical Association, Vol. I. More elaborate monographs, based upon pioneer work in a vast and unknown field, and representing the history of colleges and universities in the States of Ohio, Illinois, and Michigan, will soon be completed.

Here upon this desk lies a manuscript History of Higher Education in the State of Indiana, mother of the President recently inaugurated. This history was prepared by Prof. J. A. Woodburn, of the State University at Bloomington, who has studied for two years in Baltimore. While no brief description can do justice to an exhaustive and laborious work, it may be summarized as representing—

(1) The services of the old Continental Congress and of the Federal Government towards education in the old North-West Territory.

(2) The early beginnings of higher education in the Territory of Indiana and the rise of State seminaries and academies, with their growth into the State University.

(3) The work of the State normal school and of the various polytechnic and industrial institutions in the State of Indiana.

(4) The organization and early history of the denominational colleges and of other institutions of learning in Indiana.

(5) The development of the school system and the final union or articulation of the same with the colleges and the University.

Work of this kind has been pushed not only throughout the North-West but through the South-West. It has been carried beyond the Mississippi River, to the Pacific slope. The leading idea has been to do pioneer work in the West and South, where almost nothing has been

hitherto accomplished towards a systematic history of colleges and universities. But the older sections of country have not been left out of consideration. State monographs are in preparation or contemplation in all of the New England States, New York, New Jersey, Pennsylvania, Delaware, Maryland, and the District of Columbia. Everywhere the attempt has been made to secure the co-operation of good men and scholarly investigators, with proper historical training for the work entrusted to their hands, and with a scientific spirit rising above all considerations of sectional, or sectarian, or economic interest. In all cases the work has virtually been a labor of love. The funds available for this wide-reaching and important undertaking have barely sufficed to pay expenses actually incurred, to say nothing of properly compensating local contributors for their time and painstaking research.

An illustration of the practical value to the whole country of investigations like these lies upon the desk before you. Here is an elaborate monograph, which has occupied many months of patient toil, on the History of Federal and State Aid to Higher Education. The work was done by Dr. F. W. Blackmar, for several years a professor in a California college and now Professor of History in the University of Kansas. Some of the State superintendents of education here present have doubtless received numerous inquiries from Dr. Blackmar, who for the past three years has been studying in Baltimore. When this monograph begins to come forth in proof from that tomb of manuscripts, the Government Printing Office, some of you will probably be asked to look over the portions concerning your own State, as Dr. Dickinson has already done for Massachusetts, Mr. Hine for Connecticut, Dr. Murray for New York, etc.

Without anticipating the interesting facts and figures contained in this important monograph, facts which have been kept back from individual applicants for information until results could be published to the public at large, it may be said that the work describes:

(1) The attitude of every American colony and State in this Union towards the higher education, considered from an historical point of view.

(2) The chief legislative enactments by colonial courts and State legislatures concerning the establishment and encouragement of higher education.

(3) The history of all financial aid and support given to higher education by every colony and State in this country. The author has found out, from a laborious examination of original statutes, the actual amounts of money appropriated and of lands granted for education by each of the several States and by the Federal Government, throughout our entire history. There is not a practical educator, college president, or trustee in the land who will not appreciate the importance and utility of such a financial history of higher education in America.

(4) The monograph further shows the progress, development, and

present tendencies of higher education in these United States. The history is given of West Point Military Academy, of the Naval Academy at Annapolis, of the Congressional Library, of the Smithsonian Institution, the National Museum, and of the United States Bureau of Education, together with all the financial relations of the General Government towards science and education since the beginning of our life as a nation.

These matters are here communicated to the assembled superintendents of education from all parts of the Union because it is important that you should appreciate their scope and significance, and because you are in a position to strengthen and uphold the highest work of the Bureau of Education. The Bureau was originally founded, in the year 1867, "for the purpose of collecting such statistics and facts as shall show the condition and progress of education in the several States and Territories" (Barnard's First Annual Report, 1867–68, p. 63. Garfield's speech). What better method could there possibly be of showing the condition or progress of education in these United States than by an historical review of the origin, growth, development, and present tendencies of American institutions of learning, beginning with the highest, as did our forefathers, with colleges and universities, and gradually enlarging the horizon of inquiry until the whole field of secondary and common school education is embraced in the retrospect? The broadening plains are best seen from the hill-tops. Unless American educators see to it that the higher education is properly recognized in our State and National reports, our whole system of educational inquiry will degenerate into common school statistics and essays on pedagogical methods. The Bureau of Education ought to take a commanding place in the educational work of the country. By the highest kind of original investigations, at home and abroad, it ought to win the respect and confidence of the best men engaged in educational work, whether college presidents or superintendents of schools. Why is it that the interests of labor and of agriculture can be raised to the dignity of Departments in the United States Government, with a Secretary of Agriculture holding a Cabinet office, while the educational interests of the Republic are allowed to remain upon a lower level? Simply because the educators of this country are content with that level, because they do not exert one-half the compelling energy of either the farmers or the labor-unions. The Bureau of Education ought to become a ministry of public instruction, with a recognized place in the Cabinet and with a constantly energizing influence proceeding from the capital of this country throughout the length and breadth of the land, stimulating the colleges and the universities, as well as the school systems of the whole country, by publishing the results of organized inquiry. The present Commissioner of Labor touches the vital interests of American labor and of all American society by his reports on the condition of working classes *and on the* statistics of divorce. The Bureau can attain an honorable

and influential position in the educational life of the country only by keeping the vantage-ground already gained, by pursuing higher lines of activity, by pressing boldly forward for larger appropriations and higher objects, and by enlisting the cordial support of the best friends of education throughout all these States. Thus gradually the pressure of public opinion will be brought to bear upon Congressmen, and Congress and the nation will recognize at last that the interests of public education are quite as important to the entire American people as are the interests of any one class, like our American farmers or our American workingmen, however honorable the aims of both classes may be.

Strengthen all existing foundations of the higher education in America, whether in the individual States or at Washington. Bring the representatives of public school systems and of our American colleges and universities into more hearty and efficient alliance. Co-operate with every respectable agency for the higher education of the American people, whether by summer schools, teachers' institutes, the distribution of good literature in popular form, or by the institution of home reading circles and university extension lectures, now so popular in the manufacturing towns and mining districts of England. Break down the antagonism between mental and manual labor. Make industrial and technical education as honorable as classical culture and the learned professions. Teach the science of government and social science, European as well as American history in the public schools. Then shall we all have greater respect and toleration for our fellowmen; then will all begin to appreciate the necessity of supporting all forms of education, even the highest, by the combined efforts of society and the State. A noble popularity must be given to science and art in America. The people of every State should be led to see that the higher learning is not for the benefit of a favored few, but that it is beneficial and accessible to the sons of citizens, of whatever station. In the proper co-ordination of the common school system with the high school and university, the Western States are leading this republic to a more thoroughly democratic state of society, with fewer artificial distinctions of culture, with more of the spirit of human brotherhood than the world has hitherto seen. The Eastern colleges and universities will continue to train professors and to develop science, but the West and South will apply both men and ideas to democratic uses. The whole country needs this popularization of culture. With universal suffrage and the sovereignty of the people at the basis of our political life, popular intelligence must be cultivated so that it may be both able and willing to hold fast all that is good in human history, not only civil and religious liberty, but all that makes for happiness and righteousness in a great nation.

PROFESSOR POWELL: It is known to the members of this Department, but not to the mass of the people of the United States, that Washington, with its various departments, is to-day a vast university, doing

a great educational work in this country. And I want to say that I believe that by no other instrumentality is the Government doing so much good educationally, as through its Bureau of Education. I believe it has been true ever since the establishment of that Bureau. The reasons are obvious to you all. In consideration of the remarks that have been made I wish to offer the following resolution:

Resolved, That the monographs published and in preparation by the Bureau of Education upon the history of colleges and higher institutions in the several States are worthy of special consideration; and that, in the opinion of this Department, similar studies of the history of elementary and common school education would be of lasting value and interest.

EX-COMMISSIONER EATON: It is very delightful to me to see this ripening of fruit, this coming of results. It is very fortunate that the body here present are pressing, with resolutions, this publication of information which has been so long delayed. But they need to do more. It is not enough to say that we prize these publications and this work here, in words, and then drop the idea. It needs to be pressed where it will tell upon the source of the funds by which this publication must be effected. Now, it is not merely that the Commissioner devises these plans and these experts carry them out in the preparation of this valuable material; it may lay months and years and finally become dead matter unless there is money for the printing of these monographs in the possession of the Government. This idea of historical treatment of education was fully outlined, in all its details, at Philadelphia. Three thousand dollars were spent in sending a man personally to the different colleges and universities of the country to arouse within them the historic spirit. They had not prepared their histories. There was to be not only an exhibition at Philadelphia of education in the different States, of what these States could present, but history written and printed and very full notes of some hundred and fifty colleges were secured. Then what happened? The money failed; and if the money should fail here at this point, the resolution and monographs would become dead matter; and this is the point I urge, that we see our members of Congress, that we move upon the source of money by which this endeavor will be perfected. It is true that while I said this material accumulated became dead matter in a sense, a large amount of it has become public. The history of the University of New York came out of this collection of material; and so with the historic publication in reference to several other institutions; but the great body of it has been of no special service to the country on this account. Now don't let the money fail. And let me say here that all of this work is embarrassed, not merely for lack of money to publish, but to pay services. Why should these men sacrifice their time and endeavor for our benefit and that of the country while there is so much money to be had for everything else? The teachers need to emphasize their demands, as the friends of labor emphasize their demands. Have we not seen a bureau in their interest come into being in a very short

time and the salary of the officer advanced to five thousand dollars, while the Commissioner of this office, representing education at the national capital, can receive only three thousand dollars, and can have only about fifty thousand dollars a year to spend on his clerical force? It is time, gentlemen, it is high time that there was action, emphasized action, until the results are secured. Money is not only needed to pay service, but to give room for service in this country where land is so cheap and properties are so obtainable. Look at the history of the treatment of that office with reference to space. When I first went into that office we had two rooms; and then we were driven out of that building into another, and another, and back to where the office is at present, and then not allowed all of that small building. Go there to-day and see how the museum is crowded out of place, and the books of the library have to be put in rooms where work is going on all the time. Shall it be said that there is not interest enough in education in the United States to furnish that office a proper home, a proper working place and proper means?

MR. SCOFIELD: We have appointed a good committee to memorialize Congress, but it won't get much further unless every man in every section of the country shall put his shoulder to the wheel. In New York we adopted this plan in some of our Congressional districts. I happened to be the man in our district, and it is my business whenever any educational matter comes before Congress, to at once prepare and send to every educational man in that Congressional district, for his signature, a memorial to our member of Congress. We can accomplish anything we like almost, in the way of advancing the work in the department of the Bureau of Education, if we only set about it. I believe the educator can mould public opinion as no other man in the vicinity can mould it, if he only knows how to do it. And I hope the men in this country will keep posted on what is before Congress, and will earnestly set about it, and put a sustaining hand under the Commissioner and furnish the means.

MR. PARR: I want to add just a word in emphasis to what has been said, with this added thought,—that in place of going to these men as suppliants, we should stand squarely on our heels and demand as a right the action we desire. Teachers lack the courage to stand up and demand what they need. We have an educational text-book which is unpopular with the educational people of the State, and yet in the face of that fact there were but two men in the State to stand up and oppose a measure which was passing through our Legislature which we thought very detrimental to the educational interests of our State.

EDUCATION IN THE SOUTH.

By Hon. W. R. Garrett,

South-Western Journal of Education, Nashville, Tenn.

Mr. President: The condition of education in the South has for many years engaged the attention of the friends of education in all parts of the United States. Its history has received an impulse from the recent publications of the Commissioner of Education, in which Prof. Herbert B. Adams has directed attention to several prominent Southern colleges.

The whole subject, whether viewed in its present condition or its past history, comes more immediately into notice on account of the location of the next meeting of the National Educational Association in a Southern city. In discussing education in the South from a Southern stand-point, I do not wish to appear as its eulogist, or its censor, or its partisan. I shall make no effort to present an array of statistics, or an exhaustive historical treatise. It is my purpose, rather, to sketch some of its characteristic features, to suggest some points in which it has differed from the education of any other section of the country, and to do all in my power to correct some impressions which seem to me to be erroneous, but which have gained currency both at home and abroad.

Some persons have discussed the subject from the stand-point of statistics, and have drawn from the tables of illiteracy hasty and illogical conclusions. No candid observer will deny or wish to disguise the facts of the United States Census, or the inferences legitimately drawn from them. The tables of illiteracy incontestably prove that the ratio of persons over ten years of age, exclusive of the colored population, who cannot read and write, is greater in the South than in any other section of the United States. These statistics certainly warrant the inference that, tried by its results, there have been grave defects in Southern education which have not existed in other sections of the Union. The finger of fact, however, does not point to the cause, and these statistics do not justify such inferences as the following:

As the ratio of those who cannot read and write in Massachusetts is to the ratio who cannot read and write in Virginia, so is education in Massachusetts to education in Virginia.

Education in the South has been neglected, teachers have been incompetent, the colleges and higher institutions have been imperfect and inadequate, the academies and preparatory schools have been insufficient, very little money has been expended, and the whole population is indifferent to education and largely illiterate.

Again:

The history of early American literature plainly shows the dearth of Southern production in the departments of history, poetry, fiction, and what may be called the current or lighter literature.

This fact can not be denied. Without stopping to engage in a metaphysical discussion as to whether this is due to the lack of genius, or to the direction of genius into different or higher channels, on the principle of Metternich, that those who make history do not write history, or as to whether it indicates the lack of the literary or the commercial element of book-making, I deem it sufficient to my purpose to point out the fact that no statistics warrant the assumption that the dearth of Southern production in the enumerated fields of literature proves the inadequacy of Southern education.

On the other hand, writers of ability have shown by computations, almost statistical, since the exact statistics of early Southern education cannot be reached, that the Southern States have, in the past, in proportion to population and resources, spent as much money for education as any other section of the country; that they have always maintained universities, colleges, and institutions of high grade, and an adequate number of academies and preparatory schools; that the work of these institutions and the attendance of pupils have been fully equal to that in other sections of the Union. From these facts, which, I think, cannot be successfully denied, conclusions have been drawn in favor of Southern education, some of which are misleading. It is needless to pursue the enumeration of these apparently conflicting views. Can they all be true? Perhaps not; but to a certain extent, I think, they can be reconciled.

The South did, indeed, make a grave educational mistake, but not the mistake so frequently attributed to it. This mistake limited the usefulness of education in the past, embarrasses its efficiency at the present, and presents to those who wish to investigate its former work only meagre statistics and scraps of history. This mistake can, perhaps, be best pointed out by contrasting the educational systems of the three sections of our country which are geographically distinct from each other, the North-East, the West, and the South. In making this sketch, I shall introduce copious extracts from an address which I had the honor to deliver, August 5, 1885, before the Tennessee State Teachers' Association, on The History of Teachers' Institutes in Tennessee, I shall offer no apology for this, because I believe that those who hear me will listen with more interest to words spoken among Southern educators in family council than to language carefully weighed for general circulation.

The first institution of learning in the United States was Harvard University, founded by an enactment of the General Court of Massachusetts, in 1636, just two hundred years before the development of her public school system under Horace Mann.

William and Mary College, in Virginia, was projected in 1619, began

its corporate existence in 1660, but was not in actual operation until 1692. Other colleges and universities were established. Whoever takes the trouble to investigate the early history of education in this country will be struck with the fact that the attention of our forefathers was directed, in the first place, to the higher education. The college preceded the school, extending its influence downwards. In the North-Eastern States, beginning as early as 1642 in Massachusetts, common school education was stimulated by enactments of exhortation, by statutory suggestions, and by legislation directory to local authorities. In the South, it was left solely to accident and private enterprise, and was ignored in legislation until 1777. In our colonial period, organized systems of common school education were nowhere to be found. Exclusively in the South, and to a great extent in the whole country, education was built from the top. Is it wonderful if its foundation was defective?

New England was the first to discover the mistake. Early in its history, Massachusetts began the reform, but it took many years to reach complete results.

New England may thus be regarded as the prototype of common school education in America. Her common schools were the first to be woven into comprehensive and efficient public system. To her must be accorded all the honors which belong to the pioneer who marks out the road. To her still cling some of the faults which inhere in all prototypes, embedded and crystallized in early formation.

In the North-East were first tested the appliances brought to bear by the State for developing education into a science. Here the centrifugal tendencies of the old systems were first corrected. The teacher was taken from the school-room, where he had so long worked alone, apart from his co-laborers, and was thrown into contact with the educational world. The four parties to education were thus brought together, the teacher, the pupil, the parent, and the public. Friendly supervision by State and county officers, gathering statistics, diffusing information; the normal school, for the systematic training of teachers; the popular institute, where all the parties of education meet on a common level; all these beneficent appliances soon began to reflect into each school-room the combined experience of all the educators of the country; and better still, the strong common sense of the American people was thrown into the school-room in a current as refreshing and as purifying as a stream of fresh air into an overheated atmosphere.

The schools of such a system must, inevitably, soon surpass the schools of a system where no such appliances are used; not from any superiority of learning or ability in the individual teacher, but from the community of thought and the unity of action. Improved methods are disseminated, school wants are understood by teachers and the public, superior appliances are provided, schools are more equally diffused; in short, education flourishes through the only means by which anything can reach complete development in this country, the public sympathy.

Although similar systems existed in some other portions of the country, yet the system of New England was the first to develop into vigor. Such a system could not long be left to one corner. It is now the system of the United States.

Education in the West was not left to evolve its slow growth from its own conditions, hindered by early errors. It sprung into existence in the full blaze of the nineteenth century, and used the dear-bought experience of others. The sagacious statesman, Thomas Jefferson, who contributed more than any other person to make possible the development of the West, was defeated in his native State in one of the dearest wishes of his heart. He was one of the few men in the South who grasped the idea of a public system of instruction. When his most strenuous exertions failed to engraft such a system on the laws of Virginia, he was compelled to be content with founding a great university. Yet, so much delighted was Jefferson with this much of victory, that he caused to be engraved on his tomb, "Thomas Jefferson, author of the Declaration of American Independence, and of the Virginia Statute for Religious Freedom, and Father of the University of Virginia"—a fitting epitaph, which tells us that the same hand which penned the declaration of human rights, points to education as the means to preserve them forever.

When Virginia was induced, largely through his influence, on December 30, 1780, to make the great Christmas gift by which she ceded the North-West Territory, Jefferson, who was in Congress in 1784, when this cession was accepted, became chairman of the committee to prepare a plan for the organization of the Territory, and laid the foundations of the American policy of territorial government. When Louisiana was added to the United States, that joint monument to the genius of Jefferson and Napoleon, the only handwriting of Napoleon now left on the map of the world, the same system was extended to the new Territory, and afterwards to all the other Territories.

As the great West began to be peopled, an educational advantage was enjoyed which no other portion of the Union had felt. Each State received as a birthday present from the United States a magnificent donation for education. The system was built from the bottom. No top-heavy branches, no crystallized strata impeded its growth.

The common school followed close on the heels of the pioneer, and expanded into higher education in direct response to popular demand. The New England methods and systems grew and widened in the virgin soil, and the education of the West, although the youngest, is to-day the most robust and healthy plant in America.

What has been said in reference to the other sections may be sufficient to indicate the great mistake of the South. It was not the mistake of indifference, or ignorance, or inertness. It was the mistake of methods and systems. It was the error of prejudice, inhering in their old English blood, and confidence in their time-honored English insti-

tutions. With difficulty the people were brought to believe that State aid was legitimate to found colleges and universities. They believed that common school education would flourish better in private hands, and that it was not a legitimate subject of State legislation. An illustration of this sentiment is shown in the fate of Jefferson's school bill, presented to the Legislature of Virginia in 1777. He urged his own State to establish a complete and general system of education, consisting of elementary schools, academies, colleges, and a great central university. He urged this during the whole course of his political life, in every way in his power; by bills in the Legislature, and by letters to legislators, reaching almost to importunity. In 1777 a committee was appointed to revise the laws of Virginia. This committee consisted of Messrs. Pendleton, Wythe, George Mason, Thomas L. Lee, and Thomas Jefferson. In this committee Mr. Jefferson proposed his first plan for public education in Virginia. It was approved by the committee, and he was requested to prepare a bill. Jefferson thus alludes to it in his autobiography (Vol. I, page 47).

I accordingly prepared three bills for the revisal, proposing three distinct grades of education, reaching all classes. First, elementary schools for all children generally, rich and poor. Second, colleges for a middle degree of instruction, calculated for the common purposes of life, and such as would be desirable for all who were in easy circumstances. Third, an ultimate grade for teaching the sciences generally and in their highest degree.

These bills were presented to the Legislature, June 18, 1779. The report of this committee embraced 126 bills, involving radical changes in the jurisprudence of the State.

Jefferson says:

Some bills were taken out occasionally, from time to time, and passed, but the main body of the work was not entered on by the Legislature until after the general peace in 1785, when, by the unwearied exertion of Mr. Madison, in opposition to the endless quibbles, chicaneries, perversions, vexations, and delays of lawyers and demi-lawyers, most of the bills were passed by the Legislature with little alteration.

He alludes to action of the Legislature on his three educational bills with evident chagrin:

These bills were not acted on until the same year, 1796, and then only so much of the first as provided for elementary schools, and in the elementary bill they inserted a provision which completely defeated it; for they left it to the court of each county to determine for itself when this act should be carried into execution within their county.

The result was that Jefferson's first school bill, after passing into a law, was allowed to become a dead letter, not a single county putting it into operation. The following sketch of his plan for elementary schools, the portion of his general system in which he felt the deepest interest, is taken from the last bill which he prepared for the Legislature, and enclosed to a friend, September 19, 1817. In this bill he collates, in a finally matured form, substantially the same suggestions contained in

the bill passed by the Legislature forty years before, and frequently renewed in the interval. The quotation marks below enclose Jefferson's language.

JEFFERSON'S PLAN FOR ELEMENTARY SCHOOLS.

(1) "Be it enacted by the general assembly," etc., "That the superior court of each county shall appoint three visitors," etc.

(2) The visitors shall divide the county into wards, making a division similar to our present division into school districts.

(3) The visitors shall appoint a day and place for a ward meeting. The voters of the ward, whom he styles warders, shall vote on the following questions: "First, the location of a school-house for the ward, and a dwelling-house for the teacher (the owner of the ground consenting thereto); second, the size and structure of the said houses; third, whether the same shall be built by the joint labor of the warders or by their pecuniary contributions; fourth, to elect by a plurality of their votes a warden, resident, who shall direct and superintend the said buildings, and be charged with their future care."

(4) "If they decide that the said buildings shall be erected by the joint labor of the warders, then all persons within the said ward, liable to work on the highways, shall attend to the order of the warden, and, under his direction, shall labor thereon until completed, under the same penalties as provided by law to enforce labor on the highways. And if they decide on erection by pecuniary contributions, the residents and owners of property within the ward shall contribute toward the cost, each in proportion to the taxes they last paid to the State for their persons and for the same property, of which the sheriff or commissioner shall furnish a statement to the warder, who, according to the ratio of that statement, shall apportion and assess the quota of contribution for each, and be authorized to demand, receive, and apply the same," etc. On failure of any warder to pay his quota, the sheriff is ordered to collect the same "under the powers and regulations as provided for the collection of public taxes."

(5) "It shall be the duty of the said visitors to seek and to employ for every ward, whenever the number and ages of its children require it, a person of good moral character, qualified to teach reading, writing, numerical arithmetic, and geography, whose subsistence shall be furnished by the residents and proprietors of the ward, either in money or in kind, at the choice of each contributor, and in the ratio of their public taxes, to be apportioned and levied as on the failures before provided for. The teacher shall also have the use of the house and accommodations provided for him, and shall, moreover, receive such standing wages," etc. "At this school shall be received and instructed gratis every infant of competent age who has not already had three years' schooling," etc.

The remaining sections, 6, 7, 8, 9, 10, 11, and 12 contain some matters of interest, such as provisions for succession, penalties, etc. Our limits preclude a synopsis of them.

It will be seen that while Jefferson omitted from his plan any provisions for State or general supervision, he went further than the most liberal enactments of the present day, in the direction of rendering the teacher's position permanent, by providing a residence for the teacher of every district school. The practical defeat of this bill was a fatal blow to common school education in Virginia and the entire South. Yet, the people were far from being indifferent to common schools. These schools sprung up all over the land, and were sustained by a large *patronage*. They were supported as private enterprises by tui-

tion fees, and were not accessible to all. There was another class of schools which must not be overlooked. Unnoted in the statistics of the census, ignored in the quantitative philosophy of the statistical reasoner, the *home school* exerted a quiet but powerful influence in the South. In a population, agricultural in habit and rural in taste, occupying a country divided into large plantations, the best primary teacher, the natural teacher, the mother, in many cases, found leisure to teach her own home school. In other cases, the private tutor conducted the family school, and made no report to the census-taker. Some of these schools did a work whose methods were surpassed by those of Roger Ascham, or Pestalozzi, or Froebel only in publicity and post-mortem laudation.

It is a mistake to suppose that any general feeling ever existed in the South to confine education to the wealthy classes. It is true, to some extent, that the system tended to produce that effect, but no such design ever existed among its promotors. Still, the Southern system, or rather want of system, produced its legitimate effects. There were many good schools, there were many teachers of zeal, learning, and ability; but they were not all good schools, and they were not equally distributed. The higher institutions, universities, colleges, and academies, which require concentration at a few points of means and appliances, were enabled to procure these necessities of their existence. They lived and thrived. The success they attained and the benefits they conferred are attested in the statistics of the census.

Thus the South persevered in its old English system, and continued to build from the top while its foundation was defective. The primary and common schools needed wide diffusion and adequate support, organization, and system. Those who suppose Southern teachers, as a class, to be wanting in learning and ability, have failed to do them justice. Many of them had too much learning. Some of them were college graduates who understood books, but did not understand the children, and who had mistaken views of popular education. What they lacked was professional training and skill; what the system lacked was intercommunication, appliances, and supervision. Each teacher, unaided by his co-laborers, remained alone in his own school-room, and was, perforce, either a failure or an original genius. Each neighborhood worked out the separate problem of its own education.

One of the most fatal defects was the tendency of the primary and common schools to crawl up to the grade of the high schools, leaving a vacuum below. This defect must inhere in any private system of schools taught by men of learning, whose thoughts aim at college, and whose tastes, ambition, and interest alike tempt them to the higher departments. But such a tendency, working for years, will ruin the primary instruction, causing it to be undervalued and ignored. It is no reproach to the teacher if such a system was found inadequate to popular education and was discarded by the South.

The period extending from 1867 to 1875 marked the dawn of a new era in Southern education. The establishment during this period of public school systems in every Southern State is one of the political miracles. Whether the change in public sentiment which made this result possible is due to the revelations of the census or to other causes, it is not my purpose to inquire. The revolution has been accomplished.

Let us examine its effects. We will take Tennessee as an example, and what is said of Tennessee will apply, in the main, to the other Southern States.

Prior to 1867 there had been in Tennessee no State system of public schools. There had been some inefficient State aid and several inadequate legislative enactments. The interest upon the school fund amounted to $90,000. This interest, annually distributed among the counties and disbursed by them at discretion, was so small and so injudiciously used that it failed to accomplish any useful result, and was generally looked upon as a sort of charity fund. The effort in 1867 to establish a system of State public schools met with only partial success, mainly for the reason that it was enacted in advance of public sentiment. The work of its able superintendent, General John Eaton, was not, however, in vain, though its fruits were not immediately gathered. The law of 1867, a good law in itself, was practically repealed by the law of 1870. This law of 1870 remitted the whole subject to the several counties. A few counties organized schools, but the system lacked unity and vitality. The law of 1873 may be regarded as the beginning of our present public school system of Tennessee. With this public system came its four great appliances for developing common school education into a science and a profession. These appliances are: First, supervision; second, normal schools; third, teachers' institutes; fourth, graded schools. To this may be added a fifth appliance, now being introduced into many States, the teachers' reading circle.

Southern education is now in a malleable condition. The mistake has been discovered, and the remedy applied. The teachers and the people are engaged in reconstructing methods and systems. Public attention is awakened. The teachers are displaying sound discrimination. There is candor and intelligence about them, which makes them safe judges of educational theories, and they are willing to listen.

In the very outset of its educational reforms, the South was confronted with a grave problem and burdened with a heavy load, which has retarded the progress of no other section of the Union. I prefer to state this problem in the language adopted by the Tennessee State Teachers' Association in its memorial to Congress petitioning national aid to education, which memorial was presented in 1885:

1. The State of Tennessee established a public school system in 1867, made it more complete in 1873, and has since maintained it in partial efficiency. The inauguration of this system has been attended with peculiar difficulties. The State lacked school-

buildings, appliances, and all of those accumulations which have accrued to States beginning their systems under more favorable auspices, and perfecting them in times of prosperity by the accretions of many years. Beginning its school system while yet suffering from the effects of a desolating war, the State found nearly one-third of its population, who had been suddenly emancipated from slavery, unable to contribute to the revenues of the State, and totally illiterate. The task thus devolved upon the remaining two-thirds of the population to begin a public school system from its foundation and to provide not only for their own children, but also for this mass of illiteracy.

2. The task was undertaken by the State in good faith, and the burden has been cheerfully borne by the people to the best of their ability. Taxes have been levied by the State, and additional taxes by nearly all the counties, continuously, since 1873, and the revenues arising therefrom have been equally and fairly distributed among all classes of citizens. The following statistics, taken from the reports of the State officers for the year 1884, support these statements:

The scholastic population is 585,391, consisting of 420,997 whites and 150,832 colored; three counties being included in the total not reporting the ratio of white and colored population. The white population is thus 72½ per cent. and the colored 27½ per cent. of the total; 6,395 schools have been maintained for the average period of 78 days; of these, 4,924 are white schools and 1,471 are colored schools; 77 per cent. being white schools and 23 per cent. colored; 350,143 pupils have been enrolled, of which 272,850 are white pupils, and 77,293 colored, 78 per cent. being white and 22 per cent. being colored. Considering the fact that there were at the outset no schoolhouses for the colored population, and that the necessity to labor and other difficulties have prevented many colored children from attending school, these ratios approximate the ratio of population with surprising accuracy.

The total taxable property of the State was $226,884,184, and the amount of school money received from all sources was $1,292,126. This money was collected from various sources, being State, county, poll, property, and license taxes, and the interest on the school fund. It is equivalent to a property tax of about five mills on the dollar, or $5 on each $1,000 of taxable property.

To this statement of the State Teachers' Association, showing the statistics of 1884, I append the following synopsis, taken from the reports of the State officers for 1888:

The total scholastic population is 652,508, of which 489,674 are white, and 162,834 are colored. The white population is thus 75 per cent. and the colored population 25 per cent. of the total. Six thousand eight hundred and fifty-one schools have been maintained for an average period of seventy-nine days. Of these, 5,427 are for whites, and 1,424 for colored; 79 per cent. being white and 21 per cent. colored. Seven thousand four hundred and thirty-nine teachers have been employed. Of these, 5,875 are white, and 1,564 colored; 79 per cent. being white and 21 per cent. colored. Four hundred and eleven thousand six hundred and one pupils have been enrolled. Of these, 326,168 are white, and 85,433 are colored; 79 per cent. being white and 21 per cent. colored. The total number of pupils in average daily attendance is 278,876. Of these, 220,538 are white, and 58,338 are colored; 79 per cent. being white and 21 per cent. colored.

It is proper to state in addition that, by official ruling of the State superintendents, schools for white and colored are maintained equal lengths of time. It will thus be seen that all the ratios by which the

operations of the system may be tested, school-houses, teachers employed, pupils enrolled, average daily attendance—all these ratios continue more nearly to approach the ratio of scholastic population, and have now, in spite of all obstacles, reached within four per cent. of that ratio.

The total taxable property of Tennessee for the year 1887 was $224,909,179, and the total amount of money for school purposes from all sources was $1,707,699.25. This is equivalent to a property tax of 7½ mills, or $7.50 on each thousand. In this estimate, the balance on hand at the beginning of the school year is included in the total receipts. I am informed by the State superintendent and by the State comptroller that the amount of uncollected taxes will about offset this balance. The last report of Hon. Wood E. Thompson, State superintendent of Arkansas, shows that the amount appropriated by that State for school purposes is equivalent to a property tax of 7 mills on the dollar.

Space forbids an enumeration of the enactments or statistics of the several Southern States. I cannot forbear, however, to place before you the resolutions adopted by the Mississippi State Teachers' Association, at a meeting held in the capitol at Jackson, December 28, 29, 1888, together with extracts from the able address of Prof. John Wesley Johnson, of the University of Mississippi, the mover of the resolutions. Professor Johnson says:

> Considering these matters, the question presents itself to-day, What is our duty, as educators, to the negro? What have we done? What have our Northern friends done? What has the negro done for himself? When the negro was freed, being in a condition of utter helplessness, financially and mentally, he could not be expected to do much by himself. The South was too poor, to say nothing of unwillingness, to furnish anything like adequate means for this awful incubus upon our educational system. Evidently, the duty fell upon our Northern friends to educate this race. They prematurely gave him the ballot, therefore they should teach him to use it intelligently, and that, too, as rapidly as possible. Oh, that they could make another amendment to the Constitution and qualify him to use it, as easily as they passed the Fifteenth Amendment, by which they permitted him to use it.

After presenting in detail the statistics on which he bases his calculations, and which I regret that I am compelled to omit, Professor Johnson sums up as follows:

> In answer, then, to the question, "What are our Northern friends doing?" we must say that they are doing much, and doing it nobly. It is probable that about $1,000,000 annually crosses the Mason and Dixon line for the education of the negro in the South.
>
> As to what the South is doing in this same stupendous work, it will be pardonable, I hope, to refer at the outset to the poverty of the Southern States. It is estimated that the War cost the South, counting the destruction of property by the Federal Army and the support of the Confederate Army, about $2,000,000,000. Besides this, there were freed 4,000,000 slaves, which, estimated at $500 each, would make $2,000,000,000 more. In the face of such appalling statements, and in view of the fact that every industry was completely paralyzed, it would seem unreasonable to expect anything from the late Confederate States for several generations.

Professor Johnson shows, from the report of Commissioner Dawson for 1885, that the eleven Southern States expended for education the sum of $9,760,710; that the colored school population in these eleven States is about 40 per cent. of the entire school population; that the two races share the public school fund in proportion to the number of educable children. This would give as the share of the colored children $3,904,284. "Several causes, however, conspire to make the amount less."

After pointing out these causes, he continues:

Making, then, due allowance for both these impediments, there still must be paid by these eleven States considerably more than $2,000,000 annually for the education of the negro. In answer, then, to the question "What are the Southern States doing for the education of the negro?" the same answer may be given as in the case of the Northern States: "They are doing much and doing it nobly." With less than one-seventh of the taxable property of the Government, the Southern States are doing more than the other States combined. The question next arises, "What is the negro doing for himself? What part of these vast sums is he paying?" In truth we must say, "Very little." Under the circumstances very little is expected. In proportion to ability, no doubt, he pays quite as much as his Northern benefactors or Southern supporters. It seems impossible to secure reliable data showing just what part of the tax he is paying.

At the conclusion of his address, Professor Johnson offered the following resolutions, which were unanimously adopted, at a full meeting attended by leading educators from all parts of the State. They may, therefore, be taken as reflecting the sentiments of the educators of Mississippi:

First. That we cheerfully approve and heartily appreciate the efforts of our Northern friends in assisting to educate the negro and to improve his general condition and efficiency as a citizen.

Second. That we indorse an impartial system of public schools, separate for the two races, believing such to be the most efficient means of educating the masses, both white and black, but we demand a longer term than four months.

Third. Inasmuch as our school fund can sustain only about four months' public school, we recommend that the fund be increased by an increase of poll-tax.

Fourth. That we commend the zeal of the negro in utilizing the public school as well as he does, and we would encourage him to supplement the funds by private subscription, and protract the schools beyond their usual four months' term.

Fifth. Inasmuch as the negro is a national factor in our Federal Government, we believe it to be an imperative duty of our Federal Government to assist in furnishing adequate means for education. Of all measures thus far proposed, we believe the Blair bill the most adequate and just.

Sixth. We believe, as a rule, that it is best that the colored schools be taught by colored teachers; yet, if white people, either from the North or the South, teach colored schools in an honest, missionary spirit, we believe such teachers to be entitled to the respect, confidence, and sympathy of all Christian people.

In presenting this sketch of Southern education, I have endeavored to render a true picture, free from extenuations or exaggerations. I think I am justified in drawing the following conclusions:

First. The South has done and is still doing more than has ever been done by any other people for the education of a race just released from

bondage and essentially distinct from themselves in lineage and physical conditions.

Second. I think I may fairly conclude that the greatest defect of Southern education in the past has been the imperfection of the primary work, the lack of intercommunication among its different departments, and the failure to use the great public appliances to secure the adequate diffusion of common schools and the harmonious development of its educational factors.

Third. That some excellent features of Southern education have not been presented in statistics, and have never received just recognition.

Fourth. In spite of the gravest difficulties ever encountered by any people in the organization of a school system, the recent educational progress of the South has been the most rapid and the most salutary of which history has any record.

Fifth. In a financial direction, Southern educational progress has now approached the limit which the resources of the several States will enable it to reach for many years. In all other directions, it will continue to develop in efficiency. The skill of teachers will increase, and the agencies at work will expand, but the extension of school terms and the accretions of matured systems cannot be attained from State revenues until the general development of the country brings a denser population and larger resources.

I have alluded only incidentally to our higher institutions, partly because it is not my purpose to present a statistical review, and partly because the discussion of the essential defect in Southern education has led us to look elsewhere. The higher education has not differed greatly from that of other sections. It has been said that our higher education has been too narrow in its scope; that all of our colleges have been modelled on one plan, and have confined their work to the sphere of classic culture and to the production of orators, statesmen, and professional men. I shall not stop to discuss this point. Certain it is that they have produced such men, and it is also certain that there has been a lack of special and technical institutions.

The South has always had many excellent colleges and universities of a general literary character. Two of these have records second in lustre and usefulness to none in the United States. Others have grand, though unwritten, histories, and yet other younger institutions are now engaged in making history. In some parts of the South, we have too many colleges, standing as rivals in each other's way. The same may be said of other portions of the United States.

In nearly all of the Southern States there have been for many years a number of academies. Some of these have been excellent schools, and some have not. Very few have been endowed. Very few have modelled their courses to any general plan of instruction; and they have usually declined to become special preparatory schools. To a certain extent they have conformed themselves to the wants of their several commu-

nities, and have partially supplied the lack of public schools. In this they have acted wisely, and have understood the needs of popular education better than the higher institutions. Still, the lack of special preparatory schools has been seriously felt by the universities.

Tennessee and one or two of the South-Western States enjoyed an opportunity which did not accrue to the other Southern States. This opportunity, wisely used, would have proved a valuable advantage. From the failure to appreciate and utilize it, the main benefit was lost. North Carolina, in 1790, ceded to the United States the "sovereignty and territory of all lands" within the present limits of Tennessee. In 1796 Tennessee was admitted as a State, but the United States retained the title to the public lands. In 1802, Thomas Jefferson, then President of the United States, had the satisfaction to sign the enabling act for Ohio, the first State carved out of the North-West Territory, thus conveying to the infant State in 1802 the first fruits of the educational seed which was planted by the benevolent wisdom of those who framed the ordinance of May 20, 1785.

It was not until 1806, ten years after its admission as a State, that a similar provision was made for Tennessee, in the cession act of Congress, which act likewise bears the signature of Thomas Jefferson. By this act the United States ceded to Tennessee the public lands to which the Indian title had been extinguished. Provisions were made for the benefit of education similar to those made in the case of Ohio, but differing in one important particular. In Ohio, and in the other States carved out of the North-West Territory, the sixteenth section in each township was designated and conveyed direct to the inhabitants of the township. The admirable system of United States surveys definitely located the grant, and the title was vested. Tennessee, which had been admitted ten years before its land cession, had not been reached by this system of surveys. The township and section could not, therefore, be designated, and Congress did not vest title in the inhabitants of a township or district. The provision was in the following words:

> And the State of Tennessee shall moreover, in issuing grants and perfecting titles, locate six hundred and forty acres to every six miles square in the territory hereby ceded, where existing claims will allow the same, which shall be appropriated for the use of schools for the instruction of children forever.

This provision imposed a duty on the State, but failed to vest title in the subordinate civil division. Tennessee had no series of civil divisions of 6 miles square corresponding to the township. The grant was not, thus, definitely located and vested. In the mean time much of the land had been taken up by valid claims, and with the rapid stream of immigration which poured in, the squatter preceded the surveyor. Many acts were passed by the Legislature to protect the school lands, but from the vague nature of the grant, and possibly from the failure to appreciate its value, the opportunity to utilize it was lost.

Another provision of the same act of Congress, however, was turned

to better advantage. This provision required the Legislature to set apart 100,000 acres for the use of two colleges, and 100,000 for the use of academies, one for each county, said lands to be sold for not less than $2 per acre, and the proceeds to be invested in funds for the uses aforesaid. To protect these lands, the State attempted to construct legislative enactments to serve as a fence against the squatter. The result was numberless lawsuits, and finally the loss of much of the best land. Most of it, however, was saved, and the proceeds applied to the purposes of the grant. The college funds were applied to the erection and partial endowment of two colleges, one of which is now the State University at Knoxville, and the other the Peabody Normal College at Nashville. The funds of both these institutions have been supplemented by private subscriptions and subsequent donations. In addition to these, a number of colleges and universities and schools have been established and endowed by the various religious denominations of the South-Western States, and located in Tennessee. From this circumstance Tennessee deserves the name of "The University State of the South." Many of these are excellent institutions. One of them, having received a munificent donation, has adopted, in honor of the donor, the name of Vanderbilt University.

On September 13, 1806, 27 academies were incorporated, one in each county, and were made recipients of the academy fund. The fund was supplemented in most of the counties by private subscription, and was barely sufficient for building purposes. In most cases, however, good and substantial structures were erected, which are still standing, and some of them are now public high schools. In addition to these, a number of academies were established by private donations, by social orders, and by religious denominations. All of these institutions were, in the past, maintained by tuition fees. Very few of them were endowed. Some of them were called colleges, but they have rarely attempted to perform college work. They have really been county high schools. The assumption of the name college, however, has misled a few of these institutions to misconceive their true functions, and has exposed many excellent institutions to unmerited ridicule. It should be remembered that the name college was applied to institutions of similar grade by no less authority than Thomas Jefferson.

It, thus, appears that the history of education in Tennessee forms no exceptions to the general history of Southern education. Our ancestors maintained academies, colleges and universities, but neglected and undervalued primary and common schools; or at least left them to private enterprise, and devoted legislative attention to the top of the educational edifice.

The important part which has been played in education in the South by the Peabody Fund, the Slater Fund, and by the donations of Vanderbilt, Tulane, and others, and the work done by various religious and benevolent societies in the establishment of colleges and universi-

ties for the instruction of the colored race, are too well known to need recital.

I can not conclude this paper without alluding again to the potency of the agencies of the public system, and the wonderful effect they have produced on Southern education in all its grades from the kindergarten to the university. Those educators whose experience has been confined to State systems which had become mature before the present generation of teachers had entered upon the stage, may find some difficulty in realizing the power of these appliances with which they have always been familiar. They may even be disposed to attribute the completeness of their own educational systems to the individual strength of the separate atoms which compose their corps of distinguished educators, and not to the powerful cohesion of the whole. Those of us, however, who have grown up with systems where no such agencies had been used, and have subsequently witnessed the effect of their introduction, can not fail to recognize the force and power of those great appliances which can be effectively wielded by no hand but the strong hand of the State. We have seen these agencies strengthen the weak teacher, arouse the wearied teacher, stimulate the strong, expose the Pecksniffs, and modernize the Dominie Sampsons. We have watched these influences as they spread beyond the public school, and entered the private school, the academy, the college, and the university, bringing the several departments into communication, and organizing education into a harmonious system. We have seen them reach beyond educational circles and permeate the whole population, regulating the laws of educational demand and supply, fitting education to popular needs, and planting its interests deep in the hearts of the people.

The teachers and people of Tennessee now wish to expand the horizon. We desire to look beyond our own State lines. We wish to take counsel with our co-laborers in the South, and our brethren from other sections of our common country whose public systems are older and more matured than our own. Impelled by such considerations, the Legislature of Tennessee by joint resolution, the Governor by official communication, the city council, and the board of education of the city of Nashville, the Tennessee State Teachers' Association, and many of our leading institutions of learning, as well as the boards of education of many of our cities, have united in an invitation to the National Educational Association to hold its annual session in July, at the capital city of our State. But in this invitation Tennessee does not stand alone. Actuated by the same sentiments, the entire Southern delegation, at San Francisco, held a meeting, and by unanimous and cordial vote, extended an invitation from "the Solid South." Our invitation is sincere, and our welcome will be hearty. Yet, in view of all that has been spoken and written about Southern education, in view of some things that have been charged, and in view of some things that have been admitted, it may not exceed the bounds of good taste to say, that we invite you, not

as missionaries, but as friends; that in mingling with our educators and our citizens you will be among your peers.

For many years we have freely laid open the defects of our educational systems. Any effort to conceal them would be futile, any attempt to palliate them would be unmanly and unwise. But we have never admitted the inferiority of Southern educators in intellectual or literary attainments, nor of Southern citizens in general culture. When you visit us in July, we may show you, in our exposition, some features in our education to admire. Possibly there may be some things to surprise you. If our elder brothers, representing public systems long since matured, should find in our educational field any native flower worthy of transplanting, we shall contribute it with pleasure, in return for much that we have received from abroad.

In addition to its educational features, the exposition will contain an exhibit of the agricultural and mineral resources of Tennessee. The partial development of these resources has attracted the attention of the world. We invite you to visit not Nashville only, but Tennessee and the South. Excursions will be provided to take you to the principal points of interest. Within easy distance, and reached by rail, are some of the finest stock farms in the world. The National Cemeteries at Nashville, Murfreesborough, Chattanooga, Memphis, Shiloh, Dover, and Knoxville, seven in number, are maintained by the Government, and are beautifully kept. Near the battle-fields where they fell, the Confederate soldiers sleep in humble graves. On every side along the lines of railway can be seen traces of fortifications which mark the battle-fields of the Civil War, monuments to American valor, and witnesses of that stupendous struggle which astonished the world; whose history, the joint heritage of all Americans, constitutes America's proudest title to martial glory, and the grandest contribution which the nineteenth century has made to human greatness.

A few hours' ride northward will bring you to the most wonderful of Nature's freaks, the famous Mammoth Cave. To the south lie Sewanee, Monteagle, and the coal mines at Tracy City, seated on the crest of Cumberland Plateau. In Sequatchie Valley is South Pittsburg. Overlooking Chattanooga is Lookout Mountain, whose summit is reached by two lines of railway. Here are large, elegant hotels, from whose porticos may be enjoyed the most beautiful view in America. Near here was fought the famous battle above the clouds. Farther to the southwest the coal and iron deposits come together in Birmingham, Ala. To the west the Bluff City overlooks the Father of Waters. Off to the east, marking the line between Tennessee and North Carolina, is the Unaka range of mountains, which contains the loftiest peaks and the grandest scenery east of the Mississippi River. Upon the summit of Roane Mountain is Cloudland Hotel, the most elevated hotel east of the Mississippi. These mountains are pierced by streams which flow through gorges similar to the canyons of the Rocky Mountains, and are

second only to them in grandeur. The canyons of the Doe River and of French Broad River are reached by rail. Nature has no scenes more beautiful and few more grand than those which she has hidden in the plateaus and mountains of Tennessee, Virginia, and North Carolina.

We hope that you will reach Nashville on the morning of Tuesday, July 16, in order that we may welcome you at the barbecue picnic. This will introduce you to one phase of Southern social life. Our people anticipate much pleasure from the literary exercises of the occasion, and from the able papers which will be read and discussed, but they look with equal anticipation to other less formal features of the meeting. They wish to make your personal acquaintance, to welcome you to their homes, and to engage in the pleasures of social intercourse with representatives of education from all portions of the United States.

NATIONAL AID TO EDUCATION.

REMARKS BY HON. H. W. BLAIR, U. S. S.

My friends, I can not be insensible to so warm a greeting from this select and distinguished body of the educators of America—for the educators of America are really the educators of the world. I realize, it may be even more than you, perhaps, the great work that you are accomplishing in this land of ours, by its outflowing influence in this world of ours, which is ours, as well as this land of ours, and for the whole of which we are responsible. I have had occasion, during my short public life, to watch something of the developments of the American nation as it has been wrought out by the educators of this great profession. This is, I think, the most important to-day of all the learned orders of society. The growth in numbers and in qualifications and in power of the teacher's profession, I think, is very marked. It is very marked within my own recollection. It has never increased to so great an extent and with such rapidity, I mean to say, as within the last ten or fifteen years. Its scope has never been so extensive. The War opened the great South to the educator as an avocation. I have listened with great interest, with very great interest, and instruction to the valuable paper which has been read to you to-night by our friend from the South, and I think his criticsms upon our provincialism, for it is nothing else, of the North, with reference to much of the education of the South in times past, is very just. Yet, I think that something might be added to what he has said; something not, perhaps, complimentary wholly to the North; something that, perhaps, is new and strange to many of us, and that is, this great development of the intellectual forces. This high quality of human endeavor, which was the result of it, was, in the time previous to the War, confined almost wholly to about two millions of their population. It was confined to the wealthy and cultivated classes. There, principally, it was confined, and it is a fact, I think, in statistics—I have so been taught by the statistics of our Board of Education—that just prior to the outbreak of the War, the South, with her two to three millions of a really educated class of white people, was educating, with liberality, these in the liberal institutions of the country, giving a liberal education to almost as many of her sons as did the entire North.

We drew ours from the great, broad millions occupying the whole country, and including all classes; while from the South, from the comparatively few who were, by reason of their wealth and their position in society, able to attain a liberal education from the comparatively few, she educated as many as did the whole North, lacking only about fifty, I think, yearly. Now, there never was brought to my mind so vividly the truth of the ancient adage that "Knowledge is power" as this fact which is illustrated in the history of our own country. Why, these men, these two or three millions of men educated, an educated aristocracy, having other millions under their control, but all of them combined were not more than one-third of the population of the North, and that including the negro population, which was no element of military strength, having only by its labors contributed to the sustenance of the army—I say this educated two or three millions of human beings held out against the gigantic forces and resources of the whole North, and for four long years endured great deprivation, exhibited a plentitude of valor, yet accomplished a renown in history which no other two or three millions of men ever achieved since the foundation of the world. I am not speaking of their cause, but I am speaking of what they accomplished. Now, our friend has given us a most opportune address with reference to this matter of national aid. There is, I believe, the dawn approaching. I think the sun is really rising, and that we are sure of good weather, and, during the next Congress, we will pass that education bill, and we will get the money. [Applause.] All along in these recent years, they have told us that the South needed not the help. When the census was taken ten years ago, its developments were looked upon as a demonstration of the required help. But we have been told that greatly and very rapidly the school system has increased; that it now embraces everybody; that there is money enough. Some claim that the South is, to-day, better supplied with facilities of education than the North, but you have heard the testimony of a competent witness. We know from the very nature of things, those who reflect upon it know, or those of our countrymen who do not reflect upon it may know, from the mouth of this competent witness, that the necessity still exists. We know that this necessity is one which falls not upon the South alone. We are one country. The ignorant, the illiterate, and incompetent citizen of the South, or of the North, or of the West works an equal injury to that and all sections of the country. If the life-seed of our civilization and of our institutions flows from the extremities to all the centres of the country, the poison, no matter where it is injected, is felt through the entire system, and ultimately it reaches with certain death the heart itself. Now, we have got the money needed at the South. We need, at the North, the money that is applied at the South; and so it is that I find myself for such work as may fall to my lot in the near future; for it is a great work, a continuous work, to meet the misrepresentations, to meet the inertia of the public feeling and

of those interested to prevent the passage of the great bill. I say it is a great work for those engaged in it, and I say I feel encouraged and strengthened by what I have heard here to-night for the struggle that is to come, and I feel very sure that it will this time result in victory. There is one thing that I desire to say to you to-night, and this is merely a diversion suggested by the remarks of our friend, and that is this: that this profession of teaching in this country is rapidly developing, and is to be the all-important profession; that it owes a duty just now to itself as well as to the people. Every man owes a duty to his profession, we are told, a debt which he must pay to his profession, and I think that the time is now when the teacher ought to be paying, or looking out that he be ready to pay, the debt which he owes to his profession. It may be that I am wild in the thought, but I do think that in this country, at the present time, there is a real and a rapidly increasing danger that the free public schools of the country are to be, or are to-day, dangerously assaulted, and that unless the remedy be soon applied, we shall not be contending with reference to appropriations to support the common school at the South, but we shall be contending for the preservation of the life of the common school of the country. I think the great struggle upon us to-day more real and more dangerous than, perhaps, we are apprehending, is this: the danger is between the parochial, or denominational school and the free public school of the country. I believe that in the great centres of the country to-day the common school system is dangerously assaulted. I believe it in this great southern country where they have, to be sure, the skeleton of the common school; where they have from six to ten or twelve weeks of the common school yearly, and the rest of the year in which the child may forget what he learns in that brief period. I believe that there is great danger that unless the common schools become soon vitalized by streams of beneficence from the treasury of the country, that there is a very great danger that you will never have the common schools. It is not likely that a people finding results unsatisfactory, finding education only partially accomplished by the system under which it lives, and a people without traditions favoring the common school at all, and a poverty-stricken people also, and whose taxation most naturally is to be applied in the repairing of the devastation and the waste of war, the reconstruction of highways, the reconstruction of public buildings, and all those other purposes which have been accomplished by taxation, prior to the War, but destroyed by the War, and which we still preserve at the North, the results of taxation of generations,—I say that it is not likely that such a people will continue to support an inefficient system of education, general public education, for any great length of time.

Now, all through the southern country, the parochial school is being introduced; it is coming into a conflict with the free schools in the larger centres of population where resides the balance of power in the conten-

tion between the parties in politics; and, the parochial schools being thus established, in a country of this kind, where there are no prejudices or traditions in favor of a different system, have very great advantages in the approaching conflict for the possession of the American child. Now, the American educator of to-day is an educator accustomed to, and who finds his avocation in the public school of the country, and who will never be able to exercise his profession in any other; those who believe in the denominational and in the parochial schools are a different class of men, a different class of teachers; and, just in proportion as they obtain possession of the children of the country, as they gather them into the parochial system, in just that same proportion will disappear the important profession of which you are the honored representatives, at least upon this occasion. It seems to me that it may be well, with an eye to the preservation of one's avocation, with an eye certain to the preservation of the great profession of the teacher, with a view to the good that it accomplishes in this country, and in this world, that we see to it that the public school, as a system, don't suffer from our neglect, and as a consequence of that neglect, this parochial system, so rapidly gaining at the North and at the South, greatly undermines the free public system of our land. I think, my friends, in that direction is a thought which may be elaborated more than one sometimes may care to speak about in public; but, there is really danger in that direction, and I hope that I may be excused for making this passing allusion. Now, as I said before, I have very great hope that the education bill, in which we have all felt so great an interest, for so long a time, will, during the coming Congress, become an accomplished fact. And, if it does so, and if that should be the result of our effort, I have the strongest faith to believe that it will rescue the common school system of the country from the dangers to which I have alluded. I think if we at once utilize the great common school system of the South, and thus cast into the balance all opposing forces, the 25,000,000 of population who are south of Mason's and Dixon's line, I think the great future of the whole country, and the preservation of our institutions, which is so dependent upon the free schools of our land, are assured of perpetuity.

I thank you, my friends, for listening to me during these brief desultory remarks which I make to you. I thank you for the invitation of being present. I feel greatly instructed and a good deal encouraged by the remarks of my friend who has addressed us this evening. Hoping that you will find your way to your homes in all parts of this great country pleasantly and safely, and that in July you may gather to that great and important occasion to which our friend has alluded, I bid you good-night. [Applause.]



