

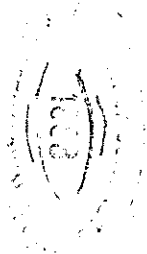
CIRCULARS OF INFORMATION

OF THE

BUREAU OF EDUCATION.

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American Association of School Administrators,
PROCEEDINGS OF THE DEPARTMENT OF SUPERINTENDENCE OF THE
NATIONAL EDUCATIONAL ASSOCIATION AT ITS MEETING
AT WASHINGTON, FEBRUARY 20-22, 1883.



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LETTER.

DEPARTMENT OF THE INTERIOR,
BUREAU OF EDUCATION,
Washington, D. C., May 18, 1883.

SIR: The accompanying papers contain the records of the proceedings of the recent meeting of the Department of Superintendence of the National Educational Association, together with the addresses presented during the several sessions.

Their publication in this form has the advantage of bringing out the carefully prepared statements of those who presented papers and the various experiences and views of others who joined in the discussions.

The demand for the proceedings of the previous meeting has been so great as to exhaust the first edition and require a second issue.

Very respectfully, your obedient servant,
JOHN EATON,
Commissioner.

The Hon. SECRETARY OF THE INTERIOR.
Publication approved.

M. L. JOSLYN,
Acting Secretary.

NATIONAL EDUCATIONAL ASSOCIATION.
DEPARTMENT OF SUPERINTENDENCE.

PERSONS IN ATTENDANCE.

- General S. C. Armstrong, principal of Normal and Agricultural Institute, Hampton, Va.
Principal George P. Beard, State Normal School, California, Pa.
Professor Albert S. Bickmore, PH. D., American Museum of Natural History, Central Park, New York.
Hon. John M. Birch, superintendent of schools, Wheeling, W. Va.
Professor J. H. Blodgett, Rockford, Illinois.
Henry C. Brown, esq., secretary of the international committee of the Young Men's Christian Association, New York, N. Y.
Mr. G. M. Brumbaugh, Normal College, Huntingdon, Pa.
Hon. B. L. Butcher, State superintendent of free schools, Wheeling, W. Va.
Hon. N. A. Calkins, president of the Department of Superintendence, assistant superintendent of schools, New York, N. Y.
Hon. G. F. T. Cook, superintendent of colored schools, Washington, D. C.
Hon. Newton O. Dougherty, superintendent of schools, Peoria, Ill.
Mrs. Sarah B. Earle, member of board of education, Worcester, Mass.
Professor J. R. Eastman, Naval Observatory, Washington, D. C.
Rev. Horace Eaton, D. D., Palmyra, N. Y.
Hon. John Eaton, United States Commissioner of Education, Washington, D. C.
Hon. C. G. Edwards, assistant superintendent of schools, Baltimore, Md.
Miss A. O. Fletcher, Indian Territory.
A. P. Flint, esq., Philadelphia, Pa.
W. H. Gardiner, esq., chief clerk Bureau of Education, Washington, D. C.
Rev. J. A. Hamilton, Norwalk, Conn.
Hon. Henry M. Harrington, superintendent of schools, Bridgeport, Conn.
Hon. Wm. T. Harris, LL. D., Concord, Mass.
Rev. A. G. Haygood, D. D., general agent of the John F. Slater fund, Oxford, Ga.

- Hon. John Hitz, Washington, D. C.
 Hon. Dwight Holbrook, superintendent of schools, Clinton, Conn.
 R. T. Janney, esq., supervising principal, Washington, D. C.
 Hon. H. S. Jones, PH. D., superintendent of schools, Erie, Pa.
 J. R. Keene, esq., supervising principal, Washington, D. C.
 Hon. John B. Kimball, superintendent of schools, Newton, Mass.
 Hon. William Lawrence, First Comptroller of the Treasury, Washington, D. C.
 B. G. Lovejoy, esq., member of school board, Washington, D. C.
 Hon. George J. Luckey, superintendent of schools, Pittsburgh, Pa.
 G. McLean, esq.
 Hon. A. P. Marble, PH. D., superintendent of schools, Worcester, Mass.
 Rev. A. D. Mayo, Boston, Mass.
 Professor H. P. Montgomery, supervising principal of colored schools, Washington, D. C.
 W. S. Montgomery, A. M., supervising principal of colored schools, Washington, D. C.
 Hon. M. A. Newell, LL. D., State superintendent of public instruction, Baltimore, Md.
 Hon. B. G. Northrop, LL. D., ex-secretary State board of education, Newton, Conn.
 Professor C. C. Painter, Nashville, Tenn.
 Rev. Wm. S. Palmer, D. D., chairman board of education, Norwich, Conn.
 Rev. W. W. Patton, D. D., president of Howard University, Washington, D. C.
 Professor E. A. Paul, principal of high school, Washington, D. C.
 Hon. Jos. Desha Pickett, State superintendent of public instruction, Frankfort, Ky.
 Professor Zalmon Richards, Washington, D. C.
 Hon. A. J. Rickoff, superintendent of schools, Yonkers, N. Y.
 Hon. Henry R. Sanford, superintendent of schools, Middletown, N. Y.
 J. W. Schenmerhorn, esq., New York, N. Y.
 Hon. James H. Smart, ex-State superintendent of public instruction, Indianapolis, Ind.
 Hon. R. W. Stevenson, superintendent of schools, Columbus, Ohio.
 President Eli T. Tappan, Kenyon College, Gambier, Ohio.
 Dr. Henry R. Waite, special educational agent of the Census Office, Washington, D. C.
 Dr. Charles Warren, statistician of the Bureau of Education, Washington, D. C.
 Hon. Joseph White, ex-secretary State board of education, Williams-town, Mass.
 Hon. J. O. Wilson, superintendent of schools, Washington, D. C.
 J. M. Wilson, esq., Washington, D. C.

FIRST SESSION—TUESDAY EVENING.

WASHINGTON, *February* 20, 1883.

The members of the Department of Superintendence of the National Educational Association and their friends met in the High School Hall at 8 o'clock P. M., Hon. N. A. Calkins, the president, in the chair, and Hon. H. S. Jones secretary.

After calling the meeting to order and announcing the sessions for the following day, Mr. CALKINS said:

In introducing to you the speaker for this evening, it is proper that I should state, in regard to the selection of the subject which he will present—natural history in public schools—that the invitation to Professor Bickmore to come before you was suggested by the character of the work which he is doing for the public schools of the city of New York. Believing that there would be many of those in attendance at this convention who would be pleased to learn what is done there in the matter of introducing natural history into the public schools and knowing that any mere description of that work would fail to give you an accurate idea of it, Professor Bickmore was invited to come here, to bring with him some of his apparatus, and to show you what he is doing for the schools of that city.

I may add that arrangements have been made with Professor Bickmore by which he gives on Saturdays, in the Museum of Natural History at Central Park, lectures before teachers of the grammar schools, as a means of preparing them to give instruction in natural history in the schools where they are employed. These lectures are thus made to awaken an interest in this subject among the pupils in the schools, which leads them to visit the museum, as many do with their teachers. During lessons in school, which follow these visits, questions are asked these pupils concerning the animals which they saw and the subject of the lesson is discussed in an intelligent manner.

But Professor Bickmore will be able to represent to you what he is doing much better than I can tell you. I now have the pleasure of introducing to you Prof. Albert S. Bickmore, of the American Museum of Natural History, Central Park, New York, who will address you on the subject of

NATURAL HISTORY IN PUBLIC SCHOOLS: ITS UTILITY AND PRACTICABILITY AS ILLUSTRATED BY THE METHODS ADOPTED IN NEW YORK CITY.

Professor BICKMORE said:

MR. PRESIDENT, LADIES AND GENTLEMEN: About two years and a half ago the authorities of the museum with which I am associated addressed

a letter to the board of education of our city, suggesting that they select a limited number of their teachers to come up to our institution, and that I should give them conversational talks (we scarcely call them lectures) upon the objects that we had on exhibition in our halls. It proved to be an extremely stormy day in winter when the first gathering took place, but all those invited were present, and we were at once impressed with the magnitude and importance of the work thus thrust upon us. The attendance of the teachers was so constant that the six informal talks were extended to eighteen or twenty. The board of education then addressed us a letter expressing their high estimation of the work thus begun and asking that fifty teachers be allowed to be present at the next course. At the conclusion of these lectures the board wrote us a second letter stating that there were one hundred and four schools in our city under their direction and asking if accommodations could be made for at least one teacher from each of them, in order that there might be a distinct, definite influence going out from our museum every week to each school, conveying important instruction and aiding the teachers to give the most complete information to their pupils upon human and comparative anatomy and zoölogy and other subjects upon which the board might require oral instruction to be given in the common schools. A course on zoölogy is now in progress, and every Saturday our little hall is filled to overflowing.

Believing that the sense of sight is the royal avenue to the mind and that all information which can be conveyed by the eye is much more complete and satisfying than that conveyed by the ear, I planned to give the instruction desired by ocular demonstration, that is, by exhibitions. A large part of the objects we wished to display to the teachers are too small to be seen distinctly by the naked eye, and yet their remains in some places make up the chief bulk of mountain ranges. Other animals, as the deer, the ox, the horse, the moose, and the elephant, are far too large to be transported from the exhibition halls to the lecture room, and yet they are among the most interesting objects to the children that are to be found in the animal kingdom. How we could easily and without loss of time place these various objects visually before the class of teachers was the problem that came to us when we found the personal interest they manifested in this department of natural science. We purchased the most complete stereopticon to be obtained, but we found that photographic transparencies of the objects we desired to display could not be discovered in any of the lists of slides offered for sale in London, Paris, or Vienna, and that, if any teacher had hitherto prepared them, he had never published any account of his work nor indicated how his successors might avail themselves of his labor.

A few views of the animals in the Zoölogical Society's Gardens of London were found and a few copies from works on anatomy; but no continued, systematic series of illustrations existed, so far as we are aware. An assistant skilled in this department of the photographic art was em-

played to make negatives and slides from the specimens on exhibition in our public halls, supplemented by copies from the best illustrations in standard works on natural history. The prominent book and map publishers of London and New York cordially aided by striking off uncolored impressions of their wood-cuts and engravings for the use of our photographer, who has already made some 800 negatives, in addition to the large series of views we have purchased from every available source. The transparencies which we have made at the museum so far exceed in clearness and brilliancy any that we have found in the market that we propose in time to use only prints on glass from negatives of our own manufacture. This system of illustration can be made just as elaborate as the time and means of the instructor may permit. What we have so far accomplished we regard merely as a beginning in the important work of enabling teachers to properly educate their pupils in zoölogy. The same mode of effective illustration is equally applicable and important in teaching physical geography, geology, and mining; and every other department of natural science which can be rendered more instructive and therefore more interesting by photographic views, diagrams, or ideal sketches. The field of labor thus opened to the instructor is a wide one, for it demands that he shall not only be thoroughly conversant with the latest and best maps and drawings and other means of illustration that now exist, but that he shall keep constantly adding new transparencies from the latest explorations in these various departments in every land.

The negatives being once provided, the slides can be supplied at little more than half the price now paid for such transparencies, and, while we shall use here this evening the oxyhydrogen or lime light we have brought from New York, I am happy to say that I have seen these same slides shown by a light burning simply kerosene oil, and the illumination was sufficient for an ordinary class room containing 50 to 75 pupils. Any teacher here present that can take proper care of an ordinary kerosene lamp can, therefore, with the simple lantern of which I speak, effectively repeat to his class the illustrations which our lime light will now place on the screen.

This mode of exhibition necessitates a darkened room, and, as I have experienced the inconvenience of not being able to exhibit specimens or make diagrams on the blackboard while the illustration is on the screen, I have introduced into my lecture room a second lantern, which throws a light upon any portion of the blackboard I may desire, so that the classification of the animals to be shown is constantly before the audience while the several specimens appear in succession on the screen.

In an adjoining place in the room I have fitted up a series of shelves, like a case in our public hall, on which the specimens to be described are arranged. Diaphragms pierced with round or square holes of varying dimensions will light up any portion or all of the specimens on the shelves, and in this simple method we are able to transfer our audience instantly

from the lecture-room to our exhibition halls, and that, too, in a more effective way than if the audience actually passed into one of the large rooms, for in the hall some persons would be looking at one object in one case while others would be interested in other objects in other cases; but by confining the light to the specimens that are being described we concentrate the attention of all to the object or group of objects we are discussing, and the mind of the speaker and the minds of all his audience necessarily move on from point to point in the discussion in perfect harmony.

Professor Bickmore then gave a description of the building occupied by the American Museum of Natural History, which contains four stories and a gallery and was erected at an expense of \$700,000. He then showed upon a large screen, by the aid of a stereopticon, the following subjects, calling attention to the principal facts of interest concerning each: protozoans: a young sponge, the Venus flower basket, corals, ideal sketch of the bottom of the sea in the Mediterranean, a coral island (atoll, Bermudas), brittle stars; mollusks: a common salt water mussel, oysters, the mode of dredging off the shores of France, a dredge, a helix, a cone, a large squid, the squid as it was represented in old books; arthropods: a "common" and a "spiny" lobster, a lobster car, the violet crab of Jamaica; insects: a minute insect, a flea, Colorado beetle; vertebrates: the arm and hand of a fish, tortoise, whale, deer, seal, dog, mole, bat, ape, and man; fishes: a climbing perch, the circulatory system of a cod; reptiles: a boa constrictor, a water boa or anaconda, the structure of the fangs of a rattlesnake, an iguana, a tropical scene from Brehm's Thierleben, chameleon, turtle catching, an ideal view of marine animals in the Triassic period, a landscape in the coal period; birds: an ostrich in the Paris museum, a gull, sand-piper, flamingo, a male and female humming bird, the migration of birds, a view on a Siberian river in early spring, the nest and young of the gray plover, the light-house at Heligoland on a migration night, a map of our own country, a map of South America, a relief map of Europe; mammals: the skeleton of a cow, the Brahman bull, Brahman cow and calf, antelope from the Rocky Mountains, a giraffe, the skeleton of a giraffe, skeleton of a deer, a fossil deer found in Ireland, a camel, a dromedary, skeleton of a camel, the wild boar of West Africa, the skeleton of a hog, African wart hog, rhinoceros, the skeleton of a rhinoceros, a horse, zebra, zebra hunting in South Africa, a European wolf, a royal Bengal tiger, lion, the skeleton of a lion, the animals of the stone age; man: two slides of human anatomy (colored), the African race—a view on the Congo, Stanley and his followers, the Zulus; the Mongolian race—a Chinese mandarin, a Chinese hamlet among the tea hills, curling the tea leaves, sorting tea; the Aryan race—a native of India, a Mohammedan prince of India, a Mohammedan temple at Lahore.

The president announced that there would be a business meeting

immediately after the dispersion of the audience and requested the members of the department to remain.

At this meeting the following resolution was offered by General HAYON, and was adopted:

Resolved, That an executive committee of three members of the department be appointed by the president, and it shall be the duty of said committee to arrange and report an order of proceedings for this meeting.

The president named as this committee Messrs. Wilson, of Washington; Marble, of Worcester; and Pickett, of Kentucky.

Mr. WILSON offered the following:

Resolved, That the president of this department be requested to appoint a committee whose duty it shall be to represent to Congress the views of this association on the subject of national aid to education, and to take such further action in the premises as may be deemed advisable.

After the unanimous adoption of this resolution, the department adjourned to meet on the following morning in the lecture room of the Congregational Church.

SECOND SESSION—WEDNESDAY MORNING.

WASHINGTON, *February 21, 1883.*

The members of the department assembled in the lecture room of the Congregational Church at 10 o'clock and were called to order by the president. Rev. A. D. Mayo opened the session with prayer.

Hon. Henry M. Harrington, of Bridgeport, Conn., was elected treasurer, and Mr. J. E. Rockwell, the stenographer, assistant secretary.

Mr. WILSON, from the committee on order of exercises, announced the following topics and speakers:

Address by the president.

Industrial education Reports on the subject to be read by Supt. John E. Kimball and Dr. Charles Warren; followed by discussion.

Educational lessons of the census, by Dr. Wm. T. Harris.

The following letter was received:

OFFICE OF SUPERINTENDENT OF PUBLIC SCHOOLS,
FRANKLIN BUILDING,

Washington, D. C., *February 20, 1883.*

DEAR SIR: The members of the department of superintendence are cordially invited to visit the public schools of this city. The schools will be in session tomorrow Wednesday, and will then be closed until Monday next. The Webster School, corner Tenth and H streets, and the Franklin School, corner Thirteenth and K streets, are both near the Congregational Church, the place of meeting for the department.

Very respectfully,

J. ORMOND WILSON,

Superintendent.

Hon. N. A. CALKINS,
President, &c.

The president announced that the treasurer would receive applications for membership in the association.

The assistant secretary read several expressions of regret from members unable to be present. Among the letters received were those from Hon. Thos. W. Bicknell, LL. D., editor Journal of Education, Boston, Mass.; D. N. Camp, A. M., New Britain, Conn.; Hon. Charles L. Collier, superintendent of schools, Memphis, Tenn.; Hon. A. Coward, State superintendent of public instruction, South Carolina; Hon. J. L. M. Curry, LL. D., general agent of the Peabody education fund, Richmond, Va.; Rev. J. H. Cuthbert, Washington, D. C.; Hon. R. R. Farr, State superintendent of public instruction, Richmond, Va.; Hon. J. M. Fish, superintendent of schools, Little Rock, Ark.; Hon. Aaron Gove, superintendent of schools, Denver, Colo.; E. L. Kellogg, esq., 21 Park Place, New York; Charles G. Ireland, esq., Philadelphia, Pa.; Hon. E. B. Neely, superintendent of schools, St. Joseph, Mo.; Hon. James MacAlister, superintendent of schools, Milwaukee, Wis.; W. A. Mowry, PH. D., Providence, R. I.; Rev. A. M. Pitzer, D. D., Washington, D. C.; Lieut. R. H. Pratt, U. S. A., superintendent of Indian training school, Carlisle Barracks, Pa.; Hon. W. C. Rote, superintendent of schools, San Antonio, Tex.; Hon. J. C. Shattuck, State superintendent of public instruction, Denver, Colo.; W. E. Sheldon, esq., editor of The Primary Teacher, Boston, Mass.; Governor Hugh S. Thompson, Charleston, S. C.; Gen. Francis A. Walker, Census Office, Washington, D. C.; Hon. J. P. Wickersham, LL. D., ex-State superintendent of public instruction, Lancaster, Pa.; Hon. O. S. Young, State superintendent of public instruction, Carson City, Nev.

Mr. CALKINS, the president of the Department of Superintendence, delivered the following address:

ADDRESS OF THE PRESIDENT.

MEMBERS OF THE DEPARTMENT OF SUPERINTENDENCE OF THE NATIONAL EDUCATIONAL ASSOCIATION: Once again representatives of the educational systems of the States and cities of the nation have assembled at its capital to consider matters pertaining to the interests of public instruction. The fields of labor occupied by those gathered here are widely separated and the work performed by each has differing characteristics, yet there exists a union of purpose among all which binds us together as a brotherhood, laboring for the noble cause that contributes much toward the stability and prosperity of our beloved country.

I rejoice with you that it has become our annual custom to come hither and confer with each other fraternally in relation to those things that belong to a general diffusion of education among all classes of people, and that in this work we have common interests and aims.

The circumstances attending our respective spheres of work often compel attention to matters that demand serious deliberation and the exercise of sound wisdom to guide aright in the acts that must follow. In the midst of the difficulties that sometimes meet us we long to

inquire of a successful brother who has overcome similar obstacles and learn from his experience. These fraternal conferences furnish opportunities for such inquiries; they also inspire our hopes and strengthen our hands for better work and greater success in the cause of education.

The present outlook as to progress in the direction of better elementary teaching and the corresponding results that follow in general education is gratifying. During the past ten years great strides have been made by the thinking, progressive teachers toward a clearer knowledge of child nature and in right ways for reaching child mind. The results appear in the more general development of power among the pupils of these teachers to observe carefully, of ability to think understandingly concerning that which has been seen, and in the firm foundation thus laid for subsequent attainments in knowledge.

It is fast becoming understood that mere imitators soon attain their growth in teaching and that the end of real progress with them is near the place of starting. Among the hopeful signs for the future is the fact that so many of our schools are becoming fields in which the teachers are themselves making important discoveries in the true work of education, instead of contentedly following the traditional customs of the past. The fact that so many teachers are turning their attention to psychology and earnestly inquiring after a science of education which may guide them in the art of teaching is a hopeful sign.

Great changes, also, have been made in the means for diffusion of educational intelligence during the past decade. We now have not only monthly and bimonthly but weekly journals, with large circulations, devoted to the interests of education in all its varied aspects. In addition to these the weekly and daily papers reflect the general interest of the public in relation to educational matters in their several localities.

Whenever the minds of those engaged in the work of education in one locality become unusually active in relation to a particular department of the work or concerning anything intimately affecting it, that activity widens and widens, like the circling waves on the placid lake into which a pebble has been tossed, until the distant shores are reached. Let the cry be raised in Boston against the burden of too many text books, and its wail will be echoed in Chicago and in San Francisco. If the public in Quincy discover a supposed better way for education, pilgrimages are made, and the towns of the East, of the West, and of the South are moved thereby.

As an instance of the increasing interest in matters that relate to methods of education, it may be mentioned that only a few months ago the Bureau of Education issued, as a circular of information on industrial art in schools, an article prepared by Charles G. Ireland, esq., of Philadelphia, in which the way is pointed out for making hand work and school work cooperate with each other in general education and culture. Fifteen thousand copies of this circular of information have

been distributed already. The mail of a single day recently brought orders for more than six thousand copies.

In these and kindred facts, we may find much for encouragement and hope that the widening diffusion of intelligence on subjects pertaining to public education will ere long produce a corresponding extension of increased facilities and improved character in the common schools of every State. In view of these facts, we are reminded, also, of the necessity for careful consideration of matters relating thereto, especially by those who occupy positions which should exert great influence in deciding what the public schools shall become, by means of an intelligent public opinion. It is fitting on this occasion, therefore, that we direct our deliberations to those matters which relate intimately to the work of securing a better education for the people. And in these deliberations we should aim to call out the best thoughts and ripest experience on the topics considered, while each endeavors to say the most in the fewest words possible.

It was with the view of facilitating such deliberations that I placed in the programme of subjects for this meeting that of "School supervision: its specific aims and methods employed," and invited superintendents to consider topics designated under this subject and to present at this meeting results of their experience in relation thereto, in concise statements. And, further, I believe that a fair portion of the time of the meeting of this Department should be spent in efforts less formal than exhaustive addresses, with a view to making available the experience and wisdom of the greatest number in matters pertaining to our special duties in connection with the work of education. And with this view, I commend to your consideration the advisability of devoting the time of one session of this meeting to topics relating to school supervision. In this connection allow me to suggest that the least possible time be consumed in stating theories and that the chief aim of all be to show how the desired results in supervision may be secured. May each of us return to his field of labor with garnered treasures.

Finally, allow me to bespeak your counsel and cooperation in efforts to make this a profitable and pleasant meeting.

INDUSTRIAL EDUCATION.

Superintendent JOHN E. KIMBALL read the following letter from the principal of the Dwight School, Boston, with his report on industrial education:

BOSTON, February 12, 1883.

My Dear Sir: The experiment in industrial education is to be tried in the Sherwin School, under the auspices of the school board, during the coming season. In my own school the expenses were paid by a syndicate of wealthy gentlemen and ladies who were interested in the subject. The success was so great that the board assumed charge of it, and now only await an appropriation from the common council of \$500 to perfect their arrangements.

I have no doubt the success will be as decided in the Sherwin School as it was with

me, and, if so, the plan will gradually grow into favor, and will be extended to other boys' schools throughout the city.

Yours, very truly,

Hon. N. A. CALKINS,

JAMES A. PAGE.

President Department of Superintendence.

R E P O R T.

CITY OF BOSTON.

IN SCHOOL COMMITTEE, July 5, 1881.

Ordered, That the principals of the Dwight and Sherwin Schools be authorized to accept the liberal offer of the Industrial School Association, and to permit such of their pupils to receive the instruction thus tendered as may, in their judgment, be best fitted to profit by it, the instruction to be given at such time as will least interfere with the progress of the pupils in their regular studies.

Ordered, That the abovementioned principals be instructed to report to the board the results of the instruction thus given at the end of the school year.

In compliance with the above order, I respectfully submit the following as my report:

In order to carry out the generous offer of the association, it was thought necessary, at the outset, to secure a good room in which the lessons in manual instruction might properly be given to the pupils of the two schools mentioned in the order. During the early fall considerable time was taken and many visits were made to different parts of the district in search of such quarters. The committee of the association found, however, no single place that was not open to serious objection either on the ground of poor light and ventilation or on that of bad surroundings.

It was not until they concluded to accept one of the school rooms of the Dwight School building, for the time being not in use, that they felt that any progress had been made in that direction.

It was owing to this difficulty of obtaining suitable rooms that Mr. Stone, of the Sherwin School, agreed with the committee and myself that the experiment had better be confined to one school, and that it should be the one under whose roof the trial was to be made. This room, though rather small (27 feet by 27 feet), was found in other respects to be a good one for the purpose.

The superintendent of public buildings ordered the seats to be taken out, the room was cleared of all its school furniture, the benches were placed, the tools bought, the teacher, Mr. Walter Bachelier, a carpenter and builder, of Chelsea, was secured, and everything was ready to begin in December, 1881, soon after the annual municipal election. This room had been designated by the city council as one of the voting places in the ward.

On the first Thursday of January the instructor gave his opening lesson to a class of eighteen boys, all that could be accommodated at the three benches at one time. These boys had been selected by myself from the graduating class, without reference to their standing, and no conditions were made with them except that they should not fall behind in their regular school work. Another class of the same number was selected from the second, third, and fourth classes, in order that the experiment might be tested by a wider application to ordinary grammar school material. Many of these latter had already handled tools, to a certain extent, either at home or in their fathers' workshops.

In arranging the practical details of the school with Mr. Bachelier, it had been agreed that school discipline should be maintained throughout the sessions; that the programme should be carefully written out on the blackboard; that each boy should be marked on the work done; and that a record of it should be kept. All this was faithfully carried out, and contributed, as I think, largely to the final success.

From this beginning to the close the school went on with unbroken and successful regularity. The teacher was promptly on hand, the order was good, the pupils were interested. It was delightful to see the eager desire manifested everywhere in the room to do the day's work well.

There was no absence, no tardiness. On one occasion a count was made, and seven out of eighteen pupils were found at work at one o'clock, when two was the hour for beginning.

It was feared that the noise of many hammers and other tools, in use at once (as was necessary in giving the same lesson to a whole class), would be so great that the other rooms on the same floor might be seriously disturbed. It was arranged, therefore, that the school in the adjoining room should proceed to the hall whenever a lesson in the training room was going on. Practically, however, no trouble was felt from this source. The walls in the school room were found to be so thick as to deaden the sound almost completely.

It was thought, also, that taking a part of a class away from its regular school work would result in more or less detriment to its progress in the prescribed studies. Here and there a complaint was made by the teacher of some second class boy that he was not doing his work well in his own room; but the pupil, in every case, was so anxious to remain in the "carpenters' class" that a word or two of warning was sufficient to bring his performance up to the standard again. * * * I consider that the results go far to prove that manual training is so great a relief to the iteration of school work that it is a positive benefit rather than a detriment to the course in the other studies.

The lessons, as prepared and given by Mr. Bachelder, are appended to this report and marked "A."

The school was visited by a large number of ladies and gentlemen, some of them from distant parts of the country and many of them anxious to learn the details of the plan upon which the school was carried forward. It was also visited by members of the school board, the superintendent of schools, and by many educators of all grades, thus showing a widespread interest in the general question of manual training in the public schools.

The cost of the school to the association from January to May, inclusive, five months, as furnished by Henry S. Grew, esq., treasurer, covers every item of expense in a school of this size, except those which, in another building, would have to be met under rent, lighting, and heating. The figures in full will be found in the paper marked "B."

Here, perhaps, I ought to close my report, having answered the demands of the order passed by the school board in giving the results of the instruction in manual training in the Dwight School. But I have a conviction, and, with permission, beg to state it here, that this instruction is surely in the line of the teaching that is to be. I would be glad, therefore, to see the experiment still further tried and all the experience which has been gained and all the plans which have been essayed fully formulated, availed of, and worked out into practical details, so that by and by, at the proper time, the best Kindergarten work, the best object teaching, and the best methods of manual instruction shall be known and, furthermore, shall be "organically" combined with the whole scheme of education, and be made to support and coalesce with all the other studies of the child.

It is easy to see that this hand instruction may be made the means of teaching whole chapters of arithmetic more thoroughly. I have seen it made the means of teaching geography and natural history effectively in our own school.

There are high authorities who believe there can be no thoroughly clear, vigorous, and enlightened brain without the cultivated hand. Such are Sir Charles Bell, the author of the Bridgewater Treatise on the Hand, and Dr. William B. Carpenter, the physiologist, now visiting this country. If these men are right, then manual instruction introduced into our schools would be a step forward, because it would have

a special value of its own in developing the mind, which is the avowed purpose of all schools.

The great difficulty will be the lack of competent teachers. But that difficulty may be met, as it has been successfully met once before. What has been done in the matter of drawing may yet be done in industrial work. A corps of teachers, as suggested by General Walker, may be furnished by the Institute of Technology, and that institution may eventually do for industrial what the normal schools of the State have done for general instruction.

I have, in closing, to acknowledge the interest shown in the school by very many friends, to whom I feel under great obligation; especially to the Rev. Mr. Chanany, the president of the Industrial Association, and to Mr. Henry S. Grew, its untiring treasurer; to Dr. J. G. Blake, who spoke words of encouragement and advice to the boys in the midst of their work; to Mr. Bachelder, the faithful teacher of the class; and to many others who gave their encouragement and support by visiting the school again and again.

JAMES A. PAGE.

"A."—Topics of the Industrial Class of 1882.

Lesson I.—(1) Striking square blows; (2) nailing, first process; (3) nail and setting nail; (4) nailing on line; (5) nailing flush; (6) blind nailing.

Lesson II.—(1) Toenailing; (2) straightening small piece of pine; (3) planing surface of small piece of pine; (4) planing surface of large piece of pine.

Lesson III.—(1) Joint and square the edge of the board; (2) remove the jointer's iron, and re-adjust it; (3) learn to use the gauge; (4) learn to use the splitting saw; (5) learn to use the rule and pencil in drawing parallel lines.

Lesson IV.—(1) Learn to use the chalk and line; (2) learn to use the try square with pencil and knife.

Lesson V.—(1) Learn to use the cutting-off saw; (2) remove the jointer's iron; (3) sharpen the plane iron on the oil stone.

Lesson VI.—(1) Learn to use the cutting-off saw with bench hooks; (2) learn to use the block plane; (3) learn to cut a chamfer with a chisel.

Lesson VII.—(1) To cut a chamfer with a plane; (2) to learn to use the bit and bit brace.

Lesson VIII.—(1) To plane a piece to an even thickness and width; (2) to make several pieces of the same length and width; (3) to make one piece of a certain length and width.

Lesson IX.—(1) To nail together several pieces, work out the same, making a box with three apartments; (2) to plane a piece of an even thickness, one end to be wider than the other; (3) to make a tenon.

Lesson X.—(1) Filing with chisel; (2) cutting chamfer with chisel and plane; (3) to make a piece having eight sides or corners.

Lesson XI.—(1) Marking and boring; (2) to reduce each end of the eight-cornered square pieces to fit a $\frac{1}{8}$ hole; (3) to make a mortise.

Lesson XII.—(1) To cut a square block to a described shape; (2) to chamfer the same; (3) to sand-paper the several pieces.

Lesson XIII.—(1) Sand-papering; (2) fitting together the different pieces to make good joints; (3) to put together the different pieces with glue.

Lesson XIV.—(1) To make a box for the oil stone, to be made of two pieces of wood; (2) to have together two pieces.

Lesson XV.—(1) To make an open mortise and tenon; (2) gluing.

Lesson XVI.—(1) Make a double open mortise and tenon; (2) sand-papering; (3) to plane and square.

Lesson XVII.—(1) To make a tenon (review); (2) to make a mortise; (3) to fit them together; (4) to plane and square.

Lesson XVIII.—(1) Planing and squaring; (2) marking; (3) making tenon (review); (4) mortises to be made (review); (5) to fasten mortises and tenon with draw bore.

"B."—Statement of cost of industrial school held in the Dwight School-House, Boston, January to May, 1882.

Thirty-five lessons, of two hours each, to two classes of 18 each (36 boys, each two hours lesson per week):

Inspector

Sundries		\$21 43
Two new benches and labor of starting the school	\$146 64	
Estimated cost of one old bench	50 00	196 64
Purchase of new tools	120 48	
Estimated cost of old tools on hand when school was opened	161 90	282 38
Janitor of Dwight School	15 75	
Total		711 95

HENRY S. GREY,
Treasurer Boston Industrial School Association.

JUNE 1, 1882.

The following communication addressed to the members of the Department of Superintendence by Charles G. Leland, esq., in reference to industrial education in Philadelphia, and containing information supplemental to the Circular of Information of the Bureau of Education, No. 4, 1882, was read:

Regretting that I cannot be present at the teachers' convention, I take the liberty of making by letter a few remarks on industrial art as a branch of education in schools and on the success of the experiment as conducted in Philadelphia.

I must premise that the system of which I speak is different from that pursued by the industrial schools. Properly speaking it occupies the time between the Kindergarten and the industrial school. The latter is specially adapted to boys and to technological or mechanical studies. A high authority in such schools has declared that their instruction was not suited to even boys of less than 14 years of age. This is nothing to the discredit of the schools. A university is not an infant school. Again, the industrial school requires a building and a fortune to establish it. It can only be carried on in a city. The Philadelphia system of industrial art teaching attempts, first, to find out what kinds of manual labor are really adapted to all boys and girls whatever, especially to those under 14 years of age, and, secondly, whether it be possible to introduce some method of teaching them in all schools, in families, and to individuals.

Extensive travel and earnest study of this subject during many years taught me that, while children cannot learn mechanical trades without detriment to mental studies or health, they can easily acquire the minor or decorative arts, including that of decorative design, which is the basis of them all. I have never found in any country that girls or weak or very young boys could with "humanity" be set at shoemaking, weaving, or factory work; but they can all learn cutline design and modelling in clay in a few weeks or months, and this to a degree that would astonish even an artist who did not know of what children are capable. They can also carve wood, embroider, work in leather, and emboss sheet brass. That all of this can be well done by pupils only ten years of age is being shown to all who choose to visit my Philadelphia school.

It has been strongly urged against this system that it teaches only art and "fancy work," that it is therefore useless, and above all that what boys want is a good practical education by which they may make a living. Now this is very true. Boys do need a practical education. But to teach an average girl or boy of ten, or eleven or even twelve years a *trade* is impracticable and visionary. The practical men had the experiment all to themselves in their own way for many years in Pennsylvania, as in other places, long before they were troubled with visions of art, but they did not succeed with the little ones. If it had been possible this whole world of ours would have become like many of the factories of New England at the present day, a hell of hard labor for infants of eight and even six years of age. But in India and China, where human life is so cheap, although children are made profitable at art work, they cannot be profitably employed at *trades*.

I have conducted this experiment without making a cent by it, for the purpose of testing human capacity. I have learned by it that, as the flower prepares the fruit, art work in children is a proper preparation for more practical callings. Outline design and modelling qualify children to become useful in all factories where any kind of casting or shaping anything to graceful forms is required. Easy embroidery leads little girls to the far more difficult art of good plain sewing. Wood carving naturally includes the elementary work of carpenters and joiners. Sheet brass embossing, little known as yet and first made known to amateurs both in England and in this country by my manual on the subject, calls forth or develops both the power of design and of mechanical execution to a really remarkable degree. A more important subject, to which I have paid particular attention, is the fact that the study of design and artistic hand work develops in all children intellectual powers of every kind. Given two boys of equal mental power, and let one study the three R's alone, while the other at the same time learns to design and model, and it will be found at the end of, say, two years that the latter will in all respects be by far the cleverer of the two. And it could not be otherwise. When the curiosity and interest of a boy are awakened in art he begins to observe the design in every shop window, in every piece of furniture, in every wall paper. He has entered a new world. In a few weeks the boy can tell you if a lace pattern or a sofa cover is correctly designed (I am sorry to say that in most cases he can tell you that it is *not*), and give reasons for it. Is not this intellectual development? Is it not a practical preparation for a great deal of business? Would it spoil a boy for selling lace, dry goods, wall papers, or furniture? Would he know less about metal work? Would not, on the contrary, the knowing how to design patterns be through life of real use to him in manufacturing or selling almost any kind of fabrics?

I have no pupils who receive from me and my assistants more than seventy hours of instruction during the year. In this time they learn to design fairly well, and with design learn one or two other minor arts.

That this is actually done is proved by the results. Those who will may visit the school, see the pupils at work, and examine the results. Very recently, since I have been able to engage teachers for wood carving and sheet brass embossing, there has been a great improvement in the work.

If I am asked what boys and girls can learn while attending school and without adding to the burden of the crowded course of studies, I reply, outline design according to a very simple elementary method founded by myself on principles long known to such teachers as Owen Jones, and that when this is learned there is very little trouble experienced in wood carving, modelling brass, embroidery, sheet leather work, setting mosaics, working in papier mâché or any other plastic substance. As regards finding *time* for this, there is not a school child in Philadelphia who would not gladly keep up his or her average in other studies to be allowed to come to the Public Industrial Art School.

I consider it as proved from my own observation that design and art work stimulate quickness of perception and awaken interest in all culture. If there are any present who have not investigated the subject, I commend to them the perusal of the pamphlet on Industrial Art in Schools, published as Circular No. 4, 1882, by the Bureau of Education, Washington, under authority of the Commissioner, General John Eaton, who is familiar with the school and knows what the pupils have done. I must in this connection express my regret that I was unable to have made betimes certain specimens of our art work for exhibition at this meeting.

Of this pamphlet I may be allowed to state that it attempts to set forth clearly and practically how any person whatever may learn the principles of decorative design with the aid of an elementary manual, and that while thus learning one may also teach them to a class. When this is done any of the minor arts presents no difficulty. The interest which the pamphlet has awakened in every corner of the Union is shown by the great number of letters I have received from persons interested in education informing me that they intend to test the Philadelphia system in schools or families.

What I have ventured to characterize as the Philadelphia system is the theory that decorative art work is better suited than mechanical work for boys and girls under 14 years of age, but that the artistic shall be so taught as to lead on to the mechanical or to technology. This art work is to be taught according to a simplified system of design, in which free hand drawing from the shoulter is combined with the most mechanical aids and appliances. In this system original design is taught from the first lesson. It is in full operation and has been perfectly tested, not only in the Public Industrial Art School, but also in the Ladies' Art Club of Philadelphia, of which I am president. In the school I have 150 pupils, soon to be increased to 300; in the club I have 200 grown-up

scholars. The same system of minor instruction is also pursued in both institutions.

I cannot conclude this brief communication without expressing my gratification at observing how much is being done for education at present—wisely, efficiently, and nobly—without much appreciation or aid from either the public or its exponent, the press. Twenty columns of politics, half of them the politics of the stumps and grogeries, or little better, may be found in many newspapers to one on education. It is in the hands of the teachers that the souls, the intellectual lives of all the coming generation, are placed. The teacher should be the highest, the most honored in the land. He was actually so in early days, when the priest and teacher were one. But there is a time coming, and that soon—I put the prophecy on record—when education will enter into our national politics, and when candidates shall be measured, not by the blind and brutal tests of mere faction, but by their views as to how to advance culture, to promote honesty, to train the young, and to keep training and teaching man at every age. The best patriot is the man who will do most to bring this about.

In the discussion which followed the reading of these reports, Mr. MARBLE said:

I wish to make a remark upon a certain phrase in this excellent paper from Mr. Ireland, where evidently the author's rhetoric ran away with his logic or truthfulness. He speaks of New England factories as hells of hard work and labor for children six or eight years of age. Now, I mistrust that the latest information which the writer has may have been obtained from some inaugural address where education may have been mixed up with politics. I would call attention to the law which forbids the employment of any children under the age of ten years. Furthermore, I wish to say that I cannot see why the teaching of industrial drawing should be claimed as the "Philadelphia system," when it has been practised for about a dozen years in many cities, and in substantially the same way.

Dr. WARREN thought that the law might sometimes be broken in reference to the employment of children under ten. He supposed Mr. Ireland meant by "Philadelphia system" a combination of various things which others have taught singly.

Dr. DAPPAN wished to inquire as to what branches should precede instruction in decorative art and mechanics.

Mr. KITCHARDS thought the writers of the reports read had a correct idea as to what should precede industrial training. Decorative training, he said, should begin with the child as he begins his alphabet and should be continued until he is fitted for some specific employment in life.

He said: It is not a necessity that the child should be trained to a trade in school, and whether I would carry it as far as they do in the Boston schools, I am seriously in doubt. I would, however, have arrangements

so made that every child should understand the language of the arts of common life. I believe the time is coming when there will be an industrial department in every well organized system of public schools. The employment of the intellectual training should alternate with the physical training. I would not train a child to become a carpenter or shoemaker, but I would make him familiar with the language of these employments.

Mr. MAYO declared that all he had ever heard in regard to industrial training had been in connection with city schools. The experiment in Boston cost \$20 for each scholar. Now, can any gentleman tell us of any experiment that amounts to anything that has ever been tried in the ordinary country district school? Is this thing practicable?

Mr. MARBLE replied that this question was like that asked by the colored man, who, when told that God made man in his own image and stood him up against the fence to dry, inquired, "Who made that fence?" This question overthrows the whole system of industrial education. Mr. Marble expressed himself as anxiously looking for light on industrial training. He deprecated the idea that the schools are responsible for the after life of the pupils. The parents ought to bear some of the responsibility.

Mr. PROKERR thought that education meant the harmonious development of head and heart and hand. It is impracticable to carry out the work of industrial education, even in city schools; in country schools it is entirely impossible. The school, in his opinion, is assuming too much; it is taking too large a share of the responsibility of the parents.

Mr. RICHARDS understood that it was the part of the school to do what could not be done by the parents. A revolution of normal schools is what is needed.

Mr. JONES stated that the Pennsylvania Railroad Company in hiring a boy wished to know whether he was a good *mechanic*. The railroad company understands its business; the world needs *mechanics*, not mere workmen.

THE EDUCATIONAL LESSONS OF THE CENSUS.

WM. T. HARRIS, LL. D., of Concord, Mass., then read the following paper:

It was my task on a former occasion to lay before this honored association of school superintendents some suggestions as to the educational uses of the census, and also the need of some changes in the schedules of the existing census tables. For the purpose of studying political and national affairs we found that the items regarding race, nativity, military age, voting age, and total population were most important. For the purpose of studying the social condition of the people we had the items of wealth and pauperism, sex and ages by nationalities, occupations, deaths, diseases, public indebtedness, crops, machines, produc-

tions, months of birth of the population, also items relating to the insane, deaf, blind, and other unfortunate.

For the study of education we had the items of schools and teachers; illiteracy, pupils, libraries, newspapers and periodicals, churches, the number of children of school age and their enrollment and actual attendance on the schools. The immense improvement in the methods of preparing the national census for 1870 led us to hope that the same enlightened supervision after ten years of experience would produce even better results, if the recommendations and arrangements of the director of the census were seconded and supported by Congress.

In so far as the results of this new census for 1880 have been given to the public, our anticipations have been fully realized. It is only to be regretted that an unwise reduction of the corps of laborers engaged in tabulating the results of this census has kept back from the people for so long a period the full use of the results of this most reliable and minute of all our national censuses.

It is unnecessary to speak at length of the importance of self knowledge on the part of the individual or on the part of society or the state. It is evident that the wise direction of the state depends on a statesmanship that possesses accurate knowledge of the social condition of its people and understands the measures necessary to "promote the general prosperity and secure the blessings of freedom."

Social reform, too, is conditioned by accurate knowledge of the statistics of production and consumption, or of uses and abuses, evils and benefits, that may be itemized in the economy of the community.

From our point of view as educators, nearly every item in the census has a significance because acting or reacting on the people as an educational influence.

Let us look for one moment at the most general item, that of the aggregate population of the country—fifty millions and more. Ten years previous it had been less than forty millions and twenty years previous it had been about thirty millions.

We all know that there is a subtle and unobserved educational influence proceeding from the consciousness of nationality. To belong to a weak and despised nation is to submit to a perpetual training in humility and loss of self respect. A great blight settles down on the character of the individual like a foul, mephitic vapor, and prevents healthy growth. It was great to be a Roman citizen in the times of the Cæsars. It meant that the individual walked about clothed with an invisible garment of protection. The right of the greatest nation, the conqueror of the world, shrouded its humblest citizen.

In modern times what a well-spring of character to the man is the consciousness that he is an Englishman. Eight hundred years of vicarious national growth strengthen the backbone of each Briton. To belong to the nation whose flag is saluted by a perpetual morning sun

around the world is an education in self respect, manliness, honor, virtue, and productive activity hardly to be estimated.

Up to 1860 the United States had not reached the standard of a first class power among nations. Each of the "five great powers" in Europe was larger. Our civil war came just then, and it seemed to all Europe, to our friends as well as our enemies, that our doom had come and that no constitution like our own could survive civil war. Before we had come to be respected for our national might, we were to be divided and rendered less and less formidable.

When, in 1870, we reached thirty-eight millions of people, after emerging from a decade one-half of which was occupied with destructive civil war, burdened with an enormous debt and still more by the uncertainty of the problem of reconstruction, our aspect was still too problematic to secure for us a recognition among the statesmen and historians in Europe. As a nation we are affected by foreign opinion perhaps less than other countries because of our distance and because of our consciousness of having a special national function and destiny different from those of European states. But the recognition that has begun to be accorded us by the nations abroad will awaken a new regard for foreign opinion and prove a great educative influence on us through the increased intercommunication by travellers, by commerce, and especially by literature, which describes our national manners as seen from the point of view of England, or France, or Germany.

In a peculiar sense this is the age of the newspaper, and every morning each man and woman living in a civilized community is supposed to take a bird's-eye view of his whole country, and, more than this, of the whole world that is reached by the telegraph. The nations that are far down in the scale of progressive humanity are coming to the gaze of the civilized world as a totality. The most wonderful thing is that they are also coming to feel the influence of public opinion.

The veil of distance has been lifted and each people finds itself playing its part on the open stage before the world as spectator. It cannot do what it will, but it must do what alone will be permitted by the opinion of the world that looks on.

This is national education in the largest sense, for it is the education of whole nations of people by whole nations of people.

In this sense the American people are entering upon an era of national education, in which the decennial census forms a very important agent.

With the growth to fifty millions the United States for the first time rises distinctly above the national horizon as a great world power. The rate of increase will give sixty-five to seventy millions in 1890 and ninety to one hundred millions in 1900. We cannot easily realize the meaning of these census figures. Their chief significance lies in the new career that opens up to our people as a world power instead of a local power limited to this hemisphere. Our most adventurous Fourth of July

orators have not been able to paint for us the national feeling that will be developed through our recognition in Europe. It is the English thinkers who have first seen the coming influence of the United States and of other English speaking peoples on this planet.

Startled by the phenomena of the decade of 1860-1870 they have come to study America seriously and more seriously. They have seen a gigantic war lasting nearly five years in a republic where the central power seemed a shadow and the local power everything; after an unparalleled display of centralized strength, the restoration of local self government complete; spurious reconstruction followed by genuine reconstruction; a new South rising out of the old, not like some fabulous phoenix, but with the more real agencies of the steam engine, the railroad, the telegraph, and the powers of productive industry, and fortifying its new social position by means of the school, making greater efforts than any country ever made before in this matter of schools. The European spectator sees an enormous debt funded and refunded and constantly decreasing, not by repudiation but by constant payment in specie. He sees the volume of paper money contracted and the resumption of specie payments. He sees the wonderful presidential settlement of "eight to seven," and the coolness and patience of the American people under established legal forms. Then he looks again at an increase of twelve millions in ten years, reaching an aggregate of fifty millions of people, the next nation to Russia in point of population, and all these people speaking English and living under a modified British constitution that realizes local self government here far more perfectly than it is realized in England itself.

No wonder that the far-seeing thinkers of Great Britain are looking forward and asking us accounts, anticipating our census and calling the attention of their young men representing the aristocracy and wealth of the island to the meaning of the growth of British colonization in America. Napoleon's career at the beginning of the century and Bismarck's towards the close of it, says a university professor, will seem very insignificant to the historian who looks back from the next century and calls attention to the quiet, unnoticed growth of the United States in the first half of this.

He sees that our nation may then have three hundred millions of people, as many as all Europe, perhaps. We have a government in the form of local self government that allows the individual to manage all affairs that concern himself alone, but insists that he shall constitute with his neighbors a joint directorship over affairs that are common to them. His will must submit to the general will in all matters of common weal. The numerous steps and stages—the school district, the township, the county, the State, the nation—ascend from the individual to the political summit.

This means freedom to all and to each. Those who are really concerned in the business manage it, whether it be single individuals or

small communities or large communities. Hence, while Europe sees American influence rising above the horizon as a world power, this does not forebode evil, as the increase of Russian power portends an invasion of her neighbors by the Cossack. Even England and France might become parts of the United States and preserve all control of what concerns only themselves. And as for common interests between nations, do we not see and do they not see that the day will soon come when such interests must and will be managed by international commissions?

This is the interest of our census in its most obvious feature: its interest first to us and secondly to the world and thirdly to us again because it interests the world. It is the education it brings to each and every American who lives in the consciousness of this mighty destiny before the whole world. It is a training in dignity, self control, humanity, earnestness, simplicity. You could tell a Roman of the empire by this; so a Briton of the present; so a Spaniard of the time of Charles V; so a Frenchman of the time of Napoleon; so a Prussian of the Bismarck régime.

Three-fourths of a million immigrants come here annually. A better educated class come here than formerly. The facts of our census arouse the attention of the more intelligent inhabitants of Europe and induce them to try their fortune with us.

Turning from these considerations of the educational influence of the growth of the nation as a nation, let us contemplate for a moment the side of civil society, and recount to ourselves the meaning of the enormous sum of the productive industry of the country. The production of wealth appears to be the absorbing occupation of our people. Comparatively few seek the fields of scholarship or the fine arts or statesmanship. The growth of great corporations demands the most and the best of the great directive power that is developed here. Let us study for a moment this creation of property and the relation of its acquisition and preservation to education and the higher spiritual life of man.

It is clear that all the bodily wants of man, food, clothing, and shelter, depending as they do upon the ownership of property for their satisfaction, are through this means elevated and spiritualized, because property is a result of the institution of society. For property is not the creation of the individual; mere possession does not suffice; it is the recognition of society that makes *things* become *property*. Civil society establishes rights of property and division of labor. Through this each man is required to labor for his fellow men and to depend upon their labor to supply him the articles of food, clothing, and shelter which his own labor does not produce. His bodily wants are no longer mere immediate impulses, as animal wants, but they are converted into the instruments of realizing his spiritual or reflected being; he is forced by hunger and cold to combine with his fellow men and to form a community in which he is to respect their recognition far more than his own animal impulses and desires.

Thus, too, the institution of the family lifts man above mere sexual passion, and makes him in that respect a reflected being, a rational being.

Civil society is organized for the realization of man's existence as a property owner, so that he shall be a universal or rational essence, and not a mere individual animal, dependent on his mere locality and the season of the year and his unaided might for his physical life. For when man becomes a property owner and enters into this social combination of productive industry he does not lose himself but rather finds himself. He adds to himself the gigantic system of the industry of the whole world just as really as if he were absolute monarch over it and all mankind stood ready to fetch and carry at his bidding. Indeed the reality is more wonderful than the story as told in the Arabian Nights. The conception of Aladdin and his wonderful lamp, of Houssain and his magic carpet, and of Ali with his magic tube was the first dream of the wonderful organization of mankind into civil society. By its potency the humblest individual lives in communication with all the rest of mankind. The products of their labor are coming to him in a constantly flowing stream from the ends of the earth; he is in constant communication with all mankind and hears of their deeds, their joys, and their sorrows, and cannot but profit by this communication and grow wiser by what he reads in his daily newspaper. The institution of private property made transferable and exchangeable by means of the device called money makes each man a central focus of dominion:

For him the winds do blow,
The earth doth rest, heaven move, and fountains flow.
Nothing he sees but means his good,
As his delight or as his treasure;
The whole is either his cupboard of food
Or cabinet of pleasure.

Each man, by the simple process of industry and becoming a producer, puts into the market and storehouse of productive industry his little mite of a day's labor and thus gains the right to draw out from that market a portion of each of the products that all the countries of the world have contributed to it.

Note, especially, that the contribution of each bears no proportion to the blessing that he receives in return. As Aladdin had to rub his lamp in order to call up his genius, the slave of the lamp, so, too, the lamp of human industry must be kept bright by the toil of the individual, and then all is provided.

The service performed by the combined labors of all men is a service infinitely more considerate and thoughtful than the service of the slave of the lamp or the slave of the ring, in the Arabian tale. That service did only what was desired and commanded by the individual Aladdin; but the service of the industry of the world does ten thousand things

for his true good and his possible wants that the individual cannot think of or understand.

The individual needs to be educated in order to perceive what servants wait on him and what priceless gifts stand ready for his hand.

This is the miracle, that the whole of society is the slave of the ring that serves each individual. For is not social combination in a world of productive industry and commerce a gigantic ring of human beings? And does not each single individual in that ring find that he is enriched by all the labors of all the human beings in that ring, so far as those labors are labors of production and exchange?

Through civil society each individual commands by his own feeble efforts the resources of the entire globe. The organization of civil society is so perfect that every day's labor of the wheat grower affects the price of wheat all over the world. Every day's labor in the mills of Lowell or Lawrence affects the price of cotton cloth in Australia. The day laborer in the streets of this city commands with his meagre wages to that extent a share in the coffee of the distant Indies, the sugar of Louisiana, the tea of China, the drugs of South America, the fruits and grains, the manufactures from all sections of the country.

The fact that conscious intelligence—directive power—controls the property of the world is too obvious to need restatement. I call property a "reflected being" because it exists only through the recognition of society. *Things* exist, it is true, without such recognition, but things do not become *property* until society confirms the right of ownership. Such recognition is always an act of directive intelligence. There are no rights of property where the possession and use of things depend on the will of the strongest individual. Rights of property arise only with the growth of insight into the supremacy of the social whole as organized in the state. Man must see that society is stronger than the individual and learn to obey the will of this invisible body and to renounce the temptation to substitute his might for right before property can really come to exist in a community. The laws that create and preserve property state the nature or constitution of the bonds that hold society together. They state the principles on which man shall contribute to his fellow men and be permitted to share in their labors. Such distinctions as the laws of property set up contravene the innate desire and wishes of the individual and demand of him the constant effort of self control. He must acquire a reflected will, that is to say, a will that is bent back upon itself in order to regulate its own action according to universal principles called "laws."

A thing is an immediate existence; but a piece of property is a thing that has become subject to my will through the recognition of society. Society acknowledges and respects the sway of my will over those things that constitute my property. Hence property is not a thing nor a direct product of my will, but the product of my will only as reflected

in the will of the social whole existing in the form of a political body, the state.

It is clear enough that the rights of property cannot exist except in a community whose directive power has adopted a code of laws and legal usages defining such rights of property, and only where there exists a class of the community specially educated to interpret the application of those laws to particular instances and enforce their application on the part of the state or guide the individual by professional legal advice. It demands, too, the education of the law making power. Under all there must be the generally diffused insight of the people into the necessity of the support of the power of the social whole against the might of particular individuals or classes of individuals.

This insight into the necessity of the political organization of society is an insight that belongs to what I call "directive intelligence," because it can be realized only through the control and direction of the mere individual will, requiring it to renounce its inclinations, wishes, and whims so far as they are not compatible with the existence of social combination. The rights of property can be conserved only through an educated class.

The higher kinds of property, such as franchises, imply a high intelligence in the community. The property that consists in franchises requires a more thoroughly educated community, because such rights rest on more subtle distinctions than the rights to chattels and real estate. The individual must be so disciplined in mind that he can see readily the connection of his own well-being with the existence of such franchises.

Again, the possibility of possession of property by all in this country adds new validity to it here and makes it more valuable. That you can alienate your real estate, makes it property in a complete sense. If it is entailed it is only part property. The free possession of property, without feudal liens and tenures (the dead hands of the past owners still clutching the symbol of their reflected being), comes to existence only when a government of all the people, for all the people, and by all the people prevails, and when it is rendered possible through universal education. Who would own real estate in Turkey? Who would accept a Russian estate on condition that he live on it and assume its responsibilities? No one of us, I think. The quality of property—its intrinsic value—depends upon the quality of the community who recognize it. The status of the reflected being is the status of those who reflect it. Property in a refined and cultivated community is raised to a high potency of value; in a barbarous community it is not worth the risks incidental to its possession. In proportion as a man is educated he sees the substantial character of reflected existence, and this perception creates continually new subjects of property, founded on new recognition: bodiless possessions, "incorporeal hereditaments," that receive their substance from conventional recognition.

The growth of corporations is the wonder of this generation. They perform what the individual never could do for himself, and yet needs to have done in order that he may become freed from the thralldom of nature. The individual could not afford to build an aqueduct to obtain pure water from the distant hills, or establish gas works, or own a railroad or a telegraph or express system. Corporations furnish him all these things. If corporations abuse their power sometimes, this is because society has not yet learned where to place legal restrictions upon them and is another illustration of the necessity of education in the community.

This general relation of education to wealth production brings us close to the question of so-called industrial schools: manual training schools, school shops, and the like. It is clear enough that such schools are in demand and have a legitimate function to perform. But it is not so clear that they should be incorporated with common school education or in any way encroach on the time-honored disciplines of the common school, i. e., reading, writing, arithmetic, geography, grammar, &c., or indeed take the place of anything that can be called general instruction.

Let us see what the census teaches us in regard to the proportions of the population engaged in the particular arts and trades. We shall then see whether such industrial instruction can be made general enough to answer the future needs of any considerable fraction of the pupils in school.

If each of the five hundred arts, trades, or occupations in the community required a special school for the preparation of its laborers and had no manual and technical disciplines in common with the other occupations it is clear enough that such special industrial education could not be introduced into the common schools.

I have selected for this investigation nine cities differing greatly in respect of manufactures, commerce, and professional and personal service. They are New York, Philadelphia, Brooklyn, Chicago, Boston, St. Louis, Cincinnati, New Orleans, and Baltimore.

It is evident that the inhabitants of cities will present us a larger proportion of laborers at the arts and trades than the country population. In the cities, if anywhere, it would be desirable to establish industrial education in the common schools.

According to the census of this country for 1870—I use the statistics of 1870 because the returns are complete—there were 350,556 persons above the age of ten years in the city of New York who were reported as laboring in some occupation. Of these 86,171 are reported as females. Of the entire number there were 1,401 engaged in agriculture and 115,259 in professional and personal services, the last being one-third. Personal services included 49,440 as domestic servants, 28,451 as mere laborers, 4,832 as in hotels and restaurants, 5,604 in laundries, 1,278 in livery stables, 1,535 in boarding houses, 2,549 barbers and hair-dressers, 42 billiard saloon keepers—93,731 in all. Professional services included

715 clergymen, 316 journalists, 1,283 lawyers, 4,222 in Government offices, 1,741 physicians and surgeons, 669 soldiers, 3,511 teachers—12,457 in all. There were 9,071 others engaged in personal or professional services not specifically designated.

When we consider the various occupations named above, under which one-third of all the laboring population of New York are classified, we see that there could be no special training school added to the common schools that would fit each pupil for his particular vocation, if one of these.

By far the largest number in any single occupation are classed as domestic servants, and these form one-seventh part of the entire number of laborers.

The general discipline of the hand and eye that is given in the study of free hand drawing in our common schools would be of great service to nine-tenths of these laborers. Still more valuable would be to all the training of the Kindergarten occupations at the early age when the muscles are not yet formed and fixed. The one occupation of moulding from clay would be useful to all cooks and to all who have to do with giving shape to plastic material.

The census reported 88,611 as engaged in trade and transportation, one-fourth of all the laborers. Of these, 23,872 were traders and dealers, 4,744 were hucksters, pedlers, &c., 27,590 were clerks, salesmen, &c., 3,355 were bankers, brokers, insurance men, &c.—59,561 total in trade. Of those in transportation, 3,844 were engaged by railroads and express companies, 298 by telegraph companies, 4,463 were sailors, &c., 9,513 draymen, teamsters, &c.—18,418 in all. Of those engaged in trade and transportation, 10,632 were not more specifically classified.

Here, too, we see that the general industrial education fitted for all is a knowledge of arithmetic, reading, and writing, and not some species of manual skill.

The number engaged in professional and personal services, added to those engaged in trade and transportation, gives us nearly three-fifths of the whole industrial population of New York. The number engaged in manufacturing and the arts is reported at 145,285, or the remaining two-fifths of the industrial population. Of these, 3,533 were blacksmiths, 2,296 were iron and steel workers, 3,787 were machinists, 1,562 were tinners. Here we see 11,178 whose occupations have something in common, namely, the working with iron and steel or hardware in some shape. The use of the hammer and the file would be useful to all these; but they form only three in one hundred of the entire industrial population. In a school of one thousand they would make a class of thirty-two pupils. If more than thirty-two pupils were attracted into this class from a school of a thousand, it would be likely to produce discontented laborers, who were not needed because their trade was overstocked with workmen.

Taking another general class of manufacturing we find 10,427 carpenter-

ters, 5,071 cabinet makers, 686 carriage makers, 1,606 coopers—17,790 workers in wood. The use of the file would not be specially useful to these. The use of the hammer would be necessary to all, but a very different knack in its use would be required. The use of the hammer on iron and steel would be likely to specially unfit one for the best use of it on wood. But these woodworkers could all learn the use of wood cutting tools: the saw, the adze, the chisel, &c. But a class of only fifty could be formed in a school of one thousand pupils, even if the whole school were destined to some industrial occupation.

Next we find 1,477 cotton and woollen mill operatives, 9,747 milliners, 18,564 tailors, 29,788 who should know something about the manufacture of cloth and most of whom should know how to sew. About 75 in a school of 1,000 would enter a class that should know the specialties of the tailor and milliner. Probably 500 of such a school should know how to sew. We find 6,960 shoemakers, 3,855 bakers, 4,870 butchers, 5,824 painters, 8,018 masons and plasterers. The common element of skill among these trades is a very general one, such as we call discipline of the hand to delicate manipulation and of the eye to accuracy of measurement. Such training is given in the study of freehand drawing and in the so-called "gifts and occupations" of the Kindergarten.

In the other eight cities the proportion of the industrial population engaged in professional and personal services ranges from a little less than one-third, as in Philadelphia, to nearly one-half, as in New Orleans. The population engaged in trade and transportation ranges from less than one-fifth in Philadelphia to more than one-fourth in Chicago. In manufactures, arts, and trades the number ranges from one-fourth in New Orleans to one-half in Philadelphia.

These exhibits show from 30 to 40 per cent. of the population counted as industrial population. The population over ten years of age is about 75 per cent. of the whole population.

These lessons show us how wild are the theories of those who declaim against the present course of study in the common schools and demand the introduction of the arts and trades instead of the general disciplines that are now taught.

To meet the wants of the age, as these reformers understand them, they should ask for the curtailment of the school period and the apprenticeship of children to trades. Such apprenticeship is not likely to be undertaken by the state so long as the present ideas of personal freedom prevail in this country.

That the state may require a general education in science and letters and a training in secular morality is reasonable enough, but it cannot choose the vocation of the citizen for him without attempting more than any state has done since the petty tyrannies of India ceased to exist.

Special industrial schools may be established at the expense of the state, such as are called school shops and polytechnic schools, and doubtless they will do much good.

They will prepare a set of master workmen who will be able not only to direct the labor of the journeyman mechanics, but also teach them the best methods of manipulation. Such superintendent workmen will be doubly valuable to the community: first, securing better work; secondly, educating the workmen.

Within the past twenty-five years great strides have been taken by European governments in establishing systems of public education. It has been seen clearly that unless the laborer were educated the industrial product would be inferior and come to be discriminated against in the markets of the world. Technical education thus began in France and Germany. The foresight of Frederick the Great, backed by the religious dogmas of Luther, secured general education to his people. The weight of the Prussian people in war came to be seen in their Austrian and French campaigns. Since these wars public education has received an enormous impulse. Not merely the industrial success of the people, but national independence itself seems dependent on the general education of the people.

But man will not submit to be educated simply as a director of machines and instrumentalities of industry. He soon aspires to direct himself and be self governed. To be sure there is a long step from the mere hand laborer, the one who turns a crank or carries a hod, the galley slave who works chained to his oar—there is a long step from the mere physical laborer to the director of a machine, to the engineer, to the overseer of a loom, or the manager of a telegraph. The former is all hands; his own brain even is a mere hand governed by the brain of another, who directs him. But when directive power develops so far as to direct and govern machine labor, nay, even when it is so far cultured as to reach the principles of natural science and to be capable of applying these in mechanic inventions, even then it is not at its summit of realization. It will stop at nothing short of the spiritual culture that makes it alike directive and governing in the sphere of mind, the realm of social, moral, and intellectual existence.

It is agreed that this age is one of productive industry. Its active principle is invention, especially mechanic invention. Every day we hear of some new discovery that harnesses a new force of nature and compels it to work for man and assist in providing means of food, clothing, and shelter, or means of intercommunication and the spread of knowledge. Mind, not the body, is the inventive power; the directive power that can manage and use machines to advantage is mental, and not physical skill. The growth of invention is so rapid that the increase of manufacturing power by the aid of machinery is said to double, for all the world, once in seven years. The multiplication of steam engines and the improvement of machines renders this possible. What unintelligent hand labor is there that has any certainty of being in demand ten years hence? More than this, what trade is there that can count

on using, ten years hence, just the kind of technical skill that it requires now?

The history of the present era of industries shows a continual shifting of vocations, no vocation having any long lease of life. The new discovery will make the trade learned to-day, after a long and tedious apprenticeship, useless to-morrow. Any peculiar knack which depends on manual dexterity may be rendered valueless by a new application of machinery. The practical education, therefore, is not an education of the hand to skill, but of the brain to directive intelligence. The educated man can learn to direct a new machine in three weeks, while it requires three years to learn a new manual trade. The hand trained for twenty years at one kind of labor cannot learn a new work requiring different skill, because the muscles have become set and stiffened into one form of action. An uneducated workman will be thrown aside to perish in an almshouse. Only the versatile intelligence is able to meet the demands of the age of productive industry.

We are to find the most practical education for our age, then, in the general education that is and has been furnished in our schools. The branches of the course of study include language studies and studies of nature with a view to fit the pupil for combination with his fellow men and for ability to command the forces of nature. Mathematics gives the individual man control over nature, and the study of reading and writing gives him access to the wisdom of the race and ability to communicate himself to his fellow men and receive their advice. These general studies are, moreover, essential in our day to the preparation of citizens who shall support and defend the established order and not conspire for its overthrow.

All the studies of the common school are conservative in their character, because they all open the windows of the soul and give the mind insight into the substantial character of the institutions of civilization. They all tend to produce the conviction that the well-being of man is best furthered through the very instrumentalities that have been discovered and elaborated by the race, and especially by modern civilization. Reading, writing, arithmetic, geography, history, and grammar all open the soul to light on the question of sublime nature or on the question of the character and destiny of the human mind as revealed in language or social usages or political forms and changes.

The good school, moreover, teaches industry effectually. But its industry is that of directive intelligence. The progress of civilization supplies more and more the machinery to perform menial service and makes it necessary to educate all into directive intelligence. Self-directive intelligence makes for itself avenues of employment. Directive power is the only power that is never wasted.

It is not surprising that our people educated in common schools are versatile and industrious. Indeed it is the most valid criticism that we hear, the general criticism that the American people overwork. Their

ever active intelligence sees too many opportunities in the presence of this half-settled and half-civilized New World, and the consequence is premature old age on account of an unbroken career of toil.

There is too little leisure from the rough work of pioneering to produce finished scholarship. But education, as far as it goes, disciplines the mind and fits it to understand the complicated questions which it meets in a new political experiment. But there is not enough of this general education for the real needs of the age. Every citizen ought to be able to read and write and to know enough geography, grammar, and history to understand the daily newspaper. At least so much as this is essential to the voter in a free republic.

But here we come upon the most unpleasant and unwelcome data that our census furnishes. The census of our country for 1870 said: Of the population over ten years of age, 5,658,144 cannot write; 4,880,271 of these are native born and 777,873 are of foreign birth; 2,789,689 of these illiterates are colored. The total population of the nation over ten years of age was 28,228,945. Hence, 20 per cent. of the population over ten years of age could not write in 1870. In Massachusetts, even, there were 97,742 who could not write, 89,830 of these being of foreign birth and only 7,912 being natives. Eight thousand is a large number for a State like Massachusetts. Twenty-three thousand illiterates were in Boston.

The census of 1880 tells us again that there are 6,239,958 persons unable to write out of a total population of 36,761,607 persons of ten years of age and upwards.

We have permitted universal suffrage, and the Government is made by the majority. If we do not have universal education, we shall all suffer for it; for we are tethered to the lowest stratum of our population and must accept their influence in our politics. Nothing but education will ameliorate it.

The lover of his kind rejoices in the knowledge that here in America we have so organized our society that the welfare of the highest is connected indissolubly with that of the lowest, so that each and all must, in the main, see clearly that he is his brother's keeper and realize the solidarity of the social whole. Each man is what he is, not through himself alone, but by and through the reflection thrown back upon him from the social whole in which he lives and has his being. Under monarchies and despotisms the same fact is also true, but there is such a mirage created by the principle of caste that it cannot be seen clearly except by deep thinkers. Here it is visible, for the common laborer is also a voter and participates in making the laws of a free government.

The critics of our educational system are never done with telling us that its results are to make the rising generation discontented with its lot. As if this were a defect instead of the crowning glory of the system! What place is there in this age for a drone who is void of aspiration? To be like dumb driven cattle—this is not to be permitted

in a Christian civilization. Man is immortal and has an infinite destiny: this is the burden of Christian teaching. In consequence of this, Christian civilization strives towards the heavens; it subdues nature and makes natural forces toil for it and procure food, clothing, and shelter for the body. It continually turns out the drudge from his vocation, and says to him: "I do not want your mere bodily toil at any price; I must have brain labor joined to hand labor. I have machines made of wood and iron that can do such work as the like of you can, and at a far less price than you would call starvation wages. Up, then, and acquire directive intelligence, so that you may manage and direct this machine and other machines, for presently we shall need no more mere hand labor, but require all to be intelligent and directive."

As made in the image of God and as destined for His eternal kingdom, is it possible that any education that schools may give is too high for the position to which a human being is called to occupy in life? In view of the necessity for educated directive power in an age of productive industry in which the superintendence of machines is the chief nature and insight into the human mind too much? In a representative democracy, in which the laws that govern property and personal rights are made by the representatives elected by all the people, including the humblest citizens of the country, is any education too good for the people?

The American answer to this question is No!

Dr. HENRY RANDALL WATTE, having been called upon to speak, said:

Education is intended to fit men for success, not only as bread winners, but in the fulfilling of the parts assigned them in the economy of society as factors for the accomplishing of whatever in their places as component parts of the social organism their special aptitudes and inclinations best fit them for doing. The address to which we have just listened calls special attention to the truth that in order to succeed in the pursuits and callings of the individual, one of the chief essentials is a knowledge of the relations, one to another, of the facts bearing upon these pursuits and callings. In connection with the lessons deduced from statistics by Dr. Harris, I recall as pertinent the remark recently made to me by one of the most prominent and successful of Boston publishers, that he attributed his success to the efforts made throughout his business career to utilize the laws of nature by making them adjuncts for the accomplishment of his purposes. This successful attempt in the application of sound philosophy to the management of business affairs illustrates the results which may obtain in larger degree if the lessons deducible from facts bearing upon the affairs which concern men in all the important relations of life can be made more generally accessible and shall be more commonly studied. If, as indicated, the chief object which engages or ought to engage the atten-

tion of educators and students alike is the means which will most certainly enable men to grow into whatever place in the social organism they are, all things considered, best fitted to fill, education from its earliest beginnings should include proper attention to whatever will in any way cast light upon the various pathways open to the choice of the youth in our schools. It is the opportunity for the study of facts in their various relations as presented in statistical form which gives to statistics their chief value; and as facts thus collated enable us to arrive at conclusions which are shown to be of the utmost importance as affecting the future interests of the young, such facts may well be regarded as worthy of the most painstaking study. The results of such studies, as presented by Dr. Harris in his summary of some of the lessons taught by the figures of the last census, should therefore be especially welcomed because of their important educational influence. It may be too much to hope, and still we may indulge the expectation, that when the great value of such studies is more fully appreciated opportunities will be in some manner afforded to the youth in our schools for entering upon them. The natural laws which govern human affairs in respect of education will, in the near future, I trust, be as well classified and understood as those which relate to political economy. A study of these laws as applied to the important question of industrial training, which has been engaging our attention this morning, would cast much light upon that subject.

Industrial education seems to me to be merely the amplification and perfection of the system of object teaching. It takes from the latter that which was abstract and theoretical and gives to it, as applied to the useful arts, a practical bearing. When the question of such education is under discussion and we ask what part in it the artistic and decorative shall have as compared with manual labor of a grosser sort, it may be well to inquire as to the proper relations of the trine functions of man, the head, the hand, and the heart (so eloquently referred to by Mr. Pickett), the natural order of sequence in which these exercise their functions, and as to the relation which the various steps in industrial education bear to this sequence. If in the order of nature's laws we find that observation through the eye precedes the knowledge acquired by the sense of touch or hand manipulation, will not this aid us in the orderly arrangement of the various steps to be taken in industrial training? Again, by the careful study of the facts which acquaint us with the natural laws (to ignore or to disregard which will result in the failure of our best efforts), we may, I think, solve the two most important problems connected with this question in its practical bearings: first, under what circumstances industrial education may be profitably employed, and, secondly, circumstances being favorable, how to employ it to the best advantage.

It has been said that the methods contemplated by such a system cannot be made universally applicable. Assuredly, conditions in city

and country, as remarked, are so widely different as to make it evident that the rules applicable in the one case will be applied less easily or not at all in the other. A careful inquiry into these conditions should certainly precede attempts to introduce a system whose usefulness and value may be imperfectly appreciated and greatly underestimated as the result of hasty and unwarranted conclusions on the part of its friends. Statistics, generally regarded as a dry subject, and possessing little interest, in so far as their study can be made plainly contributory to the solution of the important social problems which are more and more engaging the attention of intelligent men, will receive the attention due them; and, as men turn more and more to the study of what we have been accustomed to hear spoken of as "dry figures," because they find that such studies pour floods of light upon the vital problems which chiefly concern them, figures will have a new meaning.

Mr. RICHARDS. I would like to ask Dr. Harris a question. Why is it that only one in fifty of the children that are in the courses of education in our country are in the higher grades?

Dr. HARRIS said in reply:

I believe, of course, that primary instruction may be improved, but I do not attribute the fact that there are so few in the higher grades to the want of good instruction in the lower grades, as Mr. Richards seems to do.

The average attendance on the school is perhaps not more than three years (of ten months each) all told, say thirty months' schooling, on an average, to all our people. The reasons for this are obvious enough. First, there is the poverty of the people, real or imaginary. The parents of the class of manual laborers are content if they give their children the ability to read and write and the mastery of the simplest rules of arithmetic. So much is "a great deal more than they received."

Then, secondly, there is the stimulant of opportunity in this country. What country was there ever before that offered such chances to the individual to get wealth? The youth catches the gold fever or the emigration fever, and quits the school for active labor.

It is not quite so bad as it seems, for the youth who can read and will read may become a learned man before old age, through the blessings of cheap books and periodicals, and above all the daily newspaper, which is our greatest popular educator next after the common school. The pupil learns how to read at school, and he graduates from that preparation into the American university: the newspaper and public library.

I find myself unexpectedly bringing my paper into the midst of a debate on industrial education. I would like to say on this point that the great fact that meets the student of modern civil society is the fact of the change of vocations rendered necessary by the invention of machines. No laborer can be very sure that his trade will be good for a livelihood for many years to come. This development of inventive

power is due beyond question to the study of natural science and the increased devotion of specialists to the observation of the phenomena of physical processes. This study of nature, again, if we are to follow up our explanation of the peculiarity of our historic period, must be considered as due to the development of the Christian idea of the world. So long as nature was looked upon as a mere illusory appearance or "maya," as the East Indians called it, there would not arise the conception of the possibility of finding rational laws in it. So, too, the conception of the Greek mind, that nature is the manifestation of individual divinities concealed behind it, would not permit the observer to entertain the thought that nature is a consistent manifestation of reason. But the Greek philosophers broke away from superstition and arrived at the idea of the world as a Cosmos, a world which, as Plato represented, was made by a Creator entirely without envy and moved only by the desire to impart to it all His perfections.

The Christian religion taught that the world was a revelation of God. Accordingly, as soon as the weightier questions of the struggle for existence against the northern and eastern barbarians were settled in its favor, there arose a wonderful passion for the study of nature in one or another form. At first it was the era of geographical discoveries, then the era of separation of the secular from the dominion of the church. In itself this separation of the state from the church is the proclamation that nature shall have validity as a peer to the spiritual whenever it assumes the form of harmony with it. The state has assumed the form of the dispenser of justice, and justice being a divine attribute it harmonizes with the principle of the church, and the state may become independent of it, inasmuch as it has adopted a principle recognized by the church and now no longer needs ecclesiastical supervision. The secular emancipation is brought about by the Christian principle which teaches the divinity of men and places infinite responsibility on the individual.

Science will emancipate man from thralldom to nature through mechanic invention. First, there came the age of simple inventions, clumsy machines being invented to perform the movements that the hand had executed in the previous era of division of labor. The age of machinery is the age of synthesis in place of division. After simple machines come those more complex, combining the operations of many simple machines in one. The more complex the machine the more versatile the intelligence required to direct and control it. But the emancipation of the human being is much the greater for it. The productivity is enormously increased in proportion as the human individual is dispensed with for its direction. Food, clothing, and shelter grow cheaper, and each human being can have more of them in exchange for his day's labor.

There are two consequences resulting from this progressive conquest of nature by the aid of mechanic invention. The first is that more educated general intelligence is demanded in the director of the machine.

The second is that the human being gets more and better food, clothing, and shelter, and more leisure for spiritual development, and consequently his child stays longer in school, for the reason that labor demands intellectual preparation and leisure permits such preparation.

Mr. RICHARDS said that more time was needed to educate youth in those higher branches that give directive power.

Mr. LUCKEY thought that the question why there are so few rich people and so many poor ones might be asked with equal propriety. All would be rich if they could and all would educate their children if that were possible. We do not understand this question of industrial education. The schools are managed by poor directors and controllers. Let the children be properly educated in the rudiments, and those who can take advantage of the high school education will do so. The chairman of a French commission remarked in my hearing that the best reading he had heard in his life was in public schools in America. "But of what use is it? In America you devote four times as many hours to teaching children to express themselves as we do, and of what use is it? Are you educating these children to go upon the stage or become lawyers or preachers? Oral expression is not what you want. You wish to teach children to read in order that they may gain information. If you will take 90 per cent. of the time that you give to expression and teach the pupils the meaning of words they will do better." Now, I have observed that children that come to us from England and Scotland and Ireland and Wales can read books that American children of the same age cannot comprehend.

Mr. HITZ concurred in the views expressed that the directive power should be developed, and Mr. Richards emphasized his previous remarks.

The president announced the following committee on national aid to education: M. A. Newell, State superintendent of public instruction, Maryland, chairman; B. G. Northrop, ex-secretary of the State board of education, Connecticut; Atticus G. Haygood, general agent of the John F. Slater fund, Georgia; N. O. Dougherty, superintendent of schools, Peoria, Ill.; J. H. Smart, ex-State superintendent of public instruction, Indiana; Jos. Desha Rickett, State superintendent of public instruction, Kentucky; Joseph White, ex-secretary of the State board of education, Massachusetts; W. T. Harris, St. Louis, Mo.; Andrew J. Rieckoff, superintendent of schools, Yonkers, N. Y.; Eli T. Tappan, president of Kenyon College, Gambier, Ohio; Geo. J. Luncey, superintendent of schools, Pittsburgh, Pa.; O. C. Painter, Nashville, Tenn.; S. C. Armstrong, principal of the Normal and Agricultural Institute, Hampton, Va.; B. L. Butcher, State superintendent of free schools, West Virginia; B. G. Lovejoy, member of school board, Washington, D. C. The department then adjourned to meet at 8 P. M.

THIRD SESSION—WEDNESDAY EVENING.

WASHINGTON, February 21, 1883.

The third session of the Department was held in the High School Hall at 8 P. M.

The president introduced ATTICUS G. HAYGOOD, D. D., president of Emory College, Oxford, Ga., and general agent of the John F. Slater fund, who delivered the following address:

IF UNIVERSAL SUFFRAGE, THEN UNIVERSAL EDUCATION.

The records in the Bureau of Education show that in the recent slave States of the Union the total school population in 1881 was 5,814,261. Of these 3,973,676 were white and 1,840,585 were colored children. The school age in these States averages from six to nineteen years. Of the whole number the total school enrolment was 3,034,896. Of this number there were of white children 2,232,337; of colored, 802,559. Of the total school population of 5,814,261, 2,779,365 were not enrolled, that is, they were not at school. The whites not enrolled numbered 1,741,339; the colored, 1,038,026; that is, nearly half the white population of school age and more than half the colored were not enrolled. Of the entire school population 52 per cent. were enrolled, 48 per cent. were not enrolled; of the whites a fraction over 56 per cent. were enrolled, of the colored a fraction over 47 per cent. In this matter the whites are only a little better off than the negroes.

Upon the schooling of the 3,034,896 enrolled in 1881, these States expended the sum of \$13,359,784, that is, \$4.40 per capita. Of these States all but two or three distribute the school funds without distinction of races. In these States the public school term does not average four months; in most of the cotton States the average term is three months. When we say that 3,034,896 children were enrolled in 1881 in the late slave States, this does not mean that so many were at school three months. It is doubtful if two-thirds of the whole number were at school during the fall term.

Here, for convenience in remembering them, let us come to round numbers for a moment. Allowing for the ordinary increase of population since 1881, it is safe to say the school population of the South is now 6,000,000. Of these 4,000,000 are white and 2,000,000 are colored. Of the 6,000,000 about one-half are enrolled and at school.

What is the case with adults in these States? We may just here consider only the case of the voters, there being, however, more illiterate women than men. The total number of men of voting age in these States, by the late census, is shown to be 4,154,125. Of these, 1,354,974 could neither read nor write, that is, nearly one-third of the whole number of voters are illiterate. Of the white vote 30 per cent. are illiterate;

of the colored, 70 per cent. In one of these States the illiterate vote is the majority of the whole number.

This is bad enough, but this is far from being the worst of this sad case. The worst is this: The illiterate vote in these States is increasing. From 1870 to 1880 the increase of this army of ignorant voters in the South amounted to 187,671. Leaving out Delaware, the illiterate vote increased in every Southern State. In this downward progress the two races keep well together. The increase of the illiterate white vote was 93,279; of the illiterate negro vote, 94,392. The whites being in the majority, take the South as a whole, the increase of the illiterate vote is relatively greater among the negroes.

Let us give details as to a few of these States. In Georgia the illiterate white voters in 1870 were 21,899; in 1880, 28,571; the illiterate negro voters in Georgia in 1870 were 100,551; in 1880, 116,516. The illiterate white voters in Kentucky in 1870 were 43,326; in 1880, 54,956; the illiterate negro voters in Kentucky in 1870 were 37,889; in 1880, 43,177. In Tennessee, in 1870, the illiterate white voters were 37,713; in 1880, 46,948; the illiterate negro voters in Tennessee in 1870 were 55,938; in 1880, 58,601. In Texas, in 1870, the illiterate white voters were 17,505; in 1880, 33,085; the illiterate negro voters in Texas in 1870 were 47,235; in 1880, 59,669.

If things remain as they are, 1890 will show a further increase of this huge illiterate vote. Things will remain as they are in these matters; rather, they will grow worse, unless the South gets strong help to bear her double load of ignorance and poverty.

We are apt to put a rose color on even such figures as these. A very little ability to read and to write takes one out of the lists of the illiterate in the census tables. The inquiries are not searching; few men are willing to acknowledge that they cannot read. I make no question that many thousands counted out of the illiterate columns can neither read nor write; it is beyond all question that hundreds of thousands who can, in a mechanical way, do both are less qualified by general intelligence to vote than are many who can do neither.

Merely ability to write one's name and to read coarse print imperfectly is no good proof of fitness to vote. This sort and degree of ability may exist with absolute ignorance of the merits of the issues involved in popular elections.

Let me give a fair specimen, drawn from life. There is not a touch of fancy or burlesque in it. For nearly eight years I have had in my employment a colored man of good character and superior qualities. He is above the average of his race in intelligence; he is about my own age; he can sign his name imperfectly and he can read a little. You will miss the point in my story unless you bear it distinctly in mind that this man, Daniel Martin by name, has voted the Republican ticket every time since he was made a voter, and that he so votes to this day. Let me show how well qualified a man may be to be a voter who can just

write his name and read a store sign. The day before the Hayes and Tilden election Daniel was ploughing in a little field near my house. One of the students asked him: "How are you going to vote to-morrow, Uncle Daniel?" The southern negro never delivers a grave judgment without coming to a full pause in whatever engages him. One consequence is he comes to a great many stops. Moreover, he thinks in metaphor and speaks in parables. So Daniel came to a full stop in his ploughing, and, sticking his plough deep into the ground, delivered himself as follows:

"Now, Mr. Longstreet, you see me plowin' along dis furrow here; if I plow dis furrow all de time, I makes dis furrow too deep and I don't plow de balance of de patch." Longstreet admitted the force of the statement. The philosophic voter continued: "I think things is bin gwine on one way 'long enough; dere ought to be a change. Wharfore Ise gwine to vote for Hayes to-morrow?"

The next day he and I went to our county town and voted. He voted for Hayes, that there might "be a change," I voted for Tilden that there might "be a change," and we were equal before the law.

Talk to such a man about the tariff, taxation, the currency! You had as well talk to him about horizontal parallax and spectrum analysis.

There is no question so pressing in the United States to-day as this: "What can we do with Daniel Martin in politics, the white Daniel and the black Daniel?"

Every male person twenty-one years old, not an idiot or felon, is a voter. The vote of the most ignorant weighs as much in law as the vote of the wisest. In the South ignorance is really in the majority; practically it amounts to this: Where one man in the South knows what he is doing when he votes, there is at least one man who does not know what he is doing. Sometimes there are two of them.

The votes of ignorance are not in any country—in Massachusetts or South Carolina, in New York or Georgia—determined by intelligent discrimination between men and measures. The best thing that ignorant voters can do is to vote on the judgment of the wisest men. But this is the thing they are least of all likely to do. As a rule, the illiterate voter is not under the guidance of the wisest and best citizens, but of the cunningest and most unscrupulous citizens. It is not your best man who has most power over the illiterate voter; generally it is your worst man. The least dangerous element in the votes of the illiterate is not that their ignorance disqualifies them for a rational judgment, but that it exactly qualifies them to be the tools of bad men.

It is neither exaggeration nor fancy. More than one-half the vote in the South represents just this: The wishes of wirepullers and office-seekers. What determines this huge illiterate vote? (1) In small part, the ad vice of intelligent men; (2) in great part, the management of shrewd men; (3) in large part, bribes in one form or another; (4) in

considerable part, prejudice inevitable to ignorance, whether of white people or of negroes.

What does voting like this signify to republican institutions?

There is another matter of measureless moment to be mentioned just here. Where the majority or even a great part of the voters are illiterate, cheating in elections is as easy as it is certain. The wrong done to the illiterate in such cheating is less than the injury done to those who do the cheating. In the one case, a vote cast by a man who did not know its value is not counted or is miscounted; in the other, a man who does know its value is debauched by corrupt politics.

Denouncing corruption in elections will not give us honest elections; honest elections must at least be made possible by qualifying the electors to vote rationally. There never was one man who knows why he votes, especially if he pays all the taxes, satisfied to be voted down by another man who does not know what he is doing, especially if he pays no taxes. There never were one million of men who know why they vote and who pay the taxes who would long endure to be voted down by another million who do not know what they do in voting and who pay no taxes.

It would be hard to prove that the capable ought to endure being voted down by the incapable. If they do, the ends of government are destroyed. This side the millennium capable men will not, if they can help it, endure such voting down by ignorance. After the millennium there will not be such voting. If capable men are forced to endure such voting they will come to abhor republican institutions. When this feeling is fixed in the hearts of men the foundations are destroyed.

What are we to do with the ugly facts revealed by the inexorable census table?

The treatment of these facts will depend on those to whom their attention is brought. Some men will not think of them at all; disagreeable facts they ignore, because the study of them disturbs their repose. But we do not do away with ugly facts by shutting our eyes to them. It would be as wise to reject vaccination and quarantine when small-pox is epidemic and pacify our anxieties with affidavits that there is no small-pox, or that it is not dangerous, or that it is, upon the whole, rather an advantage, as giving employment to undertakers.

Some among those who control the press of the country are content to publish these ugly and portentous facts as mere "news items." Others, seeing that here is something to arrest attention and to awaken anxieties, are content to lecture the South, telling her for the thousandth time how much behind she is. No efficient remedy this for the evils indicated by the facts. Some are in despair; they have sunk down into the abyss of political pessimism; they say there is no remedy whatever; they have despaired of the republic. With all their railings and wailings and prophesying these men are not true lovers of their country, else they would not despair so readily.

Others are indifferent; they don't care. They are the favorites of fortune; they are having a good time, making, hoarding, or spending their money. To them the poor and ignorant are nuisances; they gather hate them than otherwise. Of the Government, of our republican institutions, they know little and care less. They have no national feeling in them; they are utterly devoid of patriotism. "They are preserving their game"—talking "imperialism" over their wine. And this class controls a great deal of money. Very careless and indifferent they are; but they have abundant reason to care. The ignorant vote, that holds the balance of power, is a constant menace to the institutions that secure them in the enjoyment of their gold, their bonds, and their palaces. This great black giant of ignorance, many-handed, grim, and desperately hungry sometimes, is digging away at the foundations. So far as money values are concerned, these careless ones have most reason to care.

Some, patriotic enough so far as mere sentiment goes, smile at the apprehensions of the thoughtful student of facts, rely complacently upon what they dream of as the glorious "destiny of the republic." They talk about Providence. There is no blinder folly than faith in Providence that refuses to use the means that Providence appoints for securing gracious results. Providence never yet saved any nation that refused to do what it could do to save itself. Such a nation is not worth saving; such a nation cannot be saved. Salvation of any sort must proceed according to law; there is no saving a man or a nation in violation of law. It would be a violation of law—fundamental and absolute—to save republican institutions by the votes of men who do not know what they are doing. No device of law, no constitutional amendments, no statutes regulating elections, no force of arms, can secure institutions that depend on elections determined by ignorance. In the very nature of things such preservation of republican institutions is impossible.

Some visionaries calm their fears by their confidence in the educating power of the ballot. The ballot has this educating power when placed in the hands of ignorance: it discovers its power to the point of making the best bargains with parties and candidates when votes are wanted.

So far, in this address, there has been no special reference to the negro vote; we have been glancing at southern illiteracy in bulk, and fearful it is; and for this good reason, a white man who knows nothing is as dangerous as any other man who knows nothing. Worse he may be; worse he is, if he has more force. If he is superior in any respect, his very superiority makes him more dangerous. When machinery is out of order, the greater the power that drives it the greater the ruin. Thoughtful men in the South are awake to the danger that lurks in the illiterate white vote of their section. When they cry for help, they want education for their white as well as for their colored fellow citizens.

But, as all informed people know, the condition of the lately emanci-

ated people of the South constitutes the stress and urgency of the appeal we make to the nation for such help to meet this great emergency as only the nation can extend.

There are now nearly seven millions of negroes in the United States; about one-eighth of the whole population. The great mass of them are crowded into eight or ten of the late slave States. They increase faster than the white population. The increase of the whole population from 1870 to 1880 was 30.06 per cent.; the increase of the white population, aided by large immigration, was 28.82 per cent.; the increase of the negro population, unaided by immigration, was 34.78 per cent. Thoughtful people will consider such facts.

Out of these facts arise questions that concern the very life of the Southern States. The whole nation should have a care for what so deeply concerns the South; for the South is a vast region of untold possibilities, indissolubly bound to the Union. The nation affirmed, through a long and bloody war, that it could not get on without the South; these States have now concluded that they cannot get on without the nation. We are one people and we expect to remain one people.

To the people of the South it is a matter of overwhelming concern that these millions of negroes, made citizens in a day and armed with the ballot, should at the earliest possible moment be qualified for citizenship. But is it a southern interest only? Is it a matter of small moment to Massachusetts, to Connecticut, to New York, to Minnesota, or to any State in the Union free from this trouble and danger of a vast illiterate negro citizenship, that Georgia, South Carolina, Alabama, Mississippi, and other Southern States are now wrestling with the hardest problem that was ever forced upon any people? Does government by illiterate votes in the South mean nothing to the States North and West? May States exposed to all the perils involved in illiterate majorities suffer the evils inevitable under such conditions without infecting with the deadly virus other States more fortunate in these respects? Carlyle tells of a poor Scotch pauper woman who could not from any get recognition of her sisterhood; she died of typhus fever. Typhus fever killed seventeen other persons in her alley; and thus she got recognition of sisterhood.

These illiterate majorities are not limited to State elections; they enter into the election of President and members of Congress. If a man in New England is interested in the election of President or of the Congress, he is interested that voters in the South should have some knowledge of what they do when they deposit their ballots.

What is to be done? These people, these ignorant people, white and black, for the most part wretchedly poor, must be educated; they must be taught to read, to write, and to keep accounts. As to the majority of the parents of the untaught children in the South, it is as much as they can do to live, to live in a very cheap and humble way. They are unable to meet the expenses of the education of their children.

Some say let the Southern States educate their own illiterates. Easy solution this, so far as words go. *But the Southern States cannot do it.* In proportion to ability the Southern States are now doing about as much as the best Northern States; more than some. The State of New York is worth in taxable property as much as all the Southern States, yet these expended on their schools in 1881 \$13,359,784; in 1880 New York expended \$9,936,652. The total valuation in New York was, in 1880, \$2,651,940,000; the total valuation of the Southern States, including Missouri, was, in 1880, \$2,903,619,070; leaving out Missouri, \$2,370,923,269. New York is richer than the whole thirteen grouped in the census tables as "Southern States."

But in such comparisons it is the poorer States that deserve most credit. It is much harder for a poor man to pay 1 per cent. on his little property than for the rich man to pay 1 per cent. upon his great property; for the rich man has more left. What is left after paying to a good cause is a better gauge of liberality and public spirit than what is given. To illustrate the general statement that the South is not able to take care of its herds of illiterate children, let us compare two cities. The facts now to be stated are quoted from a report by Mayor Courtenay, of the city of Charleston. Mayor Courtenay says:

The facts are these: In the first place, the assessed values in the city of Charleston were \$45,000,000 in 1860; in 1880, \$21,000,000—a reduction of more than one-half in taxable values, in the face of an obligation to educate double the number of children. This heavy load has been assumed up to the highest pitch of taxation, however, as the facts show. The taxation in the city of Charleston, in 1880, for public schools was three and one-half mills, made up under a levy of two mills under the State law, one and one-quarter mills under the special city tax, and one-quarter mill special levy to rebuild Friend Street School—in all amounting to about \$61,000 a year on public schools. And this is exclusive of an annual appropriation to the high school of Charleston and to Charleston College.

How much above a maximum this is, and what a burden this is, is evident upon comparison. For instance, compare this taxation with the city of Boston, whose schools are models and whose people have the world-wide reputation of giving liberally for educational institutions, and we find that the city of Boston gives a total of two and a half mills in 1880 for a complete public school establishment, of seven high schools, two Latin schools, one normal school, forty-nine grammar schools, and four hundred and eight primary schools. The city of Charleston gives in proportion nearly half as much again as Boston for her primary schools alone, and gives, in addition, annual appropriations to the high school and Charleston College.

We must remember, also, that this is done under a very heavy debt of the city, the interest of which requires ten mills of annual taxation. Again, consider that, besides the State tax, the total tax of Charleston City is 2½ per cent., while that of Boston is only 1½ per cent.

Let us consider briefly whether the Southern States, with less than half the resources of 1860, are now able to educate far more (counting the increased population, three times more) than double the number of children then knocking at their doors. Brief statements will suffice for men who are informed on these subjects. Take Georgia, more prosperous than the average of Southern States. In 1860 Georgia's taxable

property was, in round numbers, \$750,000,000; in 1880, \$328,000,000. In 1860 the wealth of Georgia, exclusive of the value of slaves, was over \$500 per capita; in 1880, about \$150. In 1881 Georgia paid for her schools within less than \$1,500 of \$500,000. At the same rate on her ante bellum property her school fund would have reached \$1,500,000. The taxable property of Virginia in 1860 was \$385,099,382.77; in 1880, \$324,955,980. Yet, in 1881, Virginia expended upon her schools \$1,100,239; at the same rate upon her ante bellum property the school fund in 1881 would have yielded nearly \$2,000,000.

Dexter A. Hawkins, esq., of New York City, in an address before the Social Science Association, at the meeting held in Saratoga, September, 1877, stated the case thus:

The assessed valuation for the taxation of property, real and personal, in North Carolina, South Carolina, Florida, Georgia, Alabama, Mississippi, Louisiana, and Texas in 1860 was \$3,244,239,406; in 1870, \$1,883,863,180—a shrinkage in ten years of 43 per cent.

In some of these States it is less in 1880 than in 1870.

When the civil war was ended these States were crushed. They were utterly disorganized in all their industries; the investments that represented the savings of their past history were swept away. They were poor beyond conception to those not having that bitter experience.

What has been their history for nearly twenty years? A constant struggle with poverty. Embarrassed by new and strange conditions entering into, complicating, hindering all their industries, overweighted in every effort to get on their feet, loaded down with burdens and responsibilities, these States have done what they could to bear and to meet them. Hope and life would have died out of the hearts of people with less fortitude, courage, and endurance. They deserve respect, at least, that they did not utterly despair of themselves. We cannot compare the history of the past twenty years in the Southern States with any other history; that history stands alone.

What has been achieved in reorganizing society, in building up the country and its institutions, has been accomplished only by prodigious effort. These people have been lifting an increasing weight with a shortening lever; for, while there has been true progress and real growth in the industries of the South, the responsibilities of taking care of the ignorant population have grown faster than the ability of these States to meet them. If any doubt, let them compare the increase of the non-taxpaying population (over 34 per cent. in ten years was the increase of the negro population) with the meagre increase of taxable property in these States and with its actual decrease in others.

The plain truth is, the taxpaying people of the South have, as a whole, not been able to educate their own children; nevertheless, with the exception of two or three States (and these States are nearest the border), they have expended what school funds they had without distinction as to races.

As to the colleges and higher grade schools of the South, many of them, during this long period of storm and stress, have died utterly; all that survived were crippled; all are crippled now, with the exception of some of the State institutions and one or two others, helped mostly by the generosity of a few northern patriots and friends of their race. None of them have had the best facilities for doing their work. At every step in her efforts to do her educational work during this troubled period the South has worked at a disadvantage. The South has been under a grievous burden since the spring of 1861.

If it be demanded of me, let it be admitted that there is not so great an interest in popular education in the Southern States as in some others. But this only increases the force of the argument; for it increases the peril that is in our huge mass of illiteracy and diminishes the ability to meet it of those who are awake to the facts of the case. Beyond all question, thousands of the best people in the South are as fully awake to the truth of things and to the needs of the hour as men can be. But, for the most part, these men who do see and who do feel on this subject of education for the masses are poor—poorer than any other men of culture and character in the United States. They have done their best, lamenting their inability to do more.

Nothing is more certain than that the South cannot, unaided, meet the emergency that is now upon her.

We are told that northern charity is sending hundreds of thousands every year into the South to help do this work of education. That is true; and this patriotic and Christian benevolence is appreciated to the fullest by the best people. Heaven reward them, the Peabodys, the Slaters, Vanderbilts, Seney's, Stones, and others as generous though not so rich. They have done a good work indeed. Children's children will have them in everlasting remembrance.

But this should not be considered as entering into the question of the ability of the southern whites to do the work that is upon them, and it is the ability of the white people that is to be inquired into, since they pay the taxes. Nearly all the money sent South since 1865 for educational purposes has been devoted to the education of the negroes, especially the great sums expended by the churches and benevolent societies of the North. This is not regretted; we do not envy the negroes the help that Providence sent them. They needed it sorely, and we rejoice with them. But this method of help, good as it has been, left the white people, thousands of them as poor as the negroes, to struggle with their own burdens without the help the negroes had, and left to the white people who were a little better off the burden of their own responsibilities in the matter of education and the payment of the taxes for such public schools as they had, dividing it with the negroes who paid next to no taxes, and yet had help that they had not.

Nothing less needs proving than this: There must be more schools

and better; more teaching and better teaching. This will cost money, a great deal of money, more than these impoverished States can raise.

Where is it to come from? From individuals? But a nation cannot depend on individuals to do a work almost too great for the whole people.

From churches and other benevolent societies? They are but aggregations of individuals, and societies representing but a part of the people cannot do a work that belongs to all.

It is the duty of the whole nation to help, for a time, the States with their heavy burdens. Is it better for this nation to leave these millions of illiterate people, with ballots in their hands, untaught, than to help the States carry a load that is crushing them? Is it better for this nation to endure these evils that are now upon us and to brave the greater evils into which they are growing day by day than to spend a few millions, paid into its treasury by the people, and to do this for the benefit of the people, that is, for its own benefit?

This duty of helping the States to educate these millions of illiterate people is a national duty, for national interests are involved in it. It is a national duty, for it must be done; the States most deeply involved cannot do it and the nation can. It is a national duty for the plain, historical reason that the nation, as such, made these millions of negroes citizens and voters before they were prepared for their new duties and relations, and in the very act of doing it and by the very method of doing it largely took from those who are now called on to prepare them for their new duties and relations the ability to do it.

The men of the South who have accepted the issues of the war in good faith may well use the language of Hon. W. F. Forster, of the English Parliament, in reply to the radical wing of his party: "*You demand universal suffrage; I demand universal education to go along with it.*"

Universal suffrage we have, and in the South, as to the large majority, illiterate suffrage. There is no remedy for the evils of this state of things, whether by repression within the States where the trouble is, whether from force of any sort without these States. There is no remedy that leaves out the school-house and the schoolmaster. Ethical education is sorely needed; but ethical education will make slow progress without the education of good schools.

Sensible and just men are not now discussing slavery; that is passed out of the argument. They are not discussing the relative blameworthiness of the sections. Doctrinaires and narrow and bitter men do that. Sensible and just men say:

"See here, this multitude must be educated; it concerns us all; the nation is endangered by this ignorant ballot; these Southern States cannot carry this tremendous weight, this burden no longer theirs in any exclusive sense, but now the burden of us all. The nation can bear it and bear it easily. Let the nation forthwith get about it."

We hear somewhat about the right of Government to do this work.

(1) It is now too late to raise this question. From the time of Washington the General Government has been doing things that involved the principle and asserted the right to extend aid from the public funds for the work of education. Time and again the Congress has set aside public lands or the proceeds of the public lands for the uses of education in the different States.

(2) When a nation sets its heart on doing a great and good thing it can find a legal way to do it.

(3) As to this call for national aid, so far as the South is concerned in it, there is one fact lying right in the heart of the question that no constitutional metaphysics or legal sophistries can dispose of or make other than it is. This nation asserted and exercised the right to emancipate and to enfranchise several millions of people, to make men citizens and voters by proclamations and acts of Congress before they could read or write, before they were prepared for the duties, responsibilities, burdens, and dangers that were thrust upon them. The time has fully come when the nation should exercise the right—seeing that it has ample ability—to do what can be done, and as soon as it can be done, to prepare them to be what they are not—intelligent citizens. If the nation owes nothing to its own safety; if it owes nothing to the taxpayers of the South, charged by the nation with responsibilities they cannot meet, the nation, by every consideration of justice and humanity, owes it to the helpless negroes that it set free and gave ballots to, to now do what it can to help them get ready to be free indeed, and to vote as freemen, and not simply as "freedmen."

Some in the South seem somewhat troubled about a sort of drift towards "centralization" that may be lurking in this proposed national aid to education. It seems reasonable that the nation should meet an emergency that its own act created. Moreover, if the nation should give this aid—cooperating, as it is most natural that it should do, with the State school authorities—there is no danger of centralization.

Some say this theory of a "paternal government"—this call upon Congress for help to educate—involves the right to call for other help, as, for instance, for "shoes for the children to wear to school."

If it shall appear upon inquiry that wearing shoes enters into the very essence of the qualifications of a voter and voters cannot by any means procure shoes, why, in the name of common sense, let the nation buy them shoes or have done with the farce of voting. But a man may be a qualified voter without wearing shoes. One may conceive of a bare-foot philosopher voting wisely; no man can conceive of a philosopher who is also an ignoramus; no more can he conceive of a citizen qualified as an elector who does not know what he is doing.

If the nation, through its Congress, grants this petition for aid the money will be wisely and honestly used; for the best people in the South will be vitally concerned in its proper use, and the whole people—

the rich, the poor, the white and the black people—will all feel a personal interest in it. Every father will feel himself bound to watch with ceaseless vigilance that this precious money—the gift of his country for educating his children—be wisely, faithfully, economically used.

Judge WILLIAM LAWRENCE, First Comptroller of the Treasury, was then introduced, and addressed the meeting as follows:

CONSTITUTIONALITY OF NATIONAL AID TO EDUCATION.

LADIES AND GENTLEMEN: The remarks of the distinguished gentleman who has just taken his seat and the revelations of the census of 1880 demonstrate, among other things, two principal facts, which it is now proper to notice:

(1) That in all the States of our Nation illiteracy exists to an extent far greater than has been generally supposed, and that in some of them it is so overwhelming and appalling as to endanger the existence of republican government; and,

(2) That in a few of the States of the South in which illiteracy in some measure predominates the limited property resources of the people are wholly inadequate, by any system of taxation that can be devised, to supply the requisite number of teachers and other needed facilities for common schools.

We are therefore confronted with the question whether Congress can in this emergency furnish any or adequate relief. I propose to demonstrate that the Congress of the United States has ample power with the assent of any State to aid common schools therein established or authorized; and that, without such assent, Congress has power to organize and conduct schools in any State in which there is no system of schools adequately provided and supported.

In order to demonstrate these propositions it is necessary to define a republican government and to state one condition essential to its existence:

(I) A republican government is one in which the sovereign legislative power is exercised by representatives elected by qualified voters who include substantially the entire adult male population. This is the American definition. I do not now consider the question so much mooted, whether the true republic should extend suffrage regardless of sex.

However that may be, a government which excludes from the privilege of exercising suffrage any portion of the adult male citizens subject to its jurisdiction, who are not guilty of crime and who comply with the just requirements of reasonable laws, is not republican.

(II) It may be assumed, that a republican government cannot be maintained without a substantially universal secular common school education for all children of proper school age.

On this subject it cannot be necessary at this late day to quote the opinions of statesmen, or to add proof by reference to the dead and buried republics of other ages or to the utter failure of those which at this day are denominated republics, but which in fact are mere military despotisms in a chronic state of revolution.

(III) Assuming that the education to which reference has been made is essential to the existence of republican government, the real question is whether the National Government has power to preserve its own existence by providing such education.

I affirm that it has such power (1) by express provision of the Constitution, and, (2) even without this, as a necessary incident of the sovereignty with which it is invested.

The express power is found in article IV, section 4, of the Constitution, as follows:

The United States shall (1) guarantee to every State in this Union a Republican Form of Government, and (2) shall protect each of them against Invasion; and, (3) on Application of the Legislature, or of the Executive (when the Legislature cannot be convened) against domestic Violence.

So far as the exercise of legislative power is necessary to perform the duties required of the United States by this section, it of course belongs to Congress. Thus Chief Justice Taney said in *Luther v. Borden* (7 Howard, 42), that—

It rests with Congress to decide what government is the established one in a State. For, as the United States guarantee to each State a republican government, Congress must necessarily decide what government is established in the State before it can determine whether it is republican or not.

It will be noticed that Chief Justice Taney says "the United States guarantee to each State a republican government." The words of the Constitution are "a republican form of government." This manifestly was intended to secure the *substance* as well as the *form*, since the mere form without the substance would be *vox et preterea nihil*.

It is clear, then, that Congress has power by legislation to guarantee to each State a republican government.

To guarantee, says an eminent author, is "to become responsible for; to warrant; to undertake for another that, if that other does not do the thing, the party guaranteeing will himself do it." (Paschal's Annotated Constitution, third edition, section 233.)

If Congress shall by law decide that a State has not the means to provide adequate education or has failed to do so, and that aid to such State is essential to preserve in it a republican government and provide for such aid accordingly, this is an exercise of power which is warranted by the Constitution and cannot be questioned in any form.

The same may be said of the exercise of power by Congress to establish and control schools requisite to fulfil the duty to guarantee.

All this must be manifest from several considerations.

(1) The provision of the Constitution which gives the power to make

the guarantee is coupled with clauses giving two other powers, one to protect each State against invasion, the other to protect it against domestic violence. From this it is clear that the framers of the Constitution were dealing with the general subject of perpetuating the existence of a republican government in each geographical State. With this purpose in view, the Constitution gives power to Congress to save each State from destruction by foreign invasion or from domestic violence. One danger of domestic violence was slavery, but all forms of domestic violence are comprehended. In considering the power to guarantee a republican government, the maxim of construction is to be kept in mind, *nosctiar a sociis*. The Constitution, upon this maxim, no less than by its own plain words, gives to Congress the power to save each State from destruction, from whatever source the danger may arise or be threatened.

Universal illiteracy is more dangerous than foreign invasion or domestic violence. Such illiteracy may indeed be a source or cause of domestic violence.

When invasion is threatened, Congress may act. When domestic violence may be reasonably apprehended, Congress may act.

When appalling illiteracy is not only prospective, but is already upon any State, threatening the overthrow of a republican government therein, then Congress can intervene, is bound to perform the obligation imposed on the United States to guarantee the existence of a republican government.

(2) The existence of the power of Congress, as stated, is fully proved in principle by high authority. Thus, it is said:

If there be any general principle which is inherent in the very definition of government and essential to every step of the progress to be made by that of the United States, it is, that every power vested in a government is in its nature sovereign and includes, by force of the term, a right to employ all the means requisite and fairly applicable to the attainment of the end of such power, unless they are excepted in the Constitution, or are immoral, or are contrary to the essential objects of political society. (Story on Constitution, 1,240.)

In other words, the Constitution, in giving to Congress the power to guarantee a republican government to each State, gives also to Congress the incidental power to employ the necessary means to do so, including the establishment of or aid to common schools. This mode of construing the Constitution is sanctioned by principles as old as the common law. Thus it is laid down among the maxims of Dwarrits for the construction of statutes that—

In statutes, incidents are always supplied by intendment; in other words, whenever a power is given by a statute, everything necessary to the making of it effectual, is given by implication; for the maxim is *quando lex aliquid concedit, concedere videtur et id per quod denegatur ad illud*. (Potter's Dwarrits on Statutes, 123.)

This rule is equally applicable in the construction of the Constitution. The application of it now is that the Constitution, in giving to Congress the power to guarantee to each State a republican government, gives

also the incidental power to use the means by which the guarantee can be made effectual, including the right to aid or establish common schools as a means to that end.

In those cases in which Congress is authorized to exercise powers of this character, the propriety of the means employed cannot be called in question.

Thus it has been held by the Supreme Court of the United States that—

If a certain means to carry into effect any of the powers, expressly given by the Constitution to the Government of the Union, be an appropriate measure, not prohibited by the Constitution, the degree of its necessity is a question of legislative discretion, not of judicial cognizance. (*McCulloch v. Maryland*, 4 Wheaton, 316; *United States v. Marigold*, 9 Howard, 567.)

It is thus shown that the Constitution gives to Congress express power to guarantee to each State a republican government, and that Congress may aid or establish schools as a means of securing the permanent existence of republican governments in the States.

(IV) The power of Congress to aid schools in the States exists as a necessity, as a part of the means of preserving national existence. But it cannot be necessary to argue this branch of the subject.

(V) This power of Congress has been asserted and exercised from the foundation of our republican system of government. Immense grants of lands have been made by Congress in aid of common schools and colleges. If Congress has no power to aid schools and colleges, these grants are void. But the power to make them has been settled by long continued usage, which is said to be "the best interpreter of things," *optimus interpret verum usus*. (Broom, *Legal Maxims*, 917.) It would be interesting to present the number and dates of the acts of Congress making these grants and to state the amount of land granted to the States respectively, but time will not now permit.

(VI) For two years past Congress has been discussing the proper mode of reducing our superabundant revenues. This is well. A reduction is demanded by the best interests of the people. While internal revenue taxes are permitted to remain on spirits and fermented liquors, I would, if I could, distribute the annual revenue derived therefrom—amounting to an average of \$65,000,000—in just proportions to the several States. This would give to each State a sum sufficient to make a large reduction in the taxes of the overburdened taxpayers. It would enable the States to pay better wages to the teachers in our common schools, who richly deserve better compensation for the highly meritorious services they are rendering all over the Republic.

By this policy the number of common schools in some of the States would be multiplied, the neglected children of the colored people who have so recently emerged from bondage be cared for and educated, and the means of ample education be secured for all the children of the land, the poor and the rich alike.

With universal education the Republic will live to bless the ages of the future.

Hon. Jos. DESHA PICKETT, State superintendent of public instruction of Kentucky, followed Judge Lawrence. The stenographer's notes of his remarks were submitted to him for revision before publication, but have not been returned. Mr. Pickett explained that he was reared in the Jeffersonian and Jacksonian school of politics and was taught to have confidence in the rights of the States; he therefore took exception to the statement that Congress has authority to establish school systems irrespective of the States. But that is not the question which is presented here. The real question is, Shall the Congress of the United States assist the States in carrying out their systems of education? The speaker referred to the grants of land made by the National Government in aid of education, and, concluding, said:

Let us then come together with a generous, fraternal spirit, and let us try to devise some ways and means whereby we may present this great question to the consideration of the Committees on Education and Labor of the Congress of the United States; and may we be blessed in this effort.

FOURTH SESSION—THURSDAY MORNING.

WASHINGTON, *February 22, 1883.*

Mr. CALKINS, the president, called the meeting to order, and prayer was offered by Rev. B. G. Northrop.

Mr. NORTHROP, from the committee on national aid to education, presented the following resolution:

Resolved, That in view of the necessity of education to the perpetuity of free institutions and of the great and disproportionate burden which adequate provision for universal education would impose on some of the Southern States, this association expresses its conviction that it is alike the duty and the interest of the National Government to extend to the several States especially to those in which the burden and danger of illiteracy are greatest, such pecuniary aid as shall enable them to provide that all the children and youth within their borders shall receive at least an elementary education. We also express our conviction that such direct appropriations from the National Treasury should be made to the several States in proportion to illiteracy, and distributed under proper conditions and safeguards, through existing local officers. We believe that the emergency is so urgent as to demand immediate action by the present Congress, and that ten millions appropriated at once will avoid more than twenty times that amount twenty years hence; for universal education, when once fairly tried, will be continued without national aid.

On motion of Mr. NEWELL, of Maryland, the resolution was adopted. Mr. RICKOFF, of Yonkers, N. Y., moved that the subject of Indian education be called up. Carried.

INDIAN EDUCATION.

The time for remarks from General Armstrong not having yet arrived, the president called upon Hon. B. G. Northrop, ex-secretary of the

State board of education of Connecticut, to speak upon this topic, with special reference to his recent visits to the Indian school at Carlisle Barracks, Pa., in charge of Capt. R. H. Pratt.

ADDRESS OF HON. B. G. NORTHROP.

Mr. NORTHROP said that he had not expected to open the discussion, but to follow General Armstrong and Miss Fletcher with such suggestions as his three visits to Carlisle had brought out. He then spoke as follows:

In one of these visits I spent a week in lecturing to the teachers on the improved methods of instruction, and also occupied the school hours of each day in drilling the different classes in their school rooms. Their interest, attention, and prompt response in every exercise, their eagerness to learn, and their hearty appreciation of the efforts made in their behalf, were a welcome surprise. Before describing the grand results accomplished at Carlisle, a word is needed in regard to the starting of this project.

In 1875, Captain Pratt, who had been long occupied in frontier service and had had a long and varied experience in Indian border wars, was directed to take charge of seventy-four prisoners—murderers, the worst class of criminals—to be imprisoned for three years at Fort Marion, St. Augustine, Fla. He early saw the need of occupation for these prisoners and at once started plans for educating them in trades and industries as well as in books. The sleepy old Spanish town furnished few facilities for industrial occupation. All opportunities, such as working as hostlers or in saw-mills, picking oranges, and grubbing the land, were eagerly seized, and the work was well done. It illustrates the ingenuity of Captain Pratt in devising employment for them that they were enabled to earn in a single year \$12 by polishing sea-beans. Twice they floated pine logs from a distance and built log houses within the fort, simply as a lesson in carpentry. They split the clapboards, made stick chimneys, chinking and daubing them, that they might learn to build houses on their return. They were taught many other industries, as well as the English rudiments, and such were the happy results that at the expiration of the time of their imprisonment twenty-one were inspired with the hope of a better education and declined to return to their tribes. Seventeen of these were taken to Hampton and the remainder were placed in families.

Captain Pratt early fixed his thoughts on educating the Indians in the East, where they would be removed from the debasing associations of the tribes and where they might be brought at once into a Christian atmosphere and surrounded by the conditions most favorable to their education and development in the trades.

Three years ago he succeeded in securing the consent, not only of the Interior and War Departments, but of Congress, to his use of the Carlisle Barracks for an Indian school.