

DEPARTMENT OF THE INTERIOR
BUREAU OF EDUCATION

BULLETIN, 1916, No. 1

EDUCATION EXHIBITS AT
THE PANAMA-PACIFIC INTERNATIONAL
EXPOSITION

SAN FRANCISCO, CAL., 1915

By W. CARSON RYAN, Jr.
EDITOR, BUREAU OF EDUCATION



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LETTER OF TRANSMITTAL

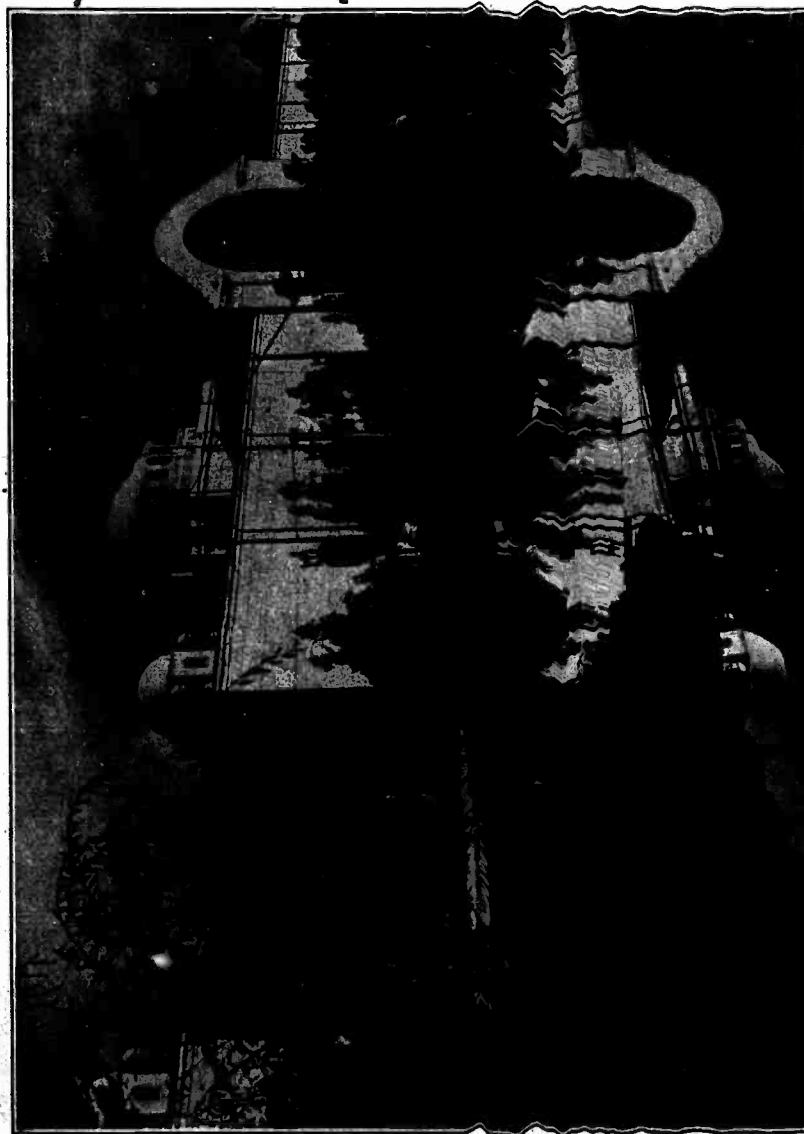
DEPARTMENT OF THE INTERIOR,
BUREAU OF EDUCATION,
Washington, October 7, 1915.

SIR: Were it possible to print for distribution among those who are directly interested in education a complete account of all the education exhibits of the Panama-Pacific International Exposition, a distinct service might thereby be rendered to the cause of education. But this bureau has no funds with which to have such a report compiled, nor are funds available for printing it if it were compiled. I have, however, caused two brief reports to be made of some of the most interesting features of these exhibits—a brief general statement of the nature, purpose, and most striking features of the several exhibits, by W. Carson Ryan, editor in this bureau, and a more detailed report of the exhibits in agricultural education and rural schools, by Harold W. Foght, the bureau's specialist in rural school practice. Those who read these two reports will have a fairly good idea of the meaning of these exhibits. I recommend that both be published as bulletins of the Bureau of Education, and I am transmitting herewith the first of these reports for that purpose.

Respectfully submitted,

P. P. CLAXTON,
Commissioner.

The SECRETARY OF THE INTERIOR.



Palace of Education and Social Economy, Panama-Pacific International Exposition.

EDUCATION EXHIBITS AT THE PANAMA-PACIFIC INTERNATIONAL EXPOSITION.

INTRODUCTORY NOTE.

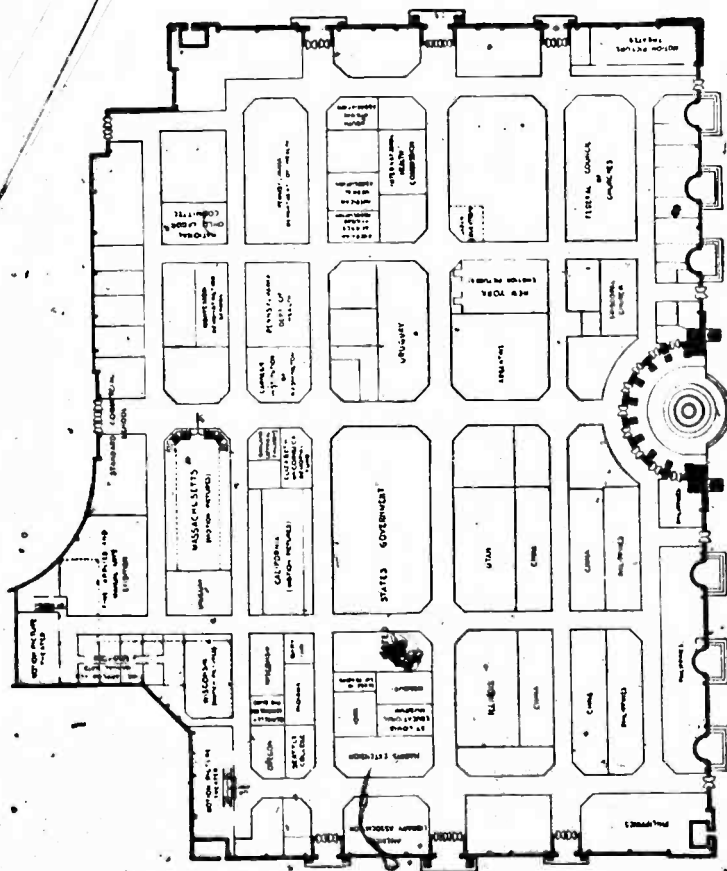
The purpose of this bulletin is to present, for the benefit of school officials and others interested in education, a brief description of the education exhibits at the Panama-Pacific International Exposition, held in San Francisco during 1915. Exhibits described herein are almost entirely limited to those that are educational in the narrower sense of the word—having to do with schools or methods, processes, and systems of education. No attempt could be made to describe the exposition itself as an educational institution, however inviting such work might be. Suffice it to say that no one could have attended the exposition without bringing something educational away from it, and certainly no school man or woman could have visited the fair without gaining new ideas of the progress of civilization and a corresponding stimulus for the work of education.

Most of the exhibits described in this bulletin were in the Palace of Education and Social Economy, situated at the extreme western end of the exhibit building area of the exposition. The space assigned to the different exhibitors may be seen from the floor plan of the Palace of Education, reproduced on page 8. About half the exhibits in this building were devoted to education. A few exhibits not relating wholly to education had educational aspects that have been discussed in part in this bulletin. Some of the States and foreign countries devoted space in their pavilions to school exhibits.

A unified display, rather than numerous exhibits, was the aim of the department of education of the exposition, and this was carried out consistently. The policy of the department is thus set forth by its chief, Mr. Alvin E. Pope:

Domestic exhibits were secured by invitation, the policy of the department being to request each exhibitor to confine his exhibit to one distinct system or process in which he excelled; to some definite lesson which he was capable of teaching the world; to present complete information on his particular subject which would be of interest and benefit to the visitors to an international exposition. These invitations were restricted in order to avoid duplication, and the special exhibits were so assembled as to portray the salient features of modern American education. We have outgrown the old-style educational display, consisting of comprehensive, duplicate exhibits, composed chiefly of

The illustrations used in this bulletin were for the most part contributed by the various exhibitors. In selecting from the large



Floor plan of the Palace of Education and Social Economy, showing space devoted to education exhibit.

number of pictures available several principles were kept in mind: Some pictures were selected to help the reader visualize the exhibit as a whole; others in order that the special impression conveyed by a carefully prepared chart might be reproduced, at least in part; and a number of illustrations owe their inclusion to the hope that school men interested in the work of display in school exhibits may obtain some suggestion from the methods used at San Francisco.

One important phase of the education exhibits it is impossible to describe either by text or illustration—motion pictures. Motion-picture theaters assumed unprecedented importance at this exposition. Every exhibit palace had some; there were seven in the education building alone. In addition, nearly every booth had automatic lantern-slide machines in operation at all times, and the attendance at both the motion-picture theaters and the "stereomograph" booths was large.

The present Bulletin is intended to afford a general statement of the education exhibits. A detailed report of the exhibits in agricultural and rural education is given in a separate bulletin (1916, No. 2) prepared by Harold W. Foght, specialist in rural school practice in the Bureau of Education.



Interior view, Palace of Education. To the right is the New York State education exhibit. Directly in the center is the Bureau of Education space. The hooded device being the temporary stage from which the Hampton juba singers sang. The "beehive" on the left is Utah. At the rear is the American Library Association exhibit, with the map of California illustrating the county library plan.

I. UNITED STATES GOVERNMENT.

The United States Government exhibits at the exposition were scattered over seven of the main exhibit buildings. In the Palace of Education the Government exhibit of education, including displays by the Bureau of Education, agricultural colleges, and public schools of the City of Washington, occupied a large central location. The Children's Bureau exhibit, also in the Palace of Education and Social Economy, bore directly on school problems, and in the Liberal Arts Building were the exhibits of the Public Health Service, the Bureau of Indian Affairs, the Military Academy at West Point, and the Naval Academy at Annapolis.

BUREAU OF EDUCATION.

The Bureau of Education exhibit was designed to show the organization of the Bureau of Education for the purpose of educational

EDUCATION IN THE UNITED STATES PROGRESS SINCE 1877					
	1877	1913		1877	1913
Total Population Estimated	46,112,700	97,163,330	High Schools		
School Population Estimated	14,025,800	26,499,928	Institutions	1340	3445
Public Schools			Teachers	6,759	67,092
Enrollment of Pupils	8,965,006	18,523,558	Students	98,485	128,3009
Average Daily Attendance	542,659	1,351,064	Normal Schools		
Teachers			Institutions	152	284
Male	114,312	113,342	Teachers	1,189	4,897
Female	152,738	451,118	Students	27,765	94,455
Total	267,050	564,460	Universities and Colleges		
Value of School Property	\$198,554,584	\$134,511,637	Institutions	432	596
Expenditure for Instruction	\$54,973,776	\$30,353,784	Professors and Instructors	4,865	19,858
Total Expenditure	\$794,398,26	\$534,058,580	Students	66,737	202,231
Average Number of Days in School Year	1334	1580	Schools of Medicine and Theology		
			Institutions	249	411
			Professors and Instructors	1,799	10,019
			Students	16,422	49,081

Bureau of Education chart showing educational progress since 1877.

investigation, information, policy, and promotion, and to portray educational progress since previous expositions through charts, models, pictures, maps, etc.

Progress in education since 1877, the year following the first national exposition, was shown in a large chart. Particularly impressive was the growth of high schools.



Modern types of rural schools and processes of education were shown in the exhibit by a series of models and devices. These illustrated, respectively, the rural school in connection with the State Normal School at Kirksville, Mo.; the Cache La Poudre School, of Colorado; the model rural school at the State Normal School, Maysville, N. Dak.; the Farragut School, Tennessee; the rural consolidated school at Alberta, Minn.; a practical ideal for a consolidated school district; and the progress of school children through the grades.

The model of the rural school at Kirksville demonstrated how a country school can be, "not a one-room school, but a one-teacher school." The model was so constructed that it could be easily taken apart to show the arrangement of rooms, apparatus, and other special features. Particularly impressive was the use of all available space in basement and attic; the modern improvements possible in any country school; and the opportunities for industrial work, agriculture, and social center activities. The cost of construction, without plumbing and heating, was declared to be \$2,200; with sanitary plumbing and hot-water heat, \$2,750; with all equipment, \$3,200.

The Cache La Poudre School illustrated particularly the community extension efforts of the Colorado Agricultural College at Fort Collins. It showed a modern high-school building set in a rural community with a "teacherage" on the school grounds, a school barn and liberal school grounds, a school farm of 5 acres, garden land of 1 acre, an athletic field of 2 acres, and an orchard of half an acre. The school serves an area of 15 square miles, containing 207 homes and a population of 800 people. The Colorado Agricultural College explains that, in behalf of "community betterment through rural school consolidation, we are working in Colorado"—

- To improve all of our village and rural schools.
- To secure the county unit of rural-school administration.
- To provide adequate trained supervision.
- To provide a school farm for each rural teacher.
- To provide a house for the principal and make possible a resident teacher.
- To encourage lecture courses and neighborhood meetings in all districts.
- To make each school a social center for all the people.
- To introduce agriculture and the home arts into all the schools.
- To make a high-school education possible for every country child.
- To train teachers for rural schools and rural leadership.
- To consolidate our small, weak districts into large, strong ones.

The Farragut School was presented as a typical Tennessee country-life school. The school has 100 pupils in its elementary course and 100 in its high-school course. The courses include agriculture, carpentry, household science, rural sanitation, and regular academic work "taught with an agricultural halo." There is a residence for the principal on the grounds, a remodeled abandoned schoolhouse.

<p>HOME EDUCATION DIVISION IN COOPERATION WITH NATIONAL CONGRESS OF MOTHERS</p>	<p>18000000 CHILDREN SPEND % OF THEIR TIME IN SCHOOL % OF THEIR TIME AT HOME</p>	<p>20000000 BOYS AND GIRLS YOUNG MEN AND YOUNG WOMEN NEED ENCOURAGEMENT IN CONTINUING THEIR EDUCATION AFTER SCHOOL</p>	<p>HOME EDUCATION DIVISION BUREAU OF EDUCATION COOPERATION WITH STATES OFFERS CAREFULLY SELECTED READING COURSES DIRECTIONS FOR READING COURSES NOW OFFERED</p>
<p>HOME EDUCATION DIVISION IN COOPERATION WITH NATIONAL CONGRESS OF MOTHERS</p>	<p>13000000 CHILDREN UNDER 6 YEARS OF AGE IN AMERICAN HOMES</p>	<p>HOME AND SCHOOL MUST COOPERATE FOR FULLEST AND BEST RESULTS FROM THE EDUCATIONAL INFLUENCES OF BOTH</p>	<p>HOME EDUCATION DIVISION BUREAU OF EDUCATION TEACHERS TO INSTRUCT THE HOMES PARENTS TO KNOW THE SCHOOLS PARENTS AND TEACHERS TO COOPERATE FOR THE EDUCATION OF THE CHILDREN PARENTS TO STUDY CHILD AND HOME MAKING WORKS THROUGH THOUSANDS OF PARENT-TEACHER ASSOCIATIONS 40000 ASSISTANTS</p>
<p>HOME EDUCATION DIVISION IN COOPERATION WITH NATIONAL CONGRESS OF MOTHERS</p>	<p>THE HOME EDUCATION DIVISION HELPS PARENTS IN</p>	<p>ESTABLISHING HEALTHY AND RIGHT HEALTH HABITS STIMULATING BEGINNINGS OF THEIR INTELLECTUAL LIFE DIRECTION INFORMATION OF THEIR MORAL HABITS GUIDING THEIR EMOTIONS IN RIGHT CHANNELS CHOOSING THEIR WORK AND PLAY MAKING THEIR CHILDHOOD JOYFUL AND HAPPY</p>	<p>HOME EDUCATION DIVISION BUREAU OF EDUCATION COOPERATION WITH STATES OFFERS CAREFULLY SELECTED READING COURSES DIRECTIONS FOR READING COURSES NOW OFFERED</p>

Chart illustrating work of the Home Education Division of the Bureau of Education and the National Congress of Mothers.

The community service includes agricultural demonstration, model kitchen and garden, community recreation grounds, community circulating library, centers of social activities.

A "practical ideal" for a consolidated school district showed a 10-acre school farm with an indefinite additional amount of from 10 to 40 acres for a district of 12 square miles, a population of 600 people, a school population of 200, 6 teachers employed throughout the year; a school building fitted up for school and community center purposes; manual training and domestic science buildings for school and neighborhood uses; residence for the home of the teacher and for social center interests; play shed; barn for stock and for

ATTENDANCE		INCOME		INSTRUCTORS	
Chicago	7781	Harvard	\$438840	Cornell	718
Columbia	7311	Columbia	379802	Wisconsin	597
California	7258	California	310509	Pennsylvania	583
Edinburgh	6423	Chicago	283200	Illinois	578
Cornell	5856	Yale	294087	Northwestern	534
Wisconsin	5847	Cornell	257620	California	527
Minnesota	5359	Minnesota	235352	Columbia	521
Illinois	5322	Massachusetts Tech	220525	Harvard	487
New York	5125	Wisconsin	215573	Wisconsin	466
Harvard	5074	Illinois	198100	New York	409
Pennsylvania	4990	Northwestern	192085	Michigan	384
Northwestern	4924	Michigan	173090	Yale	355
College City of N.Y.	4530	Pennsylvania	165207	Chicago	337
Ohio State	3989	Princeton	129002	Ohio	322
Nebraska	3793	Johns Hopkins	123754	Pittsburgh	285
Syracuse	3705	Vassar College	1178108	Indiana	260
Texas	3295	Missouri	113332	Texas	279
Missouri	3223	Trinity College, N.C.	109222	Syracuse	277
Yale	3077	Nebraska	108607	Nebraska	251
Indiana	2971	U.S. Military Academy	106468	Missouri	246

Relative size of universities as shown in the Government education exhibit.

horses used in transporting pupils to school, as well as for the teams of farmers attending social, educational, or demonstration meetings at the school and on the farm; poultry house, runs, and yards; athletic field and playgrounds for boys and girls; gardens, demonstration plots, vegetable and field crops; nursery and orchard; and parks for neighborhood picnics and outdoor exercises.

The device illustrating the elimination of pupils from school showed that for every—

- 60 pupils entering school in 1897-98,
- 53 were in fourth grade in 1900-1901,
- 25 were in eighth grade in 1904-5,
- 15 entered high school in 1905-6,
- 5+ completed high school in 1909-10,
- 3 were in college in 1910-11,
- 1 graduated from college in 1915.

DEVELOPMENT OF HIGHER EDUCATION.

A LARGE PRIVATELY ENDOWED UNIVERSITY.

(Harvard University.)

In 1875.		In 1914.	
1. The College	{ Liberal Arts (Graduate	1. The College of Arts and Sciences	{ Liberal Arts (Science
2. Scientific School and School of Mining and Practical Geology (Undergraduate)	{ Civil Engineering Mining Engineering Chemistry Natural History Scientific Teachers (Graduate	2. Graduate School of Arts and Sciences	{ Engineering (Mechanical Electrical Mining Metallurgy Architecture Architectural Construction Landscape Architecture
3. Law School		3. Graduate School of Applied Sciences	{ Mining Architecture Forestry Applied Biology Applied Science
4. Medical School		4. Graduate School of Business Administration	
5. School of Agriculture		5. Law School (Graduate)	
6. Divinity School		6. Medical School	
7. Dental School		7. Graduate School of Medicine	
8. Summer School—Chemistry and Botany		8. Divinity School (Graduate)	
		9. Dental School	
		10. School for Health Officers (Graduate)	
		11. School of Agriculture (Research)	
		12. University Extension	{ Summer Social Workers Extension Work
		13. Associated College—College for Women (Radcliffe)	{ Chapel Library Observatory Laboratories Museums Infirmary University Press
Noninstructional Departments:		Noninstructional Departments	
Library			
Museums			
Botanical Gardens			
Astronomical Observatory			

UNITED STATES GOVERNMENT EXHIBITS.

17

A LARGE STATE UNIVERSITY.

(University of Minnesota).

In 1875.

In 1914.

Collegiate Department (4 years preparatory)	Modern Course Classical Course Scientific Course	1. College of Science, Literature and the Arts	2. College of Engineering and the Mechanical Arts	3. Department of Agriculture	4. Law School	5. Medical School	6. College of Dentistry	7. College of Pharmacy	8. School of Mines	9. School of Chemistry	10. College of Education	11. Graduate School	12. Extension School	Total
1. College of Science, Literature and the Arts (2 years)	Modern Course Classical Course Scientific Course	1. College of Science, Literature and the Arts	2. College of Engineering and the Mechanical Arts	3. Department of Agriculture	4. Law School	5. Medical School	6. College of Dentistry	7. College of Pharmacy	8. School of Mines	9. School of Chemistry	10. College of Education	11. Graduate School	12. Extension School	Total
2. College of Civil Engineering and Mechanical Arts (2 years)	Civil Engineering Mechanical Engineering Architecture	2. College of Engineering and the Mechanical Arts	2. College of Engineering and the Mechanical Arts	3. Department of Agriculture	4. Law School	5. Medical School	6. College of Dentistry	7. College of Pharmacy	8. School of Mines	9. School of Chemistry	10. College of Education	11. Graduate School	12. Extension School	Total
3. College of Agriculture	Elementary (4 years) University (2 years)	3. College of Agriculture	3. College of Agriculture	3. Department of Agriculture	4. Law School	5. Medical School	6. College of Dentistry	7. College of Pharmacy	8. School of Mines	9. School of Chemistry	10. College of Education	11. Graduate School	12. Extension School	Total
Total 78 Subject Courses		Total 78 Subject Courses												Total 1,622 Subject Courses

Of special importance for rural-school sanitation and hygiene were the charts prepared by the joint committee of the National Education Association Council of Education, and the American Medical Association.¹ Comparison of city and country school children showed that in most respects city children were less defective than country children. The percentages were as follows:

¹ For a detailed description of these exhibits, see Bulletin, 1916, No. 2, Agricultural and Rural Education at the Panama-Pacific International Exposition.

WHAT FOUR YEARS IN SCHOOL PAID

WAGES OF TWO GROUPS OF BROOKLYN CITIZENS

	Those who left school at 14, Yearly Salary	Those who left school at 18, Yearly Salary
When 14 years of age	\$200.	\$ 0.
" 16 " " "	250.	0.
" 18 " " "	350.	500.
" 20 " " "	475.	750.
" 22 " " "	575.	1000.
" 24 " " "	600.	1150.
" 25 " " "	688.	1550.
Total Salary 11 years	\$5112.50	
Total Salary 7 years		\$7337.50

Notice that at 25 years of age the better educated boys are receiving \$900 per year more salary and have already, in seven years, received \$2250 more than the boys who left school at 14 years have received for eleven years' work.

IT PAYS
TO CONTINUE YOUR STUDIES.

One of a series of charts emphasizing the money value of education.

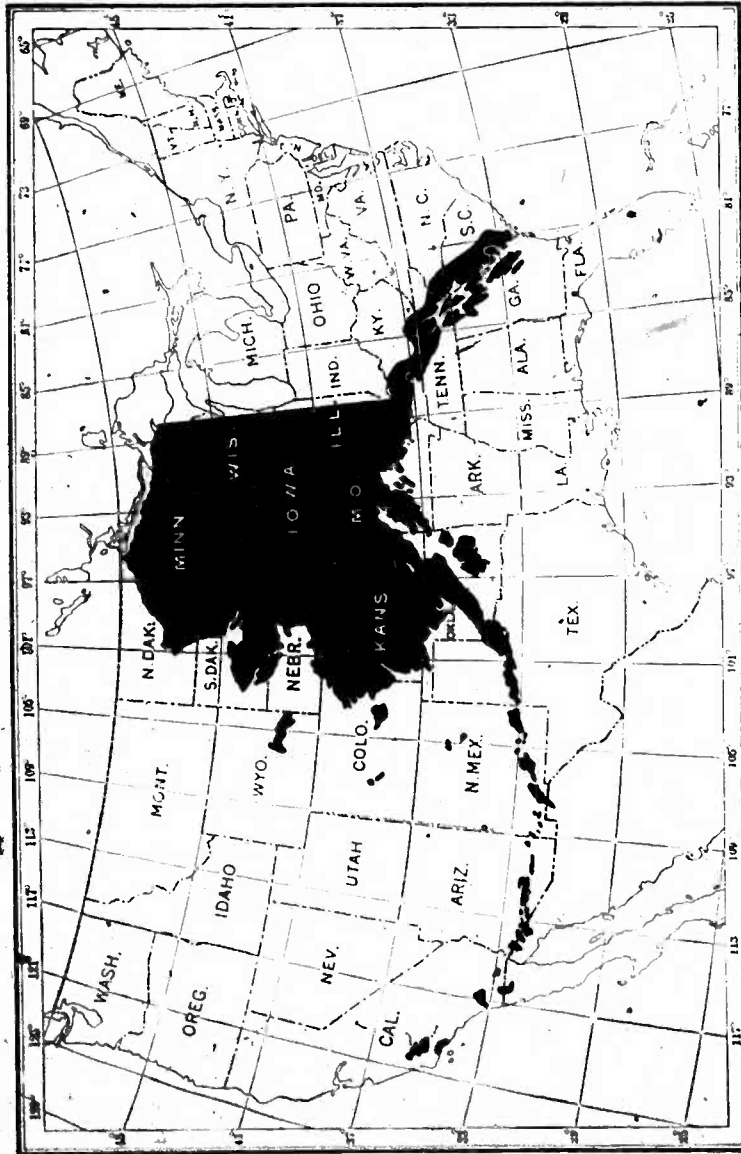
Health defects—City children and country children compared.

	Rural children.	City children.
	<i>Per cent.</i>	<i>Per cent.</i>
Teeth defects.....	48.8	33.58
Tonsils.....	28.14	16.42
Adenoids.....	23.4	12.5
Eye defects.....	20.4	12.5
Malnutrition.....	16.6	7.65
Enlarged glands.....	8.28	13.01
Ear defects.....	4.78	1.28
Breathing defects.....	4.2	2.1
Spinal curvature.....	3.5	.13
Anemia.....	1.65	1.5
Unclean.....	1.7	.17
Long disease.....	1.25	.32
Art disease.....	.74	.4

A number of effective charts and photographs showed the advance of the Negro in literacy, farm ownership, and standards of living. Hampton Institute was represented by furniture made in the school shops; in particular, a large, substantial oak table, the practical value of which was attested by actual use in the exhibit throughout the exposition period. The Hampton Jubilee Singers gave daily concerts at the Bureau of Education exhibit, and also in one of the motion-picture theaters in the Palace of Education during a period of several weeks, thus bringing Hampton's work to the attention of many exposition visitors who might otherwise not have known of it. It was significant that many casual visitors who came to hear the Hampton singers remained to study the school exhibits.

The work of the schools for natives of Alaska was shown by charts and also by actual products of practical education in the Alaskan schools. The District of Columbia was well represented by work in art, manual training, millinery, etc., from the Washington elementary, high, and normal schools. Through cooperation with the Department of Agriculture and 13 agricultural colleges, the Bureau of Education was enabled to present a representative exhibit illustrating the extent and methods of agricultural education.¹

¹ For a detailed description of these exhibits, see Bulletin, 1916, No. 2, Agricultural and Rural Education at the Panama-Pacific International Exposition.



Map of Alaska superimposed upon the United States. From the exhibit of the United States Alaskan school service.

A chart describing educational foundations gave the following information:

Educational foundations.

Name.	Endowment	Purpose.
Carnegie Foundation	\$16,250,000	Retiring allowances for teachers and officers of colleges, United States and Canada.
Carnegie Corporation.....	125,000,000	Advancement and diffusion of knowledge and understanding.
Rockefeller Foundation.....	100,000,000	The well-being of mankind throughout the world.
General Education Board.....	34,139,150	Education in the United States.
Russell Sage Foundation.....	10,000,000	Improvement of social and living conditions in the United States.
Rockefeller Institute.....	12,467,173	Medical research. Diseases in men and animals.
Carnegie Institution.....	22,000,000	Investigation, research, and discovery.
Smithsonian Institution.....	1,002,500	The increase and diffusion of knowledge.
Phelps-Stokes Fund.....	1,000,000	Educational aid for belated races.
Jennies Fund.....	1,000,000	Improvement of country schools for colored children.
Slater Fund.....	1,745,000	Normal and industrial training in colored schools.
Hand Fund.....	1,511,855	Education of people of African descent.

The printed publications shown in the exhibit included the annual reports of the Commissioner of Education, issued since 1868, and the bulletins of the Bureau of Education, of which 160 were issued in the three years preceding December, 1915.

Other printed matter on exhibition included: (1) Student annuals, or similar publications of the leading universities, colleges, and normal schools of the United States; (2) the 6-foot shelf of home reading courses offered by the Bureau of Education; (3) bound volumes of the principal educational surveys conducted in this country in recent years; (4) a model country-school library for California schools.

CHILDREN'S BUREAU.

The Children's Bureau exhibit as a whole was educational in the larger sense, and certain features of it had direct reference to school problems. A moving panorama, "Our 30,000,000 children," attempted to show where children were at each year of life. Of about two and a half million children born every year, 300,000 die before they are 1 year old, according to the exhibit. In the seventh year 52 per cent of the children are in school; in the eighth year, 75 per cent; in the ninth, 83 per cent; in the tenth, 86 per cent; in the twelfth, 91 per cent; in the thirteenth, 90 per cent; in the fourteenth, 89 per cent; and in the fifteenth year 81 per cent are in school.

Attractive charts emphasized the need for playgrounds, especially play spaces for younger children.

Models of a sanitary dairy and an insanitary dairy shown were of special interest, because they were made by the girls' class in sanitation of the Pasadena (Cal.) High School.

LIBRARIES

LIBRARIES SUPPORTED BY TAXATION

LIBRARIES OF 1000 VOLUMES AND OVER

VOLUMES PER 100 PEOPLE

1905

1908

1913

1898

1903

1913

1905

1908

1913

1898

1903

1913

1905

1908

1913

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Comparative growth of libraries in the various States, as shown in the Government education exhibit.



Children's health conference in the exhibit of the Children's Bureau.

Extensive space was given in the exhibit to charts impressing upon mothers simple directions for the care of their children; and a feature of the exhibit was the children's clinic, to which children of all ages, but especially very young children, were brought daily for examination.

PUBLIC HEALTH SERVICE.

Models of an insanitary and a sanitary country school were shown in the United States Public Health Service exhibit in the Liberal Arts Building. The insanitary school, which bore the date "A. D. 1890," was described as follows:

In the erection of this building no attention was paid to proper lighting or sanitary environment. The surface privy pollutes the soil, increasing the danger of infection by hookworm and other intestinal parasites. These breed in the manure in the horse shed and may transmit typhoid fever. The well is so located that surface drainage from the privy and stable may contaminate the water supply. No provision is made for physical exercise. The lack of individual drinking cups favors the transmission of disease.

The sanitary country school, dated "A. D. 1914," was intended to fit the following requirements:

This school building was constructed with a view to proper lighting and ventilation. The privy is of the type known as the L. R. S. privy. The horse shed is kept clean, and the manure is in a covered bin to prevent fly breeding. The water supply is from a driven well, incased with concrete cap, to prevent contamination by surface drainage. There are no roof gutters except over doors, and the surrounding ground is drained so that there may be no breeding places for mosquitoes. A playground and school garden are provided. Each child is required to have an individual drinking cup.

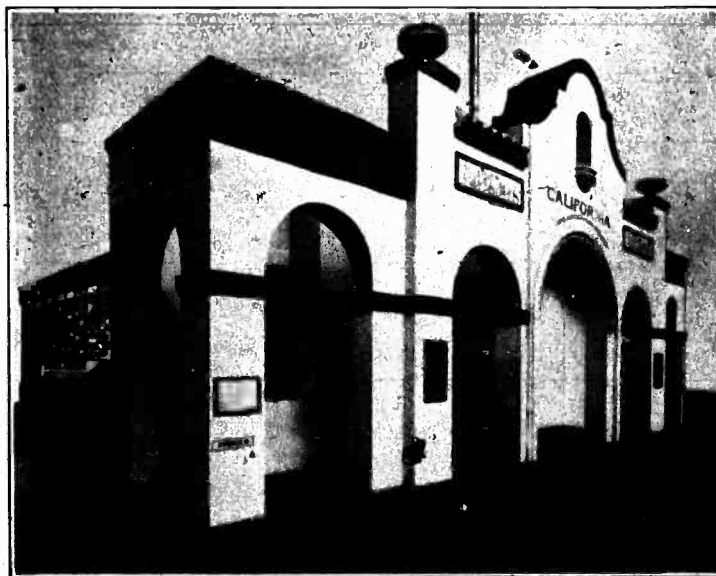
BUREAU OF INDIAN AFFAIRS.

Industrial work was emphasized in the Indian schools' exhibit in the Palace of Liberal Arts. Blankets, basket work, and admirable examples of art furnishings were shown. All the furniture used in the exhibit space was "made by Indian student apprentices while at work in the different shops of the schools." A model, one-seventh size, of the domestic science cottage at the United States Indian school at Mount Pleasant, Mich., indicated the importance assigned to practical domestic science work in the Indian schools. The model was constructed by male students of the institution. Stereomograph slides depicted life and work in the Government Indian schools.

II. STATE EXHIBITS.

CALIFORNIA.

The California exhibit in the Palace of Education emphasized three points: (1) The extension of public educational activities as shown in motion pictures of certain progressive California communities; (2) school architecture, through models of attractive school buildings from different sections of the State; and (3) the need of



Front of California motion-picture booth.

care and education for atypical children.¹ In the California building the emphasis in the education exhibits was on the practical aspect of manual training.

Motion pictures.—The elaborate films presented in the California motion-picture theater in the Palace of Education illustrate the value of this method of presentation of facts for exhibit purposes. Through them many of the activities of the Los Angeles schools, for

¹ A separate exhibit, devoted to the Berkeley School for the Blind, showed products of the school and illustrated methods of instruction. A class in methods of instruction for the deaf was conducted by Mrs. Trask.

example, were shown under as nearly natural conditions as possible. The Los Angeles film contained seven separate reels, each descriptive of a different phase of the educational work of the city. Lectures accompanied the pictures.

Other films shown in the California exhibit are indicated by the accompanying schedule:

CALIFORNIA EDUCATIONAL EXHIBIT.

PALACE OF EDUCATION.

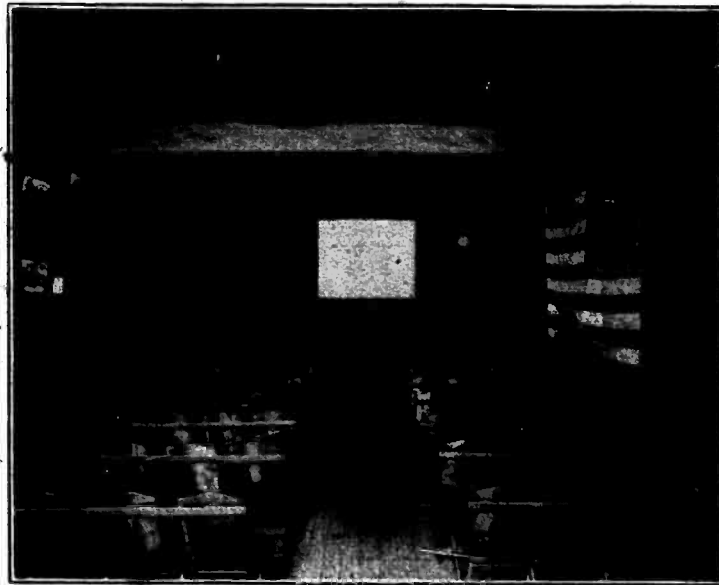
Program of motion-picture films from 11.00 a. m. to 5.30 p. m. daily.

MONDAY.	WEDNESDAY—CON.	FRIDAY—CON.
11.00. Imperial County.	2.00. Monrovia.	2.30. Solano.
11.30. Alameda County.	2.15. Solano.	2.45. San Diego.
12.30. Monrovia.	2.30. Los Angeles.	3.15. Santa Monica.
12.45. Santa Clara.	3.30. Orange County.	3.45. Los Angeles.
1.00. San Diego County.	4.00. Venice.	
1.30. Marin County.	4.30. Imperial County.	SATURDAY.
2.00. Venice.	5.00. Library.	11.00. Monrovia.
2.30. Solano.		11.15. High Schl. Cadets.
2.45. Santa Monica.	THURSDAY.	11.30. Santa Monica.
3.15. Los Angeles.	11.00. Los Angeles.	12.00. Imperial.
5.00. Orange.	12.45. Orange.	12.30. Library.
	1.15. Solano.	1.00. Alameda County.
TUESDAY.	1.30. Santa Clara.	1.30. Belmont.
11.00. Venice.	1.45. San Diego.	1.45. Venice.
11.30. Library.	2.15. Mount Tamalpais.	2.15. Santa Clara.
12.30. Solano.	2.30. Santa Monica.	2.30. Los Angeles.
12.45. Monrovia.	3.00. Marin County.	4.15. Solano.
1.00. Orange County.	3.30. Monrovia.	4.30. San Diego.
1.30. Los Angeles.	3.45. High Schl. Cadets.	5.00. Mount Tamalpais.
3.15. Alameda County.	4.00. Alameda County.	SUNDAY.
4.15. Imperial County.	5.00. Belmont.	11.00. San Diego.
4.45. Santa Clara.	FRIDAY.	11.30. Santa Clara.
5.00. Marin County.	11.00. Orange.	11.45. Venice.
WEDNESDAY.	11.30. Marin.	12.15. Santa Monica.
11.00. Santa Monica.	12.00. Mount Tamalpais.	12.45. Marin.
11.30. San Diego.	12.15. Venice.	1.15. Los Angeles.
12.00. Marin.	12.45. Library.	3.00. Orange.
12.30. High Schl. Cadets.	1.15. Santa Clara.	3.30. Alameda County.
12.45. Belmont.	1.30. Imperial.	4.30. Imperial.
1.00. Alameda County.	2.00. Alameda.	5.00. Monrovia.

Through these motion pictures it was possible for the visitor to the exposition to carry away a rather complete and accurate picture of actual school conditions in the State of California with considerably less danger of wrong emphasis than if he had tried visiting a few schools in person.

School architecture.—The model room of the Santa Clara Grammar School showed an overhead-lighted classroom, producing, it was claimed, an absolutely equal distribution of light; there are no cross-lights; desks may be faced in any direction; there are no reflections on the blackboards, and blackboards may be placed on all sides of the room; the pupils' minds are more concentrated; the direct glaring rays of the sun are avoided.

The model of the Newman Grammar School (Newman, Stanislaus County) showed a building of the mission style, with open court in front, while the Patterson Grammar School (Patterson, Stanislaus



Interior motion-picture booth, California exhibit.

County) showed another building of the mission style, all one story. Other schools from Stanislaus County shown by models included the high school, Newman; the Lowell School, Turlock; the Hawthorne School, Turlock; the Riverbank Open-Air School, Riverbank; the Union High School, Oakdale; and the new Ceres High School, Ceres. All these models were constructed by the pupils of the Stanislaus County schools.

The city of Sacramento was represented by the model of an open-air kindergarten, a temporary school, and the Sacramento Grammar School.

Fresno was represented by a special type of open-air room, the principal features of which are as follows:

1. The general plan is an adaptation of a standard classroom with classroom conveniences, so that it is readily convertible from an ordinary room into an open-air school.
2. Unilateral lighting, glass windows instead of canvas as a source of light; windows that may be closed in cold weather and thrown completely open in milder weather, forming an open-air schoolroom. The free flow of air is obtained by attaching shades to the window sash, so that they may serve as awnings. There are no windows facing playgrounds. Cross ventilation is secured by canvas curtains.
3. An abundance of blackboards seen without looking into a source of light. Blackboards adjustable to different sizes of pupils.
4. A projecting roof serving as a shield against the hot summer sun and as a cover for a walk from room to room.
5. A stove jacketed and provided with a fresh-air intake.
6. A ventilating duct extending from floor to ceiling in the cloakroom.
7. The attic properly ventilated as a hot-weather adaptation.
8. The schoolrooms may be joined end to end without the interference of noise from adjacent rooms, an advantage usually impossible in open-air schools.
9. A building serviceable whether as a temporary building, cheaply moved from site to site, or as a permanent structure. Economical yet substantial, costing, in Fresno, \$500 each.

One especially attractive model in the California exhibit was that of the Armijo Union High School, Solano County. Other models illustrated the attractive white buildings of southern California—a San Diego public school and grounds, Santa Monica High School, and Monrovia High School. The normal schools were represented by models of the buildings and grounds at Chico and Santa Barbara. The arrangement of the grounds was reproduced with special effectiveness in the Santa Barbara model.

Atypical children.—After calling attention to the general statistics of feeble-mindedness in the United States, the exhibit pointed out that there are between 8,000 and 14,000 (estimated) feeble-minded in California; that 1,100 are in Sonoma State Home—300 idiots, 550 imbeciles, and 250 morons; and that 58 of the children have kindergarten work for 35 minutes every day and 66 children have regular school work.

The city of Oakland "takes care of its atypical children," according to this exhibit. Statistics of Oakland school children apparently showed that there were 1,250 cases of exceptional children. Of these, 54 per cent were recorded in the psychological clinic; 20, or 1.6 per cent, have been committed to Sonoma State Home; 38 per cent "should be committed at once"; 985 are morons, border cases, or only backward; and 75 are normal or supernormal. In Oakland there are seven special classes for "border cases," and 100 happy children in these special classes. Other interesting facts



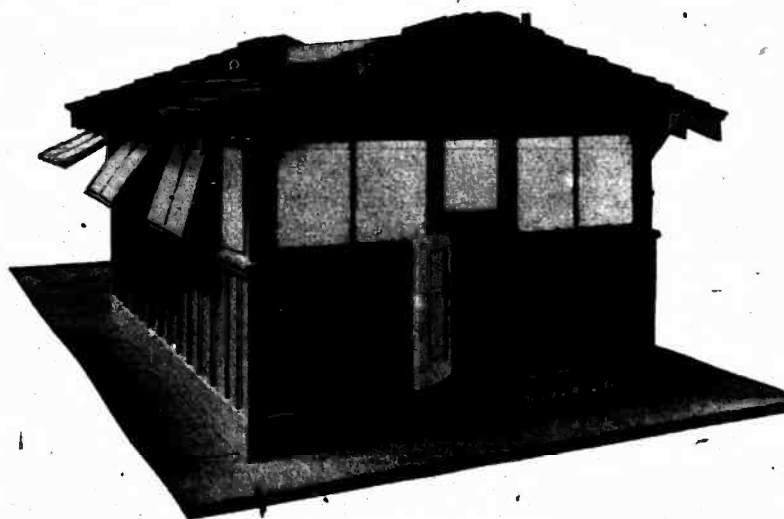
. One side of the California motion-picture booth, showing types of buildings in photographs and models.

shown in the Oakland investigation are that there were 44 probation-office cases in six months; that 90 per cent of atypical children show some physical defect; 75 per cent are children of foreign parents; and 25 per cent have subnormal brothers or sisters. A few of the Oakland cases are given to illustrate the elements in the problem:

A FEW OF OAKLAND'S 1,250 DEFECTIVE CHILDREN.

Epileptic, bright, good, oldest of six children; one paralytic. Hereditary blood disease.

Father drinks, mother feeble-minded; children many and subnormal; utterly dirty and irresponsible.



Model of the Fresno open-air school.

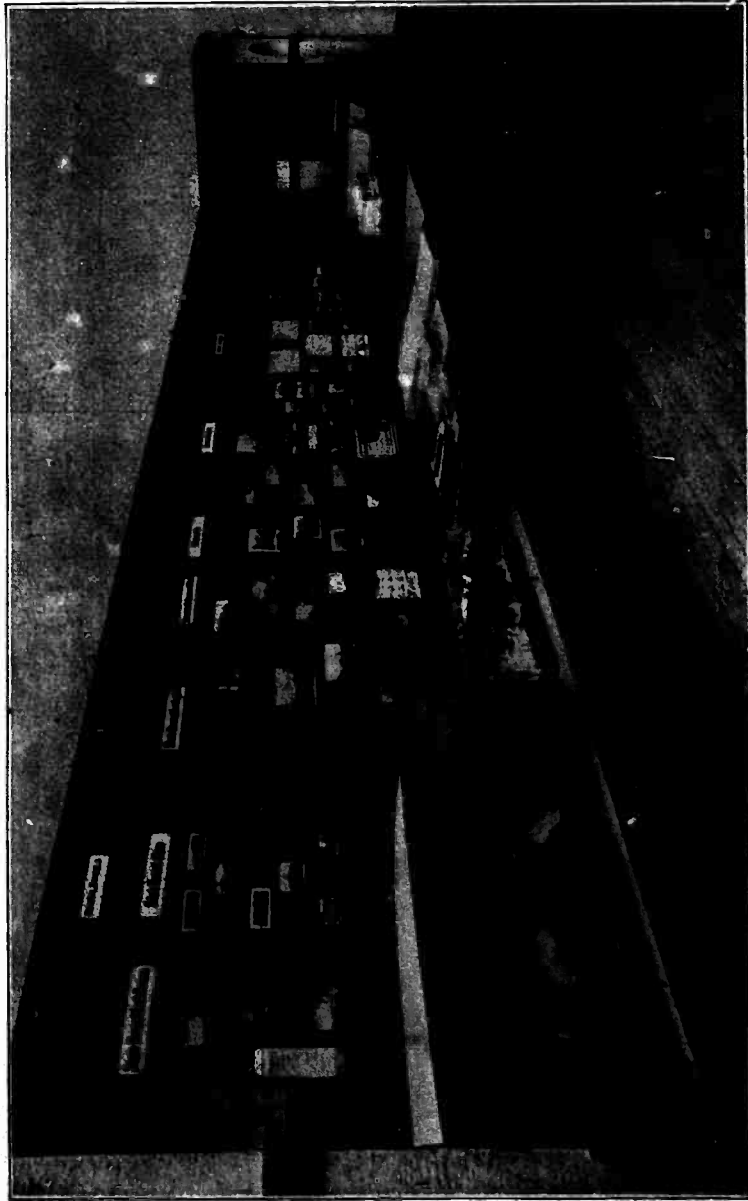
Bad tonsils, poor eyes. A good little business man. Artistic Italian hands. Tiny, monkeylike moron. Mother dying of syphilis. Ignorant Portuguese. Drunken, careless parents. Extreme malnutrition. Being saved by manual training.

Colored, subnormal epileptic. Two epileptic truant brothers. Careless, tainted family.

Subnormal mother. Brutal father. Feeble-minded sister.

Father alcoholic, tuberculous. Father's sister epileptic. Child deformed, epileptic.

The Sonoma State Home showed samples of work done at the home—water-color work, embroidery, furniture, chairs, tables, baskets, etc.—to indicate both the possibilities and the limitations of usefulness in atypical children. One motto read: "*You will find perfect work in every other exhibit of the exposition. Here is the imperfection of subnormality. Only showing you the rough, awkward work will make you understand our difficulties.*"



The other side of the California motion-picture booth, showing Chico, Santa Barbara, and other normal schools.

Under the heading "What California needs to protect its babies," the following program was laid down:

- Psychological examination of all immigrants.
- Commitment laws for feeble-minded, like that for insane.
- Legal restriction of marriage.
 - Any one too feeble-minded to support himself.
 - Any one venerably diseased.
 - Any moron, insane, or epileptic, unless sterilized.
 - Any tuberculous, alcoholic, or drug user, unless cured.
- Revision of school law.
 - Expel all feeble-minded.
 - Form more special classes.
- Institutions needed.
 - Colony for moron girls at Sonoma State Home.
 - Centrally located colony for epileptics.
 - Centrally located colony for moron boys.
 - Institution for feeble-minded in southern California.

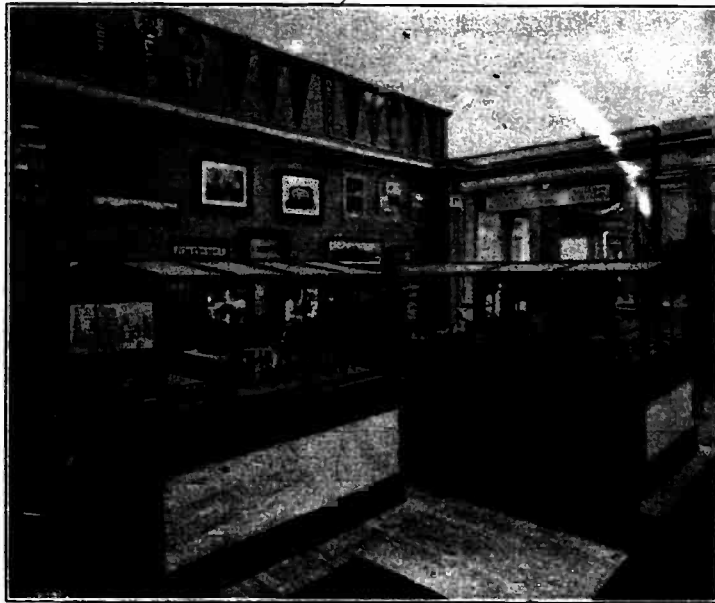
In the California building.—A section of the county displays in the California building was devoted to school work. The Sacramento elementary schools were represented by exhibits of practical manual training. One of the features was a completely furnished bedroom, in which "every article displayed was the work of boys and girls of Sacramento elementary schools"—fifth, sixth, and seventh grades. The dress on the young lady in the model room exhibited was made in the Sacramento city high school at a cost of \$5. The exhibit also contained a miniature five-room bungalow constructed by children in the elementary grades of the Sacramento schools. Thus the bedroom rugs were made by third-grade pupils; the lamp by fourth-grade pupils; bedding and curtain by fifth-grade girls; the pictures by fifth-grade boys; the baby's bed by sixth-grade girls; furniture by eighth-grade boys.

Several relief maps were exhibited, including those of Sacramento Valley and of the State of California—all the work of pupils. The display of manual-training products emphasized the practical value of the work. A large case contained the various articles of apparel produced in order in the two-year sewing course of the Red Bluff Union High School.

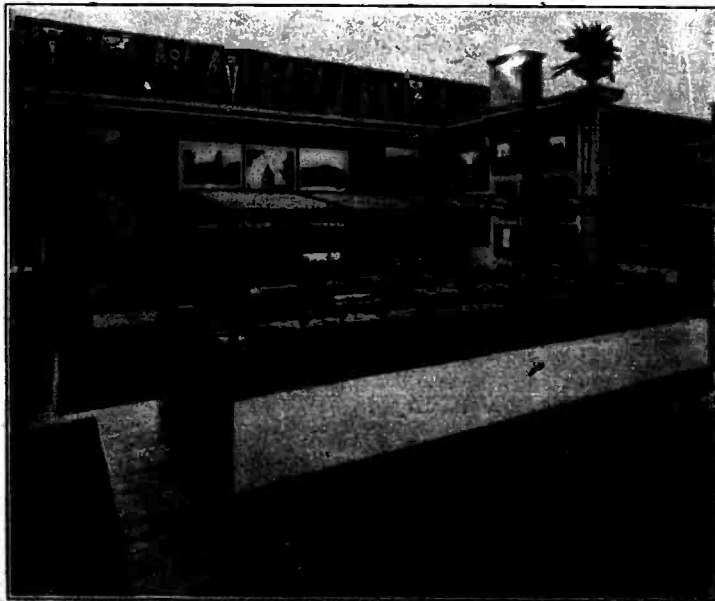
The San Joaquin Valley display showed manual-training products consisting of benches, tables, chairs, davenport, desks, mirrors, picture frames, toys, lamps, desk sets; and the work of the art departments—crayon, pencil, pen-and-ink, and water-color pictures; together with domestic-science products.

ILLINOIS.

In planning the Illinois education exhibit six units of the school system were selected to indicate the range of the educational institutions of the State. One example of each unit was shown in the



A corner of the Illinois exhibit.



Part of the Illinois exhibit, showing model under glass of the buildings of the University of Illinois. Model of the gymnasium in a separate case.

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form of a model, and the location of the other institutions of the State was indicated by maps. The units and the institutions selected as representative were as follows: One-room country school (crossroads school, Macon County); consolidated school (Rollo); township high school (La Salle-Peru); normal school (Illinois Normal University); college (Knox College); university (University of Illinois).

The one-room rural schoolhouse, shown complete in a large model, illustrated the high standard of excellence now established for rural schools in Illinois. Nearly 2,000 such schools in the State have already attained this standard. The two models of the consolidated elementary school and the township high school afforded actual examples of the methods whereby country boys and girls have the same educational opportunities as city pupils, retaining the advantage of rural environment. The Knox College model illustrates a type of institution in which Illinois is especially rich, having 17 such colleges enrolling 6,859 students. The central model of the exhibit shows the State university, enrolling over 6,000 students, and ministering to various types of higher education—professional, commercial, and industrial. All the models were faithful reproductions of actual schools, chosen as typical units. Hundreds of other schools were shown in photographs which covered the walls and filled the display cases.

INDIANA.

“Rural school consolidation is the theme of the education exhibit of the State of Indiana.” Through contrasting models, photographs, and stereomograph views, the point was reiterated that consolidation of country schools results in better schools and better teachers; reduced cost of maintenance, improved attendance, and a finer community life.

The following statistics were presented to show the progress of consolidation in Indiana between 1910 and 1914:

	1910.	1914.
Number of consolidated elementary schools.....	100	290
Number of consolidated high schools.....	31	36
Number of consolidated combined elementary and high schools.....	235	339
Total number of consolidated schools.....	426	665
Number of pupils transported to consolidated schools.....	10,051	26,403
Total cost of transportation.....	\$155,390	\$491,265
Average cost of transportation per pupil transported.....	\$19.66	\$19.63
Number of pupils enrolled in consolidated schools.....	29,215	73,404
Percentage of the total number of pupils enrolled in all rural schools in consolidated schools..... per cent.	24	35

	1910.	1914.
Percentage of the enrollment in consolidated schools in the high school.....per cent.....	17	22½
Number of schools (not consolidated) abandoned this year.....		210
Number of schools (not consolidated) abandoned during the past five years.....		916
Total number of abandoned school districts in the State at the present time.....		1,963
Total number of district schools at the present time.....		5,635
Average number of pupils per teacher in consolidated schools.....		28
Average number of pupils per teacher in all other rural schools.....		22
Average tuition cost per pupil in consolidated schools.....		\$18.45
Average tuition cost per pupil in all other rural schools.....		\$18.00
Average total cost per pupil in consolidated schools.....		\$25.64
Average total cost in all other rural schools.....		\$22.71
Average daily wage of teachers in consolidated schools.....		\$3.37
Average daily wage of teachers in all other rural schools.....		\$2.76

IOWA.

Agricultural education as the basis of State prosperity was the keynote of the Iowa exhibit. Various phases of agricultural education were emphasized in turn and illustrated by photographs and legends. Preparing teachers of agriculture was the first topic treated; this was followed by horticulture and forestry, agricultural journalism, dairying, agricultural extension, farm management, farm crops, animal husbandry, and soils.

With regard to agricultural journalism, it was pointed out that the purposes of the work were—

- (1) To apply to agriculture the news style of writing—unexcelled in clearness, conciseness, interest.
- (2) To make of trained agriculturists contributors to the press, thereby multiplying their usefulness.
- (3) To give some technical training to students who plan to enter agricultural journalism.
- (4) To aid in making country newspapers more prosperous and more efficient agencies in the upbuilding of rural life.

It was pointed out that a country newspaper men's short course held at the college in 1914—

- (1) Brought an attendance of 110 country publishers for three days.
- (2) Gave instruction in agricultural and rural life subjects.
- (3) Showed how country newspapers may serve the rural field better.
- (4) Suggested ways of increasing business among farmers.
- (5) Demonstrated methods for getting better printing results.
- (6) Conducted a newspaper make-up and printing contest.
- (7) Presented a country newspaper and printing exhibit.

Under dairying it was shown that 143 experienced men, representing 13 States, attended the short course in dairy manufactures in 1914, and 804 students in the regular course studied dairy subjects at Iowa State College during the past year.

In agricultural extension, a map was presented to show that there were 955 farmers' institutes and meetings during the year 1914, and 41 farm investigation tours. The Iowa boys' and girls' club membership for 1914 totaled 18,000, in corn clubs, garden and canning clubs, domestic science clubs, baby pork clubs, and manual training clubs. Copies of the numerous bulletins of the extension division of the State college were displayed.

MASSACHUSETTS.

Vocational training was the special phase of education presented by the Massachusetts exhibit. By charts, illuminated views, and

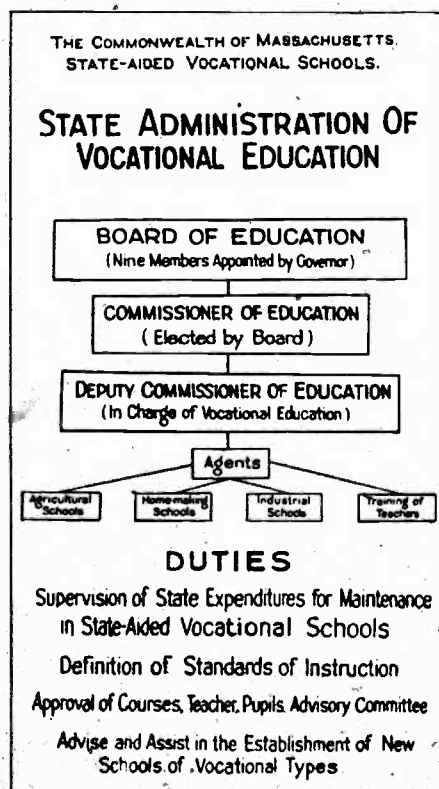
models in action, the exhibit sought to show the kind and number of vocational schools in Massachusetts and the methods involved. The type of schools included:

I. (a) Agricultural, industrial, and home-making schools for boys and girls from 14 to 25 years of age. (b) Evening trade schools for men and women; also home-making schools for women over 17 years of age.

II. Textile schools at Lowell, New Bedford, and Fall River for the technical training of students in textile manufacturing.

III. Nautical school maintained by the State in the interest of the merchant marine service.

An illuminated map, with an electric flashing device, showed the number



of different types of vocational schools in the State. The arrangement whereby the shop releases workers for work in the shop and

whereby workers have opportunities for study at night was illustrated by another electric device. Similarly the home-project work in agriculture was visualized. Electric flashing from point to point along the section of country reproduced indicated how the agriculture teacher and State agent went from place to place to inspect the work and give instruction.

An especially valuable series of charts showed the history of vocational schools in Massachusetts. After pointing out that "overwhelming public sentiment shows the need of vocational schools in this country," and that "great national, educational, civic, industrial, and commercial organizations, representing more than 12,000,000 persons are on record as believing that vocational education is absolutely necessary for the future welfare of the nation," the charts traced the origin of interest in vocational education in Massachusetts as follows:

ORIGINS OF INTEREST IN VOCATIONAL EDUCATION IN MASSACHUSETTS.

I. Conservation of the youth of the Commonwealth.—It is estimated that in 1910 there were, in Massachusetts, 167,000 youths 14 to 17 years of age; 94,000 (56 per cent) were in school; 73,000 (44 per cent) were out of school. Of those out of school, 40,000 (54 per cent) were regularly employed; 33,000 (46 per cent) were semi-idle or unemployed.

II. Conservation of the industrial supremacy of the Commonwealth.—Changing economic conditions due to (1) Scarcity of skilled workers; (2) inadequacy of the apprentice system; (3) application of science to industry; (4) foreign and inter-State competition; (5) movement of population from country to city; (6) immigration of increasing numbers of unskilled workers.

The beginnings of industrial education in Massachusetts are traced from the law of 1872, which authorized the establishment and maintenance of industrial schools by any city or town; through the establishment of textile schools at Lowell (1897), New Bedford (1898), and Fall River (1908); to the commission on industrial and technical education appointed by Gov. William L. Douglas in 1905. Special attention was given in a number of charts to the work of this commission, which was outlined as follows:

WORK OF THE COMMISSION ON INDUSTRIAL AND TECHNICAL EDUCATION.

A.

I. Membership.—Representatives of (1) manufacturing, (2) agricultural, (3) educational, (4) labor interests.

II. Scope of investigation.—(1) Needs for education in different grades of skill and responsibility in the various industries of the Commonwealth; (2) how far these needs are met in existing institutions; (3) what new forms of educational effort may be advisable.

B.

I. *Conclusions* (in part).—"The productive industries of the State, including agriculture, manufactures, and building, depend mainly upon chance for recruiting their service.

"The industries of Massachusetts need, in addition to the general intelligence furnished by the public-school system, a broader training in the principles of the trades.

"Whatever may be the cost of such training, the failure to provide it would in the end be more costly."

II. *Recommendations*.—Legislation for a permanent commission for industrial education.

Another chart summed up the work of this commission, which

served from 1906 to 1909, continuing its investigations into industrial training and school needs; advising and aiding in the introduction of industrial education in independent schools; interesting communities and citizens of the Commonwealth in industrial education; and establishing a number of industrial schools. Following the reorganization of the State board of education in 1909, provision was made for a deputy commissioner in charge of vocational education, and the State board of education was—

authorized and directed to investigate and to aid in the introduction of industrial, agricultural, and household arts education; to initiate and superintend the establishment and maintenance of schools for the aforesaid forms of education; and to supervise and approve such schools.

THE COMMONWEALTH OF MASSACHUSETTS.
STATE-AIDED VOCATIONAL SCHOOLS.

**CONDITIONS OF
STATE APPROVAL**

**APPROVED
LOCAL OR DISTRICT INDEPENDENT
VOCATIONAL SCHOOLS**

**MUST be those Approved by the
State Board of Education as to**

Organization
Control
Location
Equipment
Courses of Study
Qualifications of Teachers
Methods of Instruction
Conditions of Admission
Employment of Pupils
Expenditures of Money

Other charts defined the forms of vocational education as constituted by the laws of Massachusetts; listed the types of vocational schools established under Massachusetts law—full-time day schools, full-time cooperative day schools, part-time schools, evening schools, continuation schools; stated the purpose of vocational schools in Mas-

sachusetts; and showed the administration of vocational education, the conditions of State approval, and progress in the establishment of State-aided vocational schools in Massachusetts.

The purpose of the vocational schools was summarized as follows:

PURPOSE OF VOCATIONAL SCHOOLS IN MASSACHUSETTS.

I. *Full-time day school.*—To help boys and girls 14 to 25 who can remain in school and receive a vocational training.

II. *Part-time day school.*—To help boys and girls 14 to 25 who must earn money and can give only a part of their time to getting a better education.

III. *Continuation school.*—To help boys and girls of 14 to 16 who must spend all their time in earning money and whose employers are willing to give them some time for study.

IV. *Evening school.*—(A) Trade extension to help boys and girls and men and women over 17 who desire to become more skilled in the industry in which they are engaged.

(B) Homemaking. To help girls and women over 17, employed during the day, who desire to receive training in the household and other practical arts.

The following table shows the number and distribution of State-aided vocational schools in Massachusetts:

Number of vocational schools.

Types of school.	Full-time day school.	Full-time cooperative day school.	Part-time cooperative day school.	Evening school.	Total.
Agricultural schools.....	4				4
Agricultural departments in high schools.....	9				9
Home-making schools.....	7			19	26
Girls' trade schools.....	3			1	4
Boys' trade schools.....	11	3	2	15	31
Continuation schools.....				1	1
Total.....	34	3	2	36	75

One chart was devoted to the system of advisory committees for vocational schools in Massachusetts. Each school has an advisory committee made up of men and women experienced in the occupations trained for in the schools, members being selected by representatives of the industries. The function of the advisory committee is to "consult with and advise local school officials in the management and supervision of schools"; it is not a board of control. The following shows the advisory committees serving in 1913-14:

Advisory committees.

Kinds of school.	Committees.	Men on committees.	Women on committees.
Agricultural school.....	13	89	90
Day and evening vocational school.....	31	162	78

The exhibit contained numerous views illustrating work in the vocational schools, samples of the product of the vocational schools, and also photographs suggesting educational developments in Massachusetts in other types of schools than those emphasized in the exhibit. The exhibit of the three textile schools—Bradford Durfee Textile School, Lowell Textile School, and New Bedford Textile School—showed the following types of courses: Carding and spinning cotton, preparation of colored warps through dye house, designing and manufacturing of ginghams, plaids, etc., and elementary drawing and designing; woolen and worsted designing and manufacturing, textile engineering, chemistry, and dyeing; designing and weaving fine cotton goods, seamless hosiery knitting, latch-needle underwear knitting, and machine-shop work.

MISSOURI.

The Missouri exhibit showed the State's decentralized school system and pointed out some of the advantages and possibilities of this system. The Missouri plan, as illustrated by an electric device, provides an arrangement whereby any pupil in the State can pass from grade to grade, or from one school to any other school of corresponding grade, without taking examinations other than such as are given him by his class teacher as a part of his regular school work. Any pupil completing the elementary school course and receiving the common school diploma is admitted on the presentation of this diploma to any high school in the State. Any pupil who has completed the work in an approved high school receives credit for it toward admission to any of the five State normal schools or to the State university or to any college in the Missouri College Union. Inspection, rather than examination, is the method used by the State in maintaining standards.

Special emphasis was given in the exhibit to the remarkable growth of high schools, which, it is claimed, has been facilitated by the Missouri plan of State inspection and approval. A spot-light map showed a growth in high schools in the State of more than 800 per cent in the past 10 years.

Special attention was given to the Missouri College Union and to Missouri's "junior colleges." There were 11 of these junior colleges in 1914, with 150 teachers, annual salaries of \$96,429, and 904 students, 120 students completing the college course, 15,790 volumes in libraries, \$58,378 worth of equipment for each, and \$1,395,000 in grounds and buildings. Each of these junior colleges maintains a standard three-year college course.

The enrollment in Missouri schools was shown to be as follows:

Students of college rank in standard schools.....	7,373
Students in standard secondary schools.....	50,826
Pupils in public elementary schools:	
Rural.....	343,364
Town and city.....	705,971

NEW YORK.

To show "centralization of supervision, with decentralization of service," was the assigned aim of the New York exhibit. A relief map of the State, 27 by 36 feet in area, was studded with electric

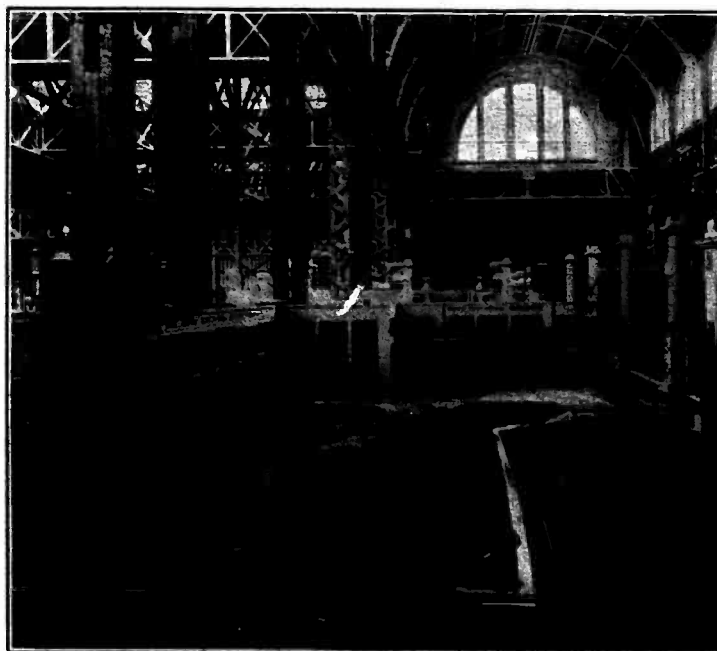


Photo by courtesy of Howell's Microcosm, Washington, D. C.

The New York State exhibit, showing the electric-flashing relief map and the model of the State education building. Different colored lights showed the location of the various schools and libraries in the State.

lights of various colors, each representing some type of educational institution. Thirteen colors were used; 11,642 white lights for the elementary schools, 948 red lights for the high schools and academies, 34 ruby lights for the colleges, technical institutes, and universities, 34 orange lights for the professional schools, 136 green lights for the nurses' training schools, 11 violet rays for the fine arts schools, 10 yellow lights for the normal schools, 7 pink lights for the Indian schools, 136 canary-colored lamps for the training schools, 10 purple lights for the schools for defectives, 21 amber-colored



Photo by courtesy of Howell's Microcosm, Washington, D. C.

A nearer view of the New York State Education Building.

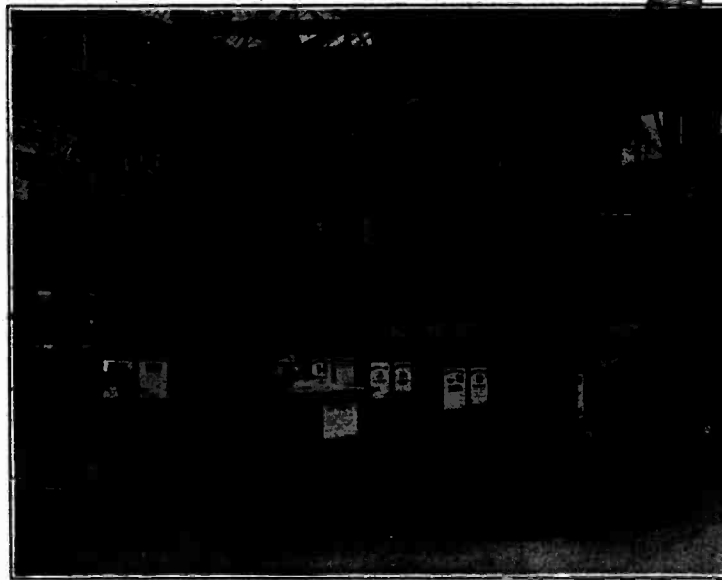
lights for the publicly maintained business schools, and 65 frosted lights for the vocational schools. In addition, there were 513 blue lights by which the location of the public libraries of the State was identified.

A large architectural model (7 by 16 feet) of the State Education Building at Albany, from which the public educational work of the entire State is directed, served to give some impression of the magnitude of the work of caring for education in a State which numbers more than 1,500,000 pupils of school age.

Eight stereomotographs showed types of educational buildings located in various sections of the State, ranging from the great universities to the little schoolhouse of the Adirondacks, and the activities of the State education department in administration and general supervision of the work of the State. Motion pictures also showed the work of various social and educational agencies, including the schools.

OREGON.

Standardization of rural schools and adaptation of the school to the needs of the community were the main topics of the Oregon



The Oregon education exhibit. The model in the foreground illustrates a "standard" school. Unusually attractive colored pictures showed typical activities of Oregon rural schools.

exhibit. The central display was a model of a Polk County rural school of the standard type. Grouped about this were unusually attractive colored views illustrating rural-school work.

The following statement was displayed to indicate the requirements of the Oregon standard school:

STATE OF OREGON STANDARD SCHOOL.

Flag.—Must be flying, weather permitting.

Schoolhouse.—Properly lighted.

Equipment.—Teacher's desk and chair; desks for pupils properly adapted and placed; suitable blackboards; window shades in good condition.

Heating and ventilating.—Jacketed stove properly situated, minimum requirement; window boards or some other approved method of ventilating.

Rooms.—Attractive at all times.

Standard picture.—One new one, unless three are already in the room, framed.

Grounds.—To be clean, free from paper, etc. At least three features of play apparatus. Walks, if necessary.

Sanitation.—Pure drinking water, either drinking fountain or covered tank, and individual drinking cups; individual, family, or paper towels.

Outbuildings.—At least two good ones, to be sanitary at all times and free from marks.

Teacher.—Must maintain good order at all times; supervise the playground; have her work well prepared; follow State course of study; take at least one educational journal; have program posted in room; keep register in good condition; be neat in attire.

Library.—Good selection of books from State list. Case for the books. Books kept upright, in good condition, and recorded according to rules specified by Oregon State library and required by law.

Attendance.—Average 92 per cent for year and not to exceed 2 per cent in tardiness for year.

Length of term.—Not less than eight months of school each year.

A card containing these 13 requirements is placed on the front wall of each rural school. On his regular visits the county superintendent inspects the school and affixes a gold star opposite each point to which the school is entitled. When all the requirements are earned, a suitable pennant is awarded to the school. The plan originated in Polk County in 1910.

Two other important phases of the work of rural schools of Oregon, as shown in the exhibit, were the rural playgrounds and the boys' and girls' industrial clubs.¹

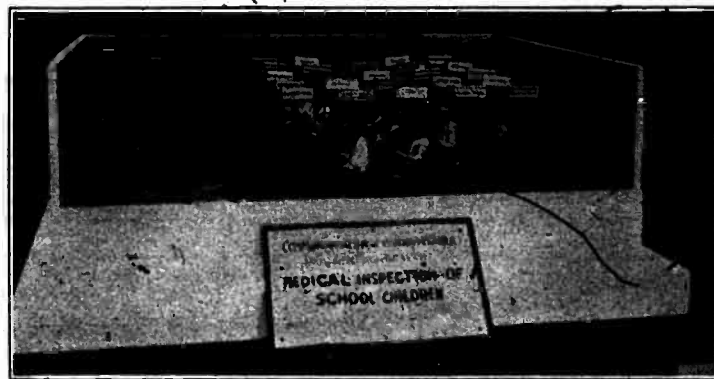
PENNSYLVANIA.

The Pennsylvania Department of Health exhibit gave considerable space to school health matters, with special reference to the rural school. Prominently displayed over the center of the booth was the motto: "*The varied industries on which we depend for our comforts, the wealth which enables us to enjoy them, and the arts of civilization which adorn and diversify our lives, are but the fruitage of the tree whose root is health.*" The practical applications of the principles of hygiene to school life, as shown in the exhibit, are carried out in two directions—first, personal hygiene as directed

¹ For details see Bulletin, 1916, No. 2.

by school medical inspection; second, environmental hygiene as directed to the building and equipment under which school life is maintained. It is pointed out that in Pennsylvania "the president of each school board is required to certify under oath that the health and sanitary requirements of the Pennsylvania school code have been complied with in order to secure a proportion of the State appropriation."

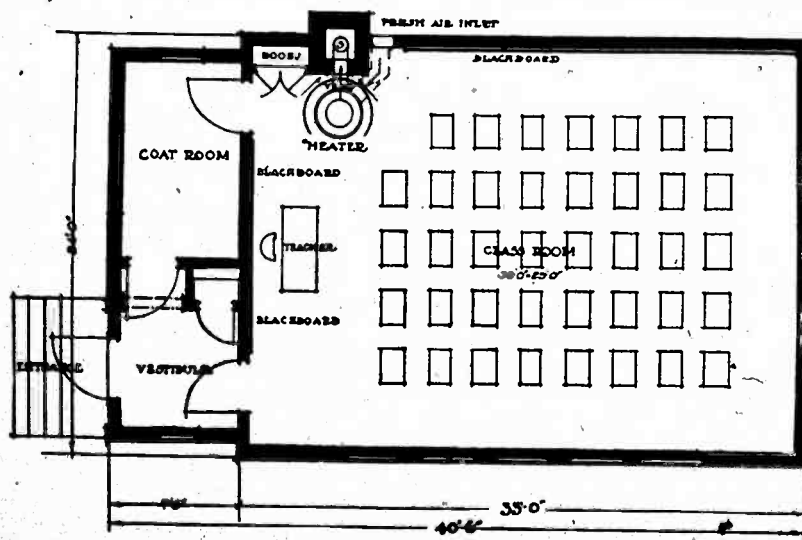
A relief model of the State, 30½ by 62 inches, showed the location of the rural schools, and a legend indicated that 400,000 children in rural schools are examined annually by the State Department of Health in Pennsylvania. At the same time a sanitary inspection is made of the buildings as to heating, lighting, ventilating, sanitary



Device used by Pennsylvania Department of Health to show the amount of physical defect in an average class in school. There are 7 normal children in this group of 25; 8 with defective teeth; 7 with defective vision; 2 with defective hearing; 7 with enlarged tonsils; and several with other defects, including 1 suffering from malnutrition.

conveniences, and water supply. Various photographs and transparencies showed the arrival of the medical inspector at a rural school; tests of vision; taking records of pupil; examining eyes for conjunctivitis, trachoma, etc.; free school dental clinic; testing hearing; nurse taking physical measurements; types of privies at rural schools; penny school lunches, 3-cent school lunches, and free school lunches for undernourished children, etc. One group of photographs showed how the blackboard looks to moderately near-sighted children; how it looks to average near-sighted children; how it looks to extremely near-sighted children; and how it looks to children of normal vision. A set of mounted specimens showed the various stages in the development of the teeth; and a group of form models of the head and neck illustrated normal condition of the air passages, air passages obstructed by adenoids, air passages obstructed by enlarged tonsils, and diphtheritic membrane concealed on the tonsils and posterior nares.

School buildings, old and new, were shown by photographs and models. The old octagonal type of schoolhouse; an old log schoolhouse; an old rectangular building; and many other buildings, interior and exterior, were shown. A model, 7 by 11 feet, pictured an "ideal arrangement" for a school building, with ample space for



A popular plan for Pennsylvania rural schools. One of several furnished by the Pennsylvania State Board of Education for display in the exhibit of the Pennsylvania State Department of Health.

playgrounds; and a section of the schoolhouse, treated separately, showed proper lighting and seating. Three types of one-room schools were shown by drawings.

Four life-size pupils seated at desks illustrated good and bad seating. Another model showed graphically the proportion of defective children in an average schoolroom.

The protective value of vaccination was shown by a number of effective transparencies showing "smallpox in an unvaccinated, and varioloid in a young girl vaccinated 14 years before;" "the unvaccinated sister;" and the various stages of smallpox eruption.

Some of the striking legends displayed in this exhibit were:

72.7 per cent of all school children have some form of physical defect which influences their mental and physical progress.

24.2 per cent of all school children have defects of vision which retard their mental progress.

3.2 per cent of all school children have some degree of defective hearing.

51.7 per cent of all school children have defects of the teeth, which interfere more or less with speech and proper mastication and digestion of food.

35 per cent of all school children are affected with some occlusion of the upper air passages, which favors mouth breathing and its consequent ills, such as frequent attacks of tonsillitis, nasal and pharyngeal catarrh, and lung affections.

Open-air sports, gymnastics, and systematic recreation are newly organized features of education.

Open-air schools have proved their value in educational as well as physical development of children who would under ordinary conditions have been inefficient in both respects.

The evolution of the modern consolidated rural school and the passing of the old type of isolated buildings and crude equipment marks an epoch in school hygiene.

Improper and under feeding of school children is a prolific source of retardation and physical deficiency.

UTAH.

A large slanting relief map of the State and a booth built in the form of a beehive were the chief external features of the Utah education exhibit. The relief map, showing in detail the mountains, valleys, and rivers, indicated the conscious conviction in Utah that there must be a close connection between the physical resources of the State and its education. This was the emphasis of the exhibit. It was expressed in several legends, the most striking of which were as follows:

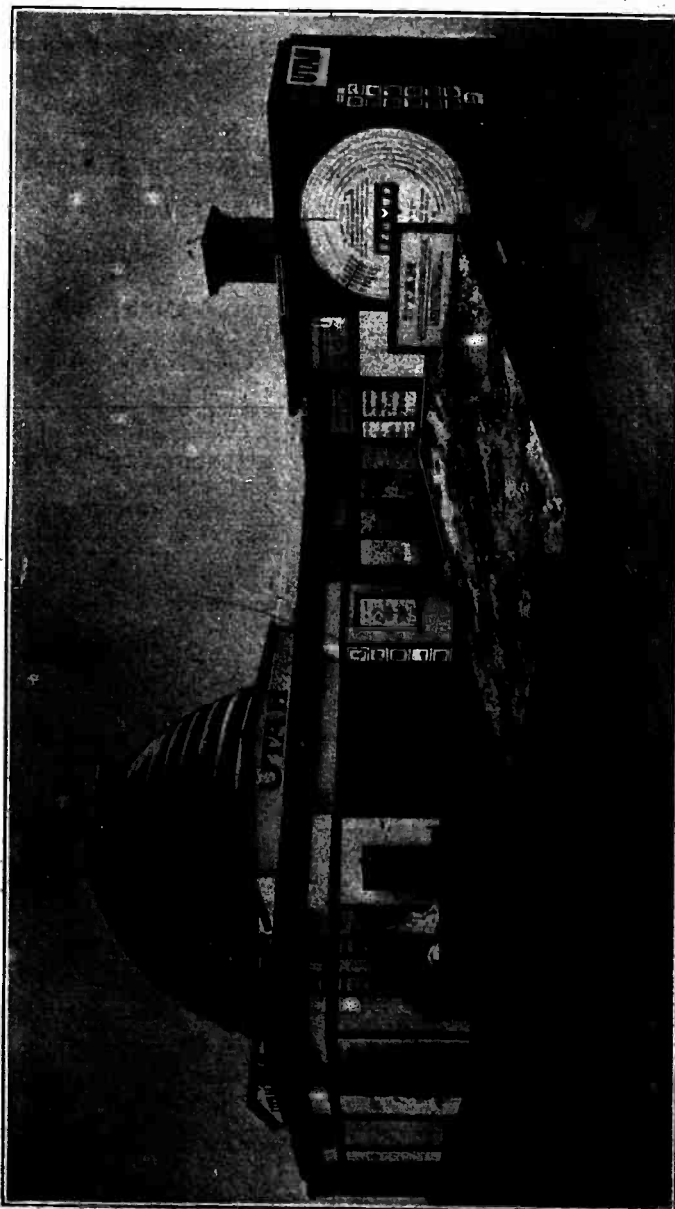
Utah uses 86 per cent of the State's tax revenue for educational purposes.

In the past 12 years the annual expenditures for school purposes in Utah have increased from \$1,000,000 to \$4,500,000.

Utah is making a determined effort to adapt the work of the public schools to the actual needs of the people.

To conserve and develop her natural resources Utah needs the trained mind and the trained hand. A function of the schools is to supply this need.

It was pointed out that the State had been settled with the town as a unit, resulting in (1) close social communication; (2) cooperative industry; (3) need for graded-school houses only; (4) establishment of State-wide consolidated school districts.



General view of the Utah State exhibit.

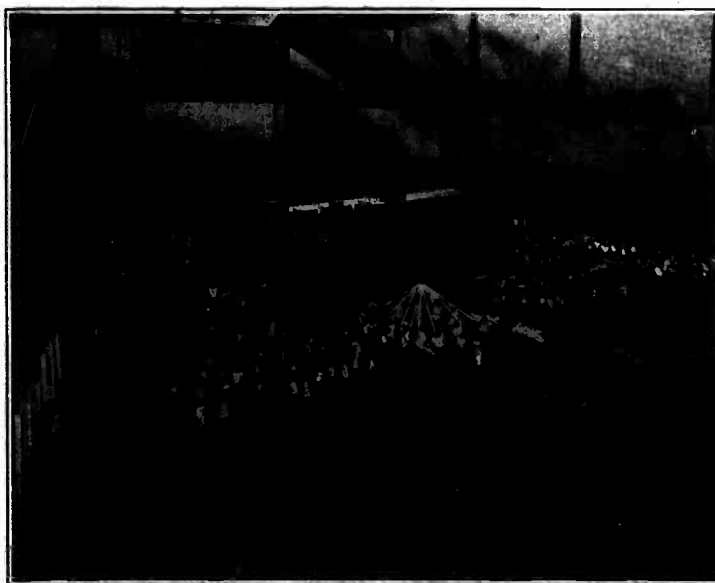


A corner of the Utah exhibit, showing an effective display of school products.

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The possibilities of consolidation were shown by a model of a consolidated school and grounds. It was stated that Utah has no rural one-room school problem, because the State has no one-room schools. It has the county-unit plan of school organization, and hopes thereby soon to reach the present ideal of public-school education—to place *free* elementary and *free* secondary schools within easy reach of *all* the children of *all* the people.

High schools.—Rapid growth in the development of high schools in Utah was shown by the exhibit. In a little more than 10 years the



Playground facilities of Salt Lake City, as shown in the Utah exhibit.

enrollment in Utah high schools has increased from 100 to approximately 10,000, according to the charts displayed. In six years 25 new high-school buildings have been erected, varying in cost from substantial \$40,000 structures to the magnificent half-million dollar East Side High School in Salt Lake City, each school with a curriculum that is rapidly adapting itself to the needs of the various communities in which the schools are situated.

Recreation in Salt Lake City.—Salt Lake City featured its recreational activities at the exposition in three ways—by a model of an elementary school playground in action, showing apparatus and arrangement of space, by sending 400 high-school cadets to the exposition for personal review, and by motion pictures and photographs illustrating Field Day, school festivals, and Governor's Day in the Salt Lake City public schools.

VIRGINIA.

The Virginia building contained school exhibit material, designed chiefly to show recent improvements in education in Virginia. Pictures and charts of the State normal schools occupied a prominent place. The increase in number of high schools from 74 to 514 between 1904 and 1914 was pointed out. Other items in progress as described were:

Ten years of educational progress.

Increase in enrollment.....	78,345
Increase in average daily attendance.....	82,345
Increase in State, county, and city appropriations.....	\$4,025,386
Increase in salaries of teachers.....	\$2,080,530
Number of new schoolhouses.....	2,412
Cost of new schoolhouses.....	\$6,113,189
Number of schoolhouses (consolidated).....	572
New normal training schools.....	3

New features introduced: School farms, school leagues, civic leagues, night schools, open-air schools, school wagons, industrial supervisors, domestic science, girls' canning clubs, boys' corn clubs, extension work, medical inspection, free lunches, industrial surveys, schools for adult illiterates, supervised school athletics, public playgrounds, literary leagues, debating societies, teachers' reading courses, and school gardens.

The following table was presented to show Virginia's school system as it is at present:

Virginia's school system.

Population of school age (7 to 20).....	616,168
Enrollment.....	445,078
Number of schoolhouses.....	6,753
Number of teachers.....	12,000
Annual appropriation for schools.....	\$6,270,191
Number of primary and grammar grade schools.....	6,239
Number of high schools.....	514
Number of agricultural high schools.....	11
Number of normal training schools.....	4
Number of technical schools.....	2
Number of school leagues.....	766
Membership of school leagues.....	23,846
Number of annual county school fairs.....	55
Number of school wagons.....	258
Membership of boys' corn clubs.....	2,500
Membership of girls' canning clubs.....	1,200

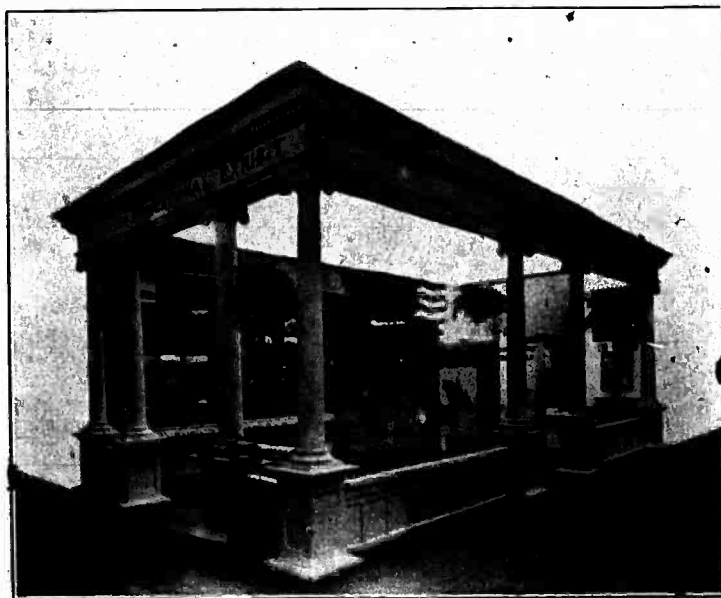
INSTITUTIONS OF HIGHER LEARNING.

Universities.....	2
Colleges for men.....	11
Colleges for women.....	17

WISCONSIN.

Extension education, continuation school work, and rural library development were emphasized in the Wisconsin education exhibit. An interesting fact about the entire exhibit is that it was in part made possible by penny contributions from the school children of the State, who donated \$2,500 in this way.

Extension service.—How the extension service of the University of Wisconsin covers the State was shown by a large electric flashing map, different bulbs indicating respectively the following forms of extension service: Correspondence study, package libraries, lectures and concerts, general welfare service, classes organized.



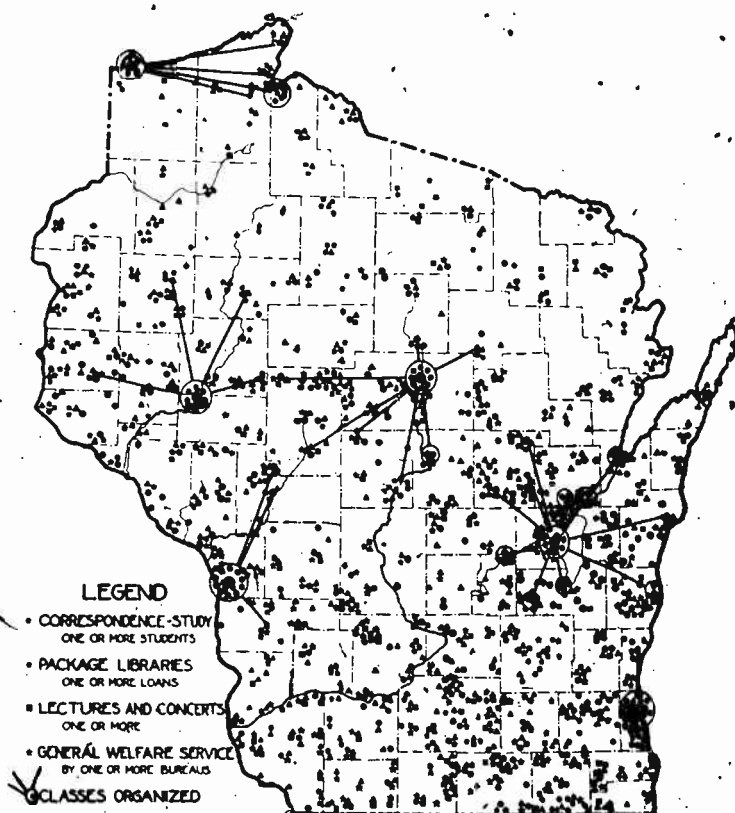
The Wisconsin booth. The map was fitted with electric-flashing apparatus. The transparencies at the rear were especially effective.

Other maps of the State showed graphically the increase in the extension work for the two years, July, 1912, to July, 1914, as compared with the previous biennial period. Up to January 28, 1915, the total registration had been 18,529, this figure representing the total courses for which students had enrolled. On January 28, 1915, there was a total active registration of 7,113, and 6,099 courses had been completed.

The correspondence-study department enrolls two general types of students: (1) Those who are doing work for university credit to be applied toward a degree, and (2) those who are taking work for voca-

tional purposes or for information only. In the university credit grade the number of registrations has been 3,076, and 1,205 courses have been completed. In the vocational courses 12,914 registrations have been made, and 4,496 courses have been completed.

The 2,731 new students who entered in 1912-13 and the 3,055 new students who entered in 1913-14 recorded as vocations pursued by them 317 different occupations, ranging from that of the apprentice boy cobbler and housemaid to business man, lawyer, and doctor.



Extension work in Wisconsin.

The department of library service has, in the past four years, lent on request 10,945 "package libraries," containing approximately 437,800 classified articles, on 2,644 subjects, to 531 communities in Wisconsin. Each package contains up-to-date available material in the form of office-bound magazine or newspaper clippings, pamphlets, typewritten excerpts, or books. Between July, 1914, and January, 1915, some of the leading topics about which information was sought were international peace, disarmament, increase of Army and Navy,

ship subsidies, immigration restriction, woman suffrage, and Government ownership of railroads, telegraphs, and telephones.

The department of instruction by lectures takes lecturers and musicians with their inspiration and instruction from the university directly to the people of the State; as a cooperative agency it secures, at cost, to communities throughout Wisconsin the services of other lecturers, readers, and recital and concert groups not officially connected with the university.

Through attendance at lectures, concerts, and entertainments during the past two years 370,750 people in 525 different communities of the State received the lecture-department service. In the schools 255 commencement addresses were given by men from the lecture department.

The following figures show in detail the recent growth of this lecture work:

Instruction and entertainment by lectures and concerts.

	1910-12	1912-14
Number of lecture and entertainment courses.....	170	300
Number of lectures given.....	587	1,251
Number of entertainments and concerts given.....	187	792
Number of commencement speakers supplied.....	170	255
Number of communities receiving extension lectures.....	312	525
Number of engagements filled by faculty members in the past biennium.....		621
Number of engagements filled by others affiliated with the lecture department.....		1,422
Total number of engagements in the past biennium.....		2,043
Total estimated attendance.....	133,600	370,750

Up to February 1, 1915, 250 popular lecture and entertainment courses have been arranged for the current year.

The scope and purpose of university extension work are summed up in the following statement from the Wisconsin exhibit:

UNIVERSITY EXTENSION HELPS

Correspondence study.—By taking university classroom opportunities, at the time when the need is most keenly felt, to the man or woman who is on the job and therefore unable to come to the university.

Packet libraries.—By furnishing anyone, anywhere in Wisconsin with the best and latest available publications on all sides of any perplexing question.

Lecture service.—By extending the educational and cultural opportunities of the larger city pulpits, platforms, and concert stages to any community in the State.

General welfare.—By furnishing practical information to the people of Wisconsin in the practical solution of their welfare problems.

Municipal service.—By affording to public servants and others facts concerning the experience of similarly situated municipalities; and by furnishing expert engineering and other technical assistance which would otherwise be available to only the larger municipal corporations.

Social centers.—By promoting the use of public buildings, by the entire public, for educational, cultural and recreational purposes.

Health instruction.—By teaching in easily understood terms the dangers and the methods of avoiding preventable human disease, needless suffering, and premature death.

Visual instruction.—By collecting and circulating educational lantern slides, moving pictures and written lectures to schools, societies, clubs, and other organizations.

District organizations.—By providing the connecting link between the "man who knows" and "the man or woman who needs to know."

Continuation schools.—"Wisconsin requires all boys and girls working at gainful occupations and not yet 16 years of age to attend continuation schools one-half day, or four hours, each week," asserted the first of a number of charts illustrating the work of the continuation schools of Milwaukee. The aims of the continuation schools shown in the photographs of the exhibit were declared to be: To save the investment the community has already made in the education of these boys and girls in the elementary schools; to furnish those attending with practical experience varied in character which will be of service in the problem immediately before them—that of selecting an occupation at which they may earn a substantial wage and in many instances utilize special talents; to inculcate standards of moral, civic, and social conduct.

The plan is described on the charts as follows:

- All of these boys and girls are required to come to a centrally located school, where, in the down-town section, space has been rented in well-lighted structures built for manufacturing purposes. The space rented has been divided into suitable shops, laboratories, drawing rooms, and classrooms. The teachers and equipment, being grouped in one place, can be used to greatest advantage, and the large number of pupils coming to the place enables the schools to receive pupils on the days they can best be spared by the employer, and make such shifts in the assignments to particular days as result in the maximum of accommodation without sacrificing the character of the work to be done. We have no itinerant teachers and no classes conducted in the shops, factories, or stores. All pupils come the full time required in one attendance. No Saturday work has ever been delinquent. Many apprentices come to the school on their own time in excess of the compulsory period, for which they are paid by their employers. We have in attendance over 300 actually indentured, and expect that this number will largely increase in the near future. We are now ready to meet adequately the needs for training which will supplement the shop or factory experience in all lines to which boys and girls are admitted through apprenticeship.

In our steam, gas-engine, automobile, and electrical courses, as well as in much of our other work, we are pursuing the method of correspondence schools, supplemented by lectures, laboratory work, and quizzes, which bring the pupils and instructors face to face. In this way we are obtaining much work done outside of school and are enabled to put the attendance on a two-night-a-week basis.

¹ Referring to Milwaukee.

Experience seems to show conclusively that young people under 16 years of age ought not to be taught in night schools. It appears quite as certain that adults should not be expected to be away from home and in school more than two nights each week in order to obtain the best results. Three hundred and fifty men are at present attending the engineering classes. They have been in attendance seven months, and the classes show no signs of diminishing numbers. The teachers devote much of their day time to the correction of the written work presented by night students. The men in these courses feel that they are getting well-planned, sequential work, and that with the assistance given them they may reasonably expect to obtain credentials that will have a value to them in securing promotion. Many men have already been assisted to better positions.

In addition to the engineering classes we offer to adults in evening classes the following: Architectural drawing, mechanical drafting, estimating for contractors, shop mathematics, pharmacy, chemistry, stenography and typewriting, business English, bookkeeping and accounting, printing, salesmanship, Spanish, sewing—plain and dressmaking, cooking—elementary and advanced, English for foreigners.

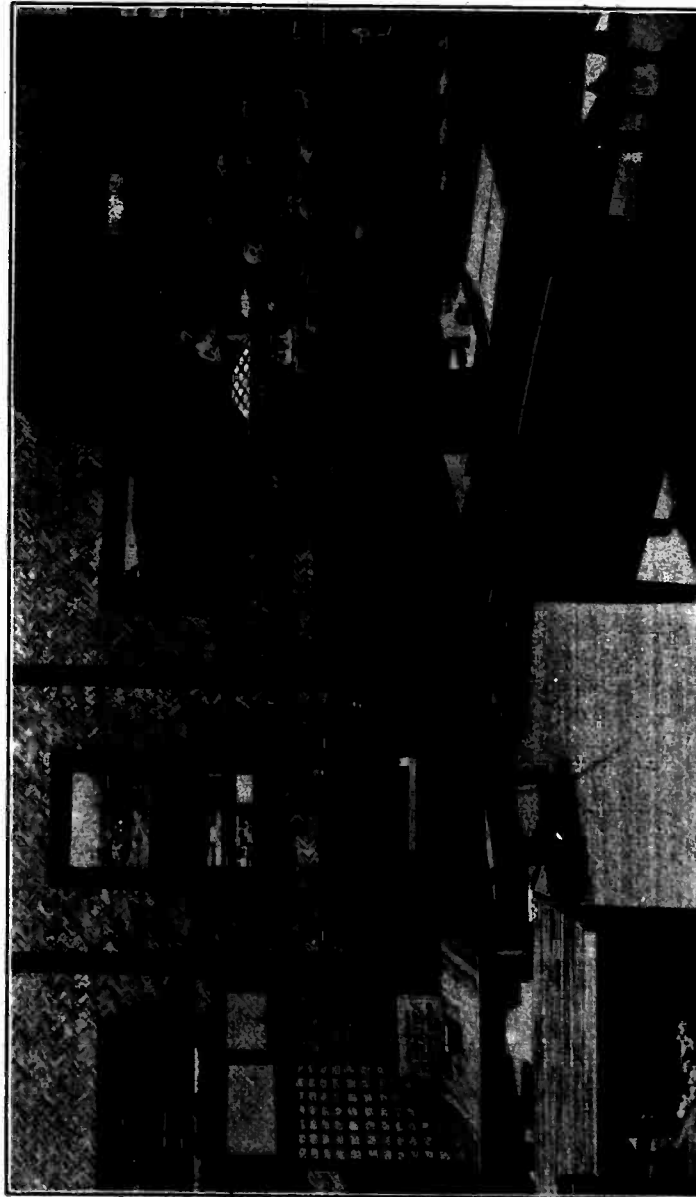
Many other lines of work are being developed as fast as the needs of the various groups in the community can be ascertained.

The plan for State aid for industrial education was also set forth by the charts. It was shown that the State board of industrial education consists of six members appointed by the governor and three ex officio members, as follows: The State superintendent of education, the deans of the extension department and of the college of engineering of the University of Wisconsin. It is the function of this board to foster the adequate extension of its special educational work within all cities that are aided by the State, and to pass upon the adequacy and quality of the work being done in the various localities for the purpose of administering the State aid. At the present time the State authorities require all communities to carry on the following form of activities simultaneously in order to receive full State aid:

1. A school for permit workers under 16 years of age.
2. A school for indentured apprentices.
3. An all-day industrial school for temporarily unemployed permit workers.
4. Schools for adults—particularly evening schools.

After the passage of the law of 1911, 29 cities inaugurated 49 schools and during the year 1914-15, including the State aid, raised \$341,000 for their support. The 1915 legislature increased the number of schools which might be aided to 70.

Rural school libraries.—Rural school library development also received attention in the Wisconsin exhibit. A typical present-day library for a rural school was exhibited. Figures on the chart indicated that there are at present 1,600,000 volumes in school libraries in Wisconsin. In 1895 there were 114,000 volumes; in 1903, 600,000; and in 1913 there were 1,327,584.



A typical section of the Philippine exhibit, showing products in industrial training.

The city of Oshkosh was represented by a map showing the public library survey. Transparencies and booklets told of the Brown County Woman's Building, a community center for the women of the county, said to be the only building of its kind in the United States.

PHILIPPINE ISLANDS.

Occupying 10,000 square feet of space in the northern corner of the Palace of Education, the exhibit of the Philippine Bureau of Education was one of the most impressive in the exposition. The emphasis that has been placed in the Philippines on the definite connection between education and the industrial needs of a people was evident, as also the idea of centralized school management. Beautiful and practical work in native woods—handsome mahogany furniture, baskets of Filipino weave, hats of the native buntal straw—all were the work of the schools. At one end of the exhibit the work of transforming the native products into useful articles was shown in actual operation.

Just what the Filipino education problem has been and how it has been solved was made clear by a number of charts. First of all, it was pointed out that the United States pays nothing toward Philippine education. What has been done has been entirely through Philippine funds by the Filipinos themselves. Of the \$3,374,750 total annual revenues for schools, \$2,256,800 is appropriated by the Philippine insular legislature; \$1,027,100 is from municipal appropriations; and \$90,850 is given by provincial boards. The cost of education is \$7.25 per pupil and 47 cents per capita of population.

Maps showed the distribution of public schools—there are 3,033 "barrio" or small village schools; 1,202 central schools; 59 agricultural schools; or a total of 4,235 schools, with 449,836 pupils, and a total annual enrollment of approximately 610,000.

The emphasis throughout the exhibit, however, was upon the specially adapted course of study that has been worked out for the islands, with early introduction of housekeeping and household arts, trades, and farming. An outline of the public-school system is given on page 59.

The building of standard schoolhouses of reinforced concrete has received particular encouragement from the insular government and a large model of a standard school was exhibited. Ample play space is a prerequisite to the construction of these buildings. The insular government gives \$2 for every \$1 raised locally for the erection of standard schools. There are now 409 "standard schools," 290 other permanent buildings, and 798 semipermanent buildings.

* For a detailed description of the course of study see Bulletin, 1916, No. 2.

Building is on the unit plan, which allows for growth in attendance. A unit room is 22 feet 10½ inches by 29 feet 6 inches, and the cost of a unit room is \$1,400.

PHILIPPINE PUBLIC SCHOOL SYSTEM

PRIMARY FOUR YEARS GENERAL 42200 PUPILS	INTERMEDIATE THREE YEARS VOCATIONAL 30700 PUPILS	SECONDARY FOUR YEARS MAJOR PROFESSIONAL 3800 STUDENTS	UNIVERSITY TWO TO SEVEN YEARS PROFESSIONAL AND CULTURAL 1010 STUDENTS
GRADES I-IV	GRADES V-VI-VII	FIRST-SECOND-THIRD-FOURTH YEARS	FROM TWO TO SEVEN COLLEGE YEARS
CURRICULUM GENERAL LANGUAGE READING NUMBERS ARITHMETIC HYGIENE CIVICS GEOGRAPHY MUSIC AND DRAWING GOOD MANNERS AND RIGHT CONDUCT PLAYS AND GAMES PLAIN SEWING COOKING LACE EMBROIDERY HATS MATS BASKETRY WOODWORKING GARDENING BAMBOO AND BATTAN FURNITURE	COURSES GENERAL 224 SCHOOLS TEACHING 26 SCHOOLS HOUSEKEEPING HOUSEHOLD ARTS 78 SCHOOLS TRADES 40 SCHOOLS FARMING 14 SCHOOLS	COURSES GENERAL 37 SCHOOLS NORMAL 1 SCHOOL NURSING 1 SCHOOL TRADES 3 SCHOOLS AGRICULTURAL 2 SCHOOLS COMMERCIAL 1 SCHOOL SURVEYING 1 SCHOOL NAUTICAL 1 SCHOOL	COLLEGES LIBERAL ARTS JUNIOR COLLEGE SENIOR COLLEGE LAW MEDICINE AND SURGERY TROPICAL MEDICINE PUBLIC HEALTH PHARMACY VETERINARY SCIENCE AGRICULTURE FORESTRY ENGINEERING FINE ARTS
			2 YEARS 400 STUDENTS 3 YEARS 472 STUDENTS 4 YEARS 672 STUDENTS 5 YEARS 240 STUDENTS 6 YEARS 240 STUDENTS 7 YEARS 240 STUDENTS 8 YEARS 240 STUDENTS 9 YEARS 240 STUDENTS 10 YEARS 240 STUDENTS 11 YEARS 240 STUDENTS 12 YEARS 240 STUDENTS 13 YEARS 240 STUDENTS 14 YEARS 240 STUDENTS 15 YEARS 240 STUDENTS 16 YEARS 240 STUDENTS 17 YEARS 240 STUDENTS 18 YEARS 240 STUDENTS 19 YEARS 240 STUDENTS 20 YEARS 240 STUDENTS 21 YEARS 240 STUDENTS 22 YEARS 240 STUDENTS 23 YEARS 240 STUDENTS 24 YEARS 240 STUDENTS 25 YEARS 240 STUDENTS 26 YEARS 240 STUDENTS 27 YEARS 240 STUDENTS 28 YEARS 240 STUDENTS 29 YEARS 240 STUDENTS 30 YEARS 240 STUDENTS 31 YEARS 240 STUDENTS 32 YEARS 240 STUDENTS 33 YEARS 240 STUDENTS 34 YEARS 240 STUDENTS 35 YEARS 240 STUDENTS 36 YEARS 240 STUDENTS 37 YEARS 240 STUDENTS 38 YEARS 240 STUDENTS 39 YEARS 240 STUDENTS 40 YEARS 240 STUDENTS 41 YEARS 240 STUDENTS 42 YEARS 240 STUDENTS 43 YEARS 240 STUDENTS 44 YEARS 240 STUDENTS 45 YEARS 240 STUDENTS 46 YEARS 240 STUDENTS 47 YEARS 240 STUDENTS 48 YEARS 240 STUDENTS 49 YEARS 240 STUDENTS 50 YEARS 240 STUDENTS 51 YEARS 240 STUDENTS 52 YEARS 240 STUDENTS 53 YEARS 240 STUDENTS 54 YEARS 240 STUDENTS 55 YEARS 240 STUDENTS 56 YEARS 240 STUDENTS 57 YEARS 240 STUDENTS 58 YEARS 240 STUDENTS 59 YEARS 240 STUDENTS 60 YEARS 240 STUDENTS 61 YEARS 240 STUDENTS 62 YEARS 240 STUDENTS 63 YEARS 240 STUDENTS 64 YEARS 240 STUDENTS 65 YEARS 240 STUDENTS 66 YEARS 240 STUDENTS 67 YEARS 240 STUDENTS 68 YEARS 240 STUDENTS 69 YEARS 240 STUDENTS 70 YEARS 240 STUDENTS 71 YEARS 240 STUDENTS 72 YEARS 240 STUDENTS 73 YEARS 240 STUDENTS 74 YEARS 240 STUDENTS 75 YEARS 240 STUDENTS 76 YEARS 240 STUDENTS 77 YEARS 240 STUDENTS 78 YEARS 240 STUDENTS 79 YEARS 240 STUDENTS 80 YEARS 240 STUDENTS 81 YEARS 240 STUDENTS 82 YEARS 240 STUDENTS 83 YEARS 240 STUDENTS 84 YEARS 240 STUDENTS 85 YEARS 240 STUDENTS 86 YEARS 240 STUDENTS 87 YEARS 240 STUDENTS 88 YEARS 240 STUDENTS 89 YEARS 240 STUDENTS 90 YEARS 240 STUDENTS 91 YEARS 240 STUDENTS 92 YEARS 240 STUDENTS 93 YEARS 240 STUDENTS 94 YEARS 240 STUDENTS 95 YEARS 240 STUDENTS 96 YEARS 240 STUDENTS 97 YEARS 240 STUDENTS 98 YEARS 240 STUDENTS 99 YEARS 240 STUDENTS 100 YEARS 240 STUDENTS

One of the charts from the Philippine exhibit, showing the carefully worked out plan of differentiated courses that is a conspicuous feature of the Philippine school system.

An interesting development is in teacher training. The policy has been to develop native teachers and assign the American teachers to higher, intermediate, secondary, and supervisory work. There are now 8,855 Filipino teachers and only 612 Americans, according to a chart shown at the exhibit. There are 7,452 teachers who receive

yearly five weeks of specialized industrial training in 34 vocational normal institutes.

To indicate further the extent of the system, 417,150 Filipino pupils receive practical industrial training daily from 7,215 regular teachers and 699 special industrial instructors. Industrial education is supervised by 309 supervising teachers, 89 special industrial supervisors, 37 division superintendents, and 5 insular industrial inspectors.

FUNCTIONAL DISTRIBUTION OF TEACHING FORCE

PHILIPPINE PUBLIC SCHOOL SYSTEM

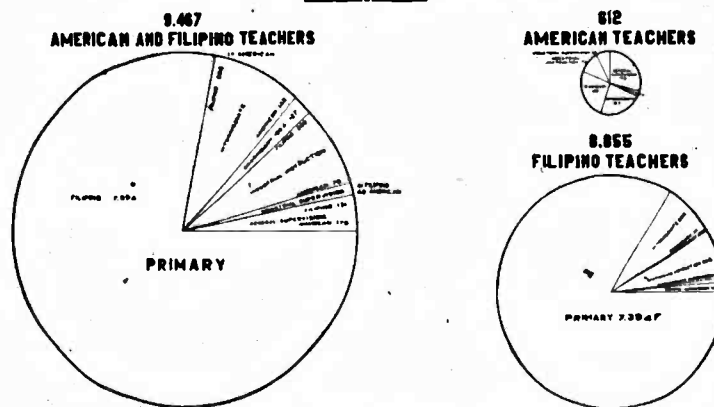


Chart showing distribution of Filipino and American teachers.

The exhibit also showed by charts and photographs the use of organized play and athletics and the force these have become in the educational work in the islands.

By way of summary one of the charts stated that:

In evolving a school system the Government profited by Spanish experience; studied the desires and needs of the Filipino people; made economic and educational surveys; consulted foreign countries having similar conditions; followed the best educational tradition; and made first-hand experiments in order to evolve a school system adapted to the needs of the Filipino people.

III. CITY EXHIBITS.

NEW YORK CITY.

Models, photographs, and an unusually illuminating set of charts; all in the New York City building, set forth New York City's provision for education.

The models included one of a typical playground, of which there are 94 in all; one of a recreation pier, of which there are 8; and a typical school farm in the city. The school farm was that at Corlears Hook, with an area of three-fourths of an acre, divided into 400 separate plats, to which 800 children were assigned. In all there were 6 such school farms, with a total acreage of 7 acres. Two crops were grown and harvested each year, and 6,300 children were assigned to individual plats 4-by 8 feet. In these gardens 25,000 school children with their teachers pursue nature study, and material for classroom use is furnished by the gardens to various schools throughout the city. This work has aroused widespread interest—in 1914 the work was studied and investigated by representatives from 3 foreign countries, 32 States, and 100 cities.

The photographs shown included exterior and interior views of the College of the City of New York and of Hunter College; views of the high schools; activities of pupils in the grade schools, evening schools, vocational schools, and prevocational classes.

The charts displayed gave a concise statement of New York's school system (1914). In the elementary schools, according to these charts, the enrollment was 804,237; the average attendance was 634,515; and the number of teachers was 18,000. The elementary schools include 17 open-air classes for children with pulmonary tuberculosis; 46 classes for anemic children; 102 open-air classes for normal children; 180 ungraded classes for mental defectives, with 2,972 pupils; 16 classes for blind children, with 194 pupils; 31 classes for the deaf, with 284 pupils; and 41 classes for crippled children, with 766 pupils enrolled. High-school opportunities were set forth in a separate series of charts, part of which described in some detail the proposed cooperative high-school courses.

Of special interest were charts descriptive of the work of the prevocational and vocational schools. Five elementary schools are especially equipped with shops for prevocational instruction to pupils of the seventh and eighth grades.

Shop activities are made the centers about which the academic work in arithmetic, English, history, and geography is grouped and developed. It is proposed to give pupils an opportunity to find their abilities by providing varied industrial work—a real allvance in vocational guidance. For boys, electric wiring and installation, machine-shop-practice, printing, plumbing, sheet-metal work, and trade drafting are offered; for girls, novelty work, dressmaking, millinery, power-machine operating, home making, free-hand drawing. In the morning the pupils carry on regular work in academic subjects, so that at any time they may be transferred from the prevocational classes to the regular classes of the school without suffering any loss of time. In the afternoon they carry on the work of these special courses. All pupils electing prevocational work spend nine weeks in each of the special courses. The six courses are covered in about a year and a half. It is the plan, at the expiration of this period, to have each pupil select, under the supervision of the teacher, one of the lines of special work as his vocation, to continue it through the school and later in one of the regular vocational schools.

Under "Wider use of school plant," the following summary was presented:

(1) EVENING SCHOOLS.

Types of school.	Number.	Sessions.	Students.
High schools.....	17	120	36,357
Trade schools.....	9	120	9,434
Elementary schools.....	89	90	97,283

(2) VACATION SCHOOLS.

Schools.....	36
Teachers.....	74
Pupils.....	29,758
Sessions.....	80

(3) VACATION PLAYGROUNDS.

Kinds of playgrounds.	Number.	Teachers.	Average attendance.
Indoor.....	104	732	79,486
Playgrounds in public parks.....	71	245	26,806
Kindergarten centers.....	9	10	1,012
Open-air playgrounds.....	13	43	6,507
Evening playgrounds.....	16	68	24,364
Total.....	213	1,098	140,168

(4) SOCIAL CENTERS.

Centers.....	62
Teachers.....	822
Average attendance.....	23,267

(5) PUBLIC LECTURES.

Lecture centers.....	174
Lecturers.....	676
Lectures delivered.....	5,405
Attendance.....	1,154,060

Motion pictures showing the work of the school boys' athletic league, school farm work, and many interesting features of educational work were shown in the auditorium of the New York City building.

GARY.

The Gary (Ind.) exhibit was devoted to an explanation of the school arrangement that has made Gary known everywhere alike for efficient utilization of school plant and complete education of children in accordance with modern demands. In the center of the booth was a large model of the Froebel school showing cut sections, and prominently displayed were charts and legends portraying the double system whereby all kinds of activities are made possible in connection

A Work-Study-and-Play Public School System for Adults

Building open thru calendar year for academic, industrial, physical, recreational and social purposes. Saturday all departments are available and Sunday the playgrounds, swimming pools and auditoriums.

Two groups of Evening School Students are in each Building. The First group attends classes 7 to 9 p.m. Mondays and Thursdays. The Second attends classes 7 to 9 p.m. Tuesdays and Fridays.

Men from Local Industries constitute 60 percent of Evening School Enrollment

A Work-Study-and-Play School Plant is well adapted for adult use when the children do not need it.

STATISTICS

Beginning September 1st, 1914; ending April 1st, 1915

Total Adult Enrollment	6,166
Average Monthly Enrollment	2,472
Average Nightly Attendance	1,391
Total Student Hours, actual class work	147,577
Cost per Student Hour	
Instruction	\$1.14
Operation	.033
Total	\$1.17

COMPARED WITH DAY SCHOOL

Day School Total Enrollment	5,200
Day School Average Monthly Enrollment	4,600
Day School Average Daily Attendance	4,200
Cost per Student Hour	\$0.035

Evening School Cost is 10 percent of Total Day School Cost

One hour of adult instruction supplementing the personal efforts at self-education on the part of the adult and growing out of his vocational activities and needs is worth several hours of instruction with children in the regular day school and is a good investment for the community, even though the adult hour costs \$1.17 and the day school pupil hour costs \$0.035.

Features of the Gary plan.

with the school without additional building space. Every part of the school plant is in use practically all the time. The following brief description of the Froebel school and its environment is taken from charts shown at the exhibit:

1. The school building accommodates 2,000 pupils in the kindergarten, common school, and high school. The building contains 2 kindergarten rooms, 24 classrooms, 5 science laboratories, 3 music and expression studios, 8 work-shops, an auditorium seating 900, 2 gymnasiums, and 2 swimming pools.
2. The public parking in front of the school building is owned and controlled jointly by the park board and the school. The botany department of the school supervises the care of the lawns, trees, and shrubbery of the park.

3. The two school gardens contain about 1 acre each.
4. The playground is owned and controlled by the school, but is open every day and evening, including Saturday and Sunday.
5. The zoology department has a number of animal houses in the playground.
6. The school program permits the churches, libraries, Y. M. C. A., and settlement houses, upon the request of the parents, to secure groups of children regularly every hour of the school day for work that they can do better than can the school.

It was pointed out that, while Gary gives day and evening industrial training, the city has no separate industrial school. "Industrial work is a part of the regular day-school program in all schools and in all grades." Grades, high school, and evening schools are all in the same building for the district served. "Vocational guidance is the first consideration, and vocational training only secondary."

The following is an outline of the work as furnished by charts in the exhibit:

Time given to vocational work:

- During first and second years 1 hour daily to handwork and drawing.
- Third, fourth, and fifth years, 1 hour daily in shopwork, drawing, and elementary science.
- Sixth, seventh, and eighth grades, 130 hours yearly to specialized shopwork.
- Ninth and tenth grades, 200 hours yearly in specialized shopwork.
- Sixth to eighth grades, 130 hours yearly to elementary science.
- All grades from third to tenth have some form of mechanical drawing daily.

The teachers:

- Licensed teachers for manual training, sewing, cooking, and drawing.
- Mechanics from the trades for specialized shopwork.

Size of classes:

- Manual training, sewing, cooking, drawing, from 15 to 20.
- Specialized shopwork, from 5 to 8, with self-supporting shops as far as possible.

Specialized shopwork taught:

- | | |
|------------------------------|---------------------------------|
| Carpentry and cabinetmaking. | Machine shop practice. |
| Painting. | Plumbing. |
| Printing. | Applied electricity. |
| Sheet-metal work. | Shoe repairing. |
| Pattern making. | Stenography and bookkeeping. |
| Foundry practice. | Specialized mechanical drawing. |
| Forging. | |

NOTE.—The above covers shopwork of two schools.

Organization of specialized shopwork:

- On manufacturing basis.
- All work executed on shop order and from blue prints censored by vocational director.
- Construction and maintenance of school equipment constitute the majority of shop problems.
- Shops practically self-supporting.
- Students marked on basis of rate per hour in cents, instead of on a hundred per cent basis.

X School Daily Program

SCHOOL HOURS	Entire X School in 24 Class Rooms, 2107 for Academic, 2107 for Physical, 2107 for Art, 2107 for Music, 2107 for Library, 2107 for Geography	One-Third X School in 8 Classrooms	One-Third X School in 8 Classrooms	One-Third X School in 8 Classrooms
8:30 - 9:20	Grades 1 to 8	Grades 1 to 8	Grades 1 to 8	Grades 1 to 8
9:20-10:10	Grades 1 to 8	Grades 1 to 8	Grades 1 to 8	Grades 1 to 8
10:10-11:00	Grades 1 to 8	Grades 1 to 8	Grades 1 to 8	Grades 1 to 8
11:00-12:00	Grades 1 to 8	Grades 1 to 8	Grades 1 to 8	Grades 1 to 8
12:00 - 1:00	Grades 1 to 8	Grades 1 to 8	Grades 1 to 8	Grades 1 to 8
1:00 - 1:50	Grades 1 to 8	Grades 1 to 8	Grades 1 to 8	Grades 1 to 8
1:50 - 2:40	Grades 1 to 8	Grades 1 to 8	Grades 1 to 8	Grades 1 to 8
2:40 - 3:30	Grades 1 to 8	Grades 1 to 8	Grades 1 to 8	Grades 1 to 8
3:30 - 5:00	Grades 1 to 8	Grades 1 to 8	Grades 1 to 8	Grades 1 to 8

It is necessary to departmentalize only one-third of the classes. In the academic work of both schools 24 teachers are required for eight periods, a total of 192 teaching periods. Four teachers are required for the auditorium for 6 periods, a total of 24 teaching periods. The academic work and the auditorium thus require 216 teaching periods. Since one teacher teaches 6 periods during the five hour school day, 36 teachers will be required to teach the 216 periods of the academic and the auditorium work of both schools.

Many teachers have classes in both schools. The two duplicate schools are hardly apparent in actual operation and principals consider the two schools one organization.

When you have enough accessories in the form of shops, laboratories, studios, gymnasiums, playgrounds, swimming pools, libraries, auditoriums, etc., to accommodate one-half of the school while the other half is in class rooms--you may use half of your class room, or an equivalent outdoor for the accessories.

The above daily programs are only schedules for rotating classes between regular class rooms and necessary facilities. Children cannot use accessory facilities unless they get out of the straight jacket school seats and into places where the special facilities are.

Y School Daily Program

SCHOOL HOURS	Entire Y School in 24 Class Rooms, 2107 for Academic, 2107 for Physical, 2107 for Art, 2107 for Music, 2107 for Library, 2107 for Geography	One-Third Y School in 8 Classrooms	One-Third Y School in 8 Classrooms	One-Third Y School in 8 Classrooms
8:30 - 9:20	Grades 1 to 8	Grades 1 to 8	Grades 1 to 8	Grades 1 to 8
9:20-10:10	Grades 1 to 8	Grades 1 to 8	Grades 1 to 8	Grades 1 to 8
10:10-11:00	Grades 1 to 8	Grades 1 to 8	Grades 1 to 8	Grades 1 to 8
11:00-12:00	Grades 1 to 8	Grades 1 to 8	Grades 1 to 8	Grades 1 to 8
12:00 - 1:00	Grades 1 to 8	Grades 1 to 8	Grades 1 to 8	Grades 1 to 8
1:00 - 1:50	Grades 1 to 8	Grades 1 to 8	Grades 1 to 8	Grades 1 to 8
1:50 - 2:40	Grades 1 to 8	Grades 1 to 8	Grades 1 to 8	Grades 1 to 8
2:40 - 3:30	Grades 1 to 8	Grades 1 to 8	Grades 1 to 8	Grades 1 to 8
3:30 - 5:00	Grades 1 to 8	Grades 1 to 8	Grades 1 to 8	Grades 1 to 8

Pupils and teachers have the same time in both schools. Both X and Y Schools use the same facilities. Neither school could use any facility any more, if other school were not there. Both schools have better facilities every hour of the day because both schools are there. You can afford better schools when you do not need so many. Grades 1, 2, 3, 4 and 5 have six hours in school. Grades 6, 7 and 8 have six hours in school and may remain for after school play, 3:30-5:00.

Teachers have five and one half hours for class work and assembly of pupils.

For departmentalizing work in both schools 36 teachers do all the work in Academic and Auditorium departments. 4 take charge of the playground and gymnasiums and 11 do the library, science, music and shop work. Fifty-one teachers are thus required for a 48 class school. The 51 teachers include the librarians, the playground attendants and the special teachers. Supervisors are not needed.

Student Assistants are used by all teachers in all departments of the school, thus securing a very desirable type of vocational training and at the same time relieving teachers.

Charts illustrating the Gary plan, shown in the Gary exhibit. The Gary system means practically two schools in one, schools "X" and "Y" alternating in the use of the different parts of the school plant.

Statistics, 1913-14—Industrial work only:

Value of equipment.....	\$23,000
Supplies for year.....	\$13,500
Salaries paid instructors.....	15,345
	\$28,845
Value of productive output.....	\$27,875
Cost for specialized shopwork.....	\$970
Student-hours of instruction.....	71,514
Cost per student-hour.....	\$0.014

Industrial work in the evening schools:

All shops available two nights a week for adults.

Some shops in use four nights a week.

Night students encouraged to take mechanical drawing, science, and mathematics related to their daywork, rather than shopwork.

Shop practice valuable for experience which can not be had in their daywork.

Seventy-five per cent of enrollment are men from industries.

Cost of combined night school work 10 per cent of cost of day school.

Average attendance, industrial evening schools:

Mechanical drawing (three centers).....	40
Shop and advanced mathematics (three centers).....	60
Industrial science (two centers).....	25
Applied electricity (two centers).....	20
Automobile theory and repair for three months only (one center).....	25
Printing (two centers).....	20
Plumbing (two centers).....	15
Machine shop (one center).....	10
Pattern making (one center).....	Irregular.
Foundry practice (one center).....	Irregular.
Forging (one center).....	Irregular.
Sheet-metal work (one center).....	Irregular.
Sewing, cooking, millinery, arts and crafts, and free-hand drawing have large attendance, but more from social and recreation than industrial motive (five centers).	

Cost of industrial training, night school:

Student-hour cost ranges from 8 to 20 cents; not allowed to exceed 20 cents.

Cost of plant:

Building.....	\$300,000
Equipment.....	25,000
Site and playground.....	75,000
Per capita cost of plant.....	150

Per capita cost:

Instruction.....	\$3.00
Operation.....	.30
Maintenance.....	.00

Total..... 3.90

Average number of students per teacher..... 35

The following is a summary of the "claims" made for the Gary plan:

What we claim for the Gary plan in industrial education:

Economical, efficient, vocational guidance for all.

Industrial training when needed, and by whom needed.

Makes possible increased facilities for grades, high schools, and continuation schools.

Keeps children in school longer. Gratifies the child's desire which every 12 to 14 year old boy has for a "real job."

Directs more students into the technical institutes, and sends others into life with a better understanding of industrial work.

Develops a spirit of democracy on part of high-school students.

Experience has proved that graduates stand in front rank on college-entrance requirements.

That the whole plant can be used all the time for all the people.

IV. FOREIGN NATIONS.¹

ARGENTINA.

The education exhibit of Argentina in the Palace of Education consisted of numbers of attractive screens containing views of primary, secondary, and technical schools, and higher institutions of learning, together with legends and charts setting forth the present development of public instruction in Argentina, with special reference to outdoor activities for school hygiene. Charts called attention to the fact that "Primary instruction is compulsory and free in Argentina for all children from 6 to 14 years of age." Private schools are under the supervision of the national education board. All public schools are secular. The Federal Government of Argentina spends for its normal, secondary, and special schools \$10,528,980, or \$1.55 per capita.

One chart illustrated the training of teachers, through regular normal schools, normal schools for physical training, normal schools for secondary education, pedagogical departments of universities, and normal schools for the teaching of modern languages. The latter type of school is described as an institution "distinctly Argentinian," where "all languages are taught in their own tongue for the sake of practice." Entrance requirements are the same as for the regular normal schools, and the graduates teach modern languages in secondary schools. The growth in provision for teacher training during the past 20 years was shown, especially with reference to primary teachers: In 1894 there were 35 schools, 1,310 students, and a total expenditure of \$816,500; in 1914 there were 70 schools, 8,974 students, and a total expenditure of \$4,270,000.

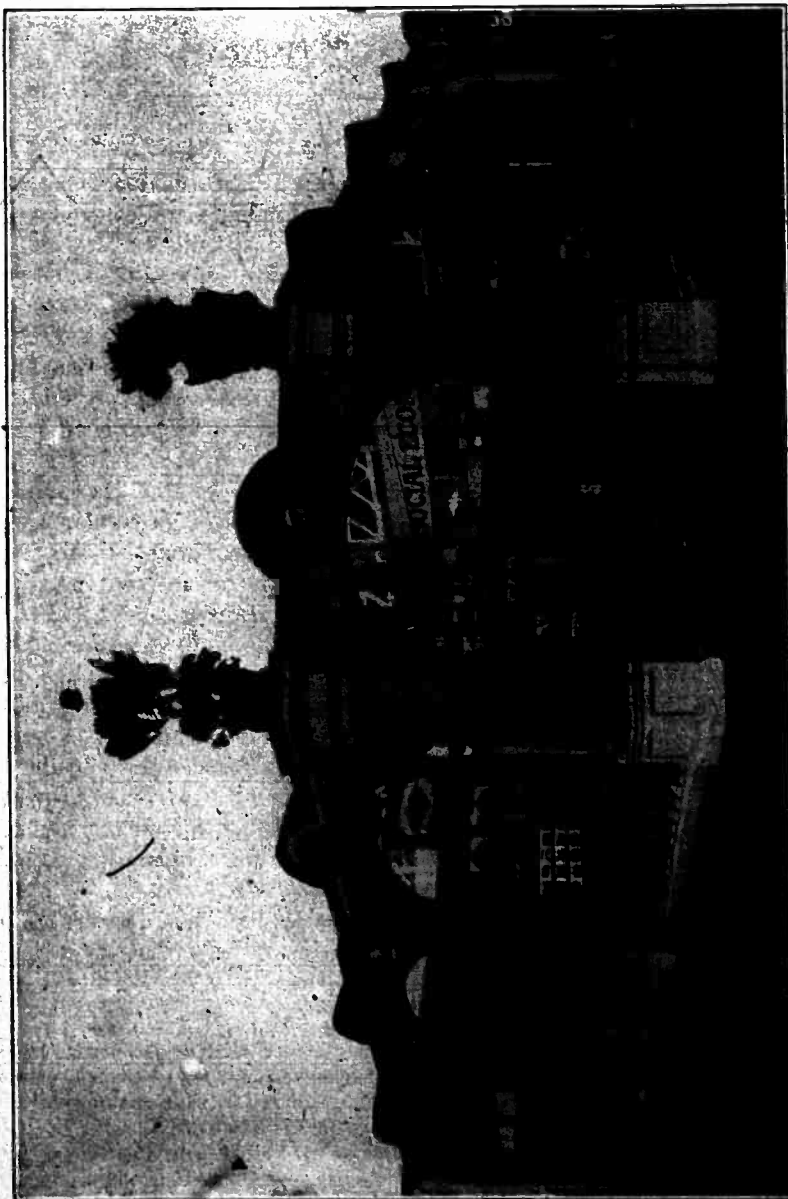
The following summary is from a special pamphlet prepared by the department of education of Argentina for distribution at the exposition:

PRIMARY EDUCATION.

Primary education in Argentina owes its present state of development to Domingo F. Sarmiento, who was a personal friend and student of Horace Mann.

Primary education in the Provinces (States) of Argentina is the concern of State authorities, who work in harmony with the educational bodies of its cities, towns, and villages. The exception to this consists in the control by the national board of education of the primary schools of the Federal city of Buenos Aires and such other exceptions as will be mentioned further on.

¹Other nations gave attention to education in the special buildings housing their official exhibits. Thus the French pavilion contained an exhibit of colored charts showing the growth of the schools of Paris since 1870.



One of the entrances to the Argentine exhibit.

One of the more recent and far-reaching developments of this Federal control is the fact that in some of the Provinces primary schools are established and subsidized by the Federal Government where local economic conditions are not able to cope with the need for popular education.

Argentina maintains therefore in some of the Provinces two systems of primary schools, the regular State-controlled and the Federal-controlled primary schools.

In 1894 there were 3,000 primary schools, public and private, which increased during the next 20 years to 7,077 primary schools; likewise the teaching force of these schools grew from 7,800 teachers to over 20,000 teachers. The pupils attending the schools in 1894 numbered 280,000, whereas in 1914 the attendance increased to 800,000 pupils in these primary schools. In 1894 the total expense for primary education was 9,370,000 pesos, while in 1914 it was 56,635,000 pesos (a peso is 42 American cents).

SECONDARY EDUCATION.

The secondary schools are responding also to the modern demands of a democratic conception of education. From mere preparatory institutions for the universities, they are fast becoming schools of advanced education to an increasing number of men and women.

In 1894 the students of secondary schools numbered 3,000, which number rose to 10,000 in 1914, the expenditures having increased from 1,000,000 pesos in 1894 to nearly 6,000,000 in 1914.

TECHNICAL EDUCATION.

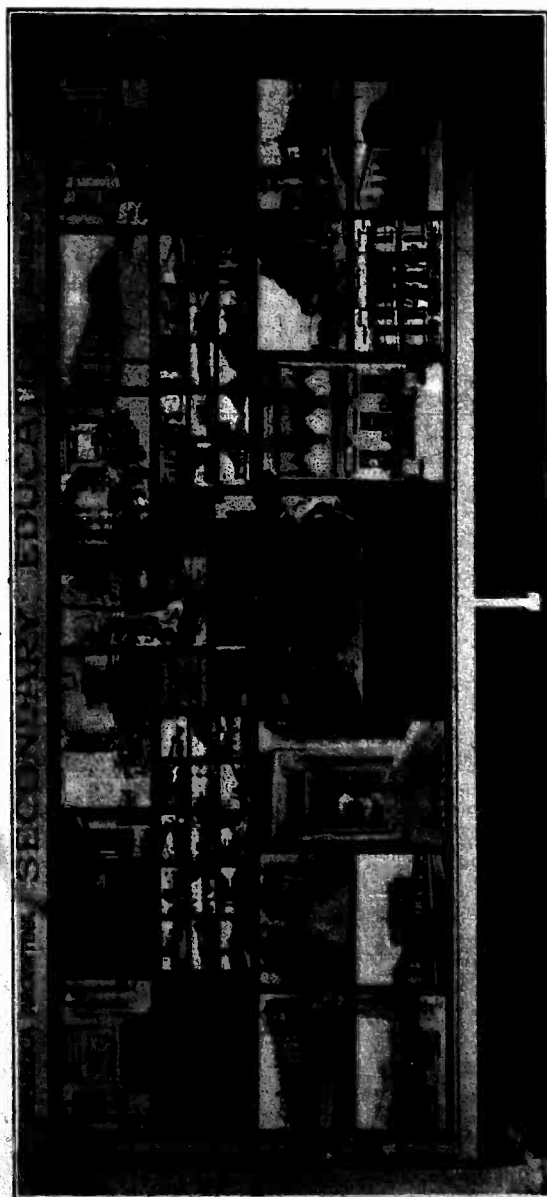
Technical schools are a matter of recent development. Two distinct kinds of such schools have been organized and are now maintained in flourishing condition. One kind provides technical training in the various trades for young men from 12 to 15 years, while the second type serves to train the young men for positions as foremen and superintendents. There are four large schools of each one of these types, supported by the National Government at a yearly expense of 1,500,000 pesos. In addition to these, there are 15 trade schools for girls, also under the control of the National Government, giving instruction in the trades in which girls predominate, such as millinery, dressmaking, flower making, telegraphy, typewriting and stenography, glove making, etc.

COMMERCIAL EDUCATION.

Of recent development and also under the control of the National Government are the commercial schools for men and women, which provide adequate modern instruction in salesmanship and bookkeeping. A recent addition to the scope of these schools is the degree of doctor, given for advanced work in economic sciences. The National Government spends about 1,500,000 pesos for this branch of education.

AGRICULTURAL EDUCATION.

Agricultural education in Argentina is of a twofold type, general and special. The special schools, so-called regional schools, look toward the education of future workers in special fields, such as those who engage, for example, in the sugar industries of Tucuman. These schools specialize on the intelligent development of special industries all over Argentina. The curriculum of all



Various phases of secondary education as shown in the Argentine exhibit.



A typical screen from the Argentine education exhibit.

these schools is intensely practical and covers a sufficient scientific background such as these practical studies require in the various fields. These schools are also under the control of the National Government through the department of agriculture.

The schools which provide for the thorough scientific instruction underlying all agricultural occupations are under the control of the national universities of Buenos Aires and La Plata.



A section of the Argentine exhibit.

The annual cost of all agricultural schools is about 3,500,000 pesos, including the expenses incurred in the maintenance of experimental stations, the excursions and university extension teaching.

UNIVERSITY EDUCATION.

The universities of Argentina maintain the traditional faculties of jurisprudence, belles lettres, philosophy, and pure and applied sciences, developing also the newer departments of university work, such as agriculture, pedagogy, etc. The La Plata University has been instrumental in the exchange of professors and has encouraged the visits of public men of note from Europe and the United States of America.

In connection with higher education in Argentina it is a point of interest that the number of university graduates in the city of Buenos Aires is in proportion with the population larger than in other cities of the world. The budget of the three or four foremost important universities of Argentina reaches 8,500,000 pesos a year, and their combined attendance was 9,100 students in 1914.

Several sliding screens testified to a belief in the possibilities for mutual helpfulness between the nations of North and South America, particularly Argentina and the United States, and the important part education might play in such relations.

CHINA.

The Republic of China, with the cooperation of several of the missionary organizations active in Chinese work, had a large exhibit space devoted to products of the manual-training and industrial work in Chinese schools and missions, especially work in carved wood. One large booth was given to Tsing Hua College.

Under "Elementary Education" and "Secondary Education" a large amount of embroidery and painting was exhibited. Arts and craft work done by orphans of the Zikawei Catholic Mission of Shanghai formed a large section of the exhibit, special features being a remarkable collection of Chinese pagodas, a facsimile of the Imperial throne of China carved in teak wood, a model of a Chinese military junk, teak-wood sideboards, oriental chandelabra and screens.

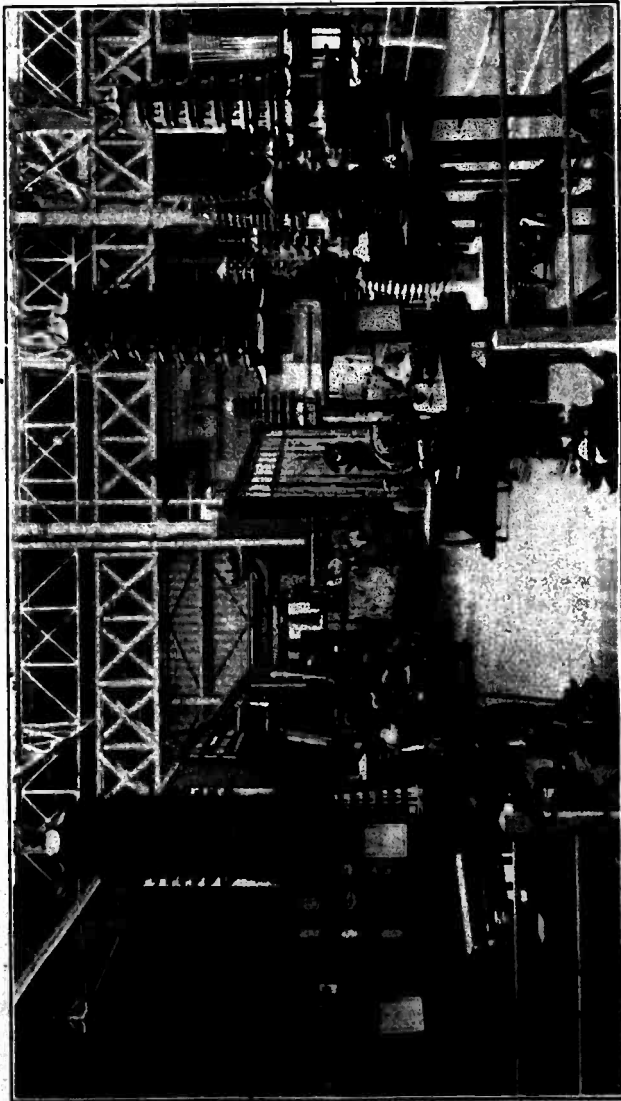
In describing the exhibit, the Chinese Commissioner General, Hon. Chen Chi, declares:

Up to 1900 China had adhered in its educational work to the old and famous curriculum as it existed for thousands of years in the Middle Kingdom. China has produced with the old ideal of education a large number of great men, as the history of the Far East shows. But China found out that western education was necessary; the ideal of old-time education would not do for present and future purposes.

The transformation of the educational system went hand in hand with the great changes in the Government of China brought about in 1900. Not only was the old system of education abolished, but also the famous and oldest university of the world, the "Hanlin," became a matter of the past. Kindergartens, primary, elementary, and high-school education took its place. Colleges were founded, universities with western principles were started in the large provincial capitals of the Empire, as well as in Peking, the central capital of the country.

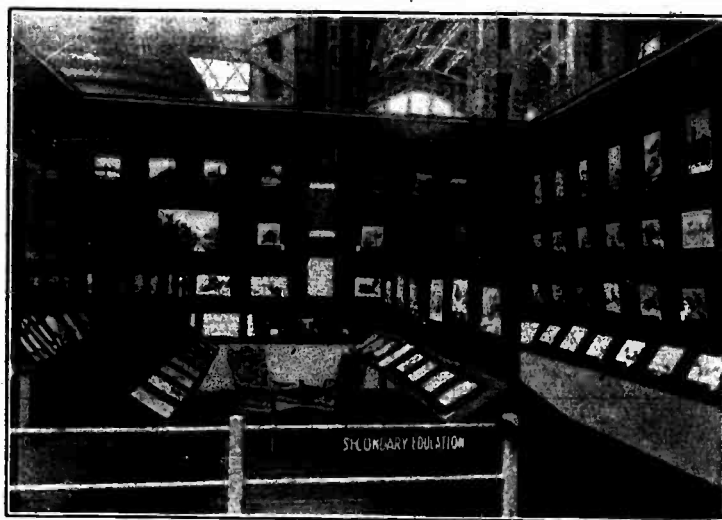
A new step was the foundation of girls' schools all over China. This is so much more of prominence, as in previous times girls were simply educated for home work, and not in the sense of public education. A further step after 1900 was the sending of thousands of students annually abroad.

The exhibit of the Tsing Hua College, of Tsing Hua Yuan, near Peking, emphasized the educational relations between China and the United States. This college, established in 1909 with American

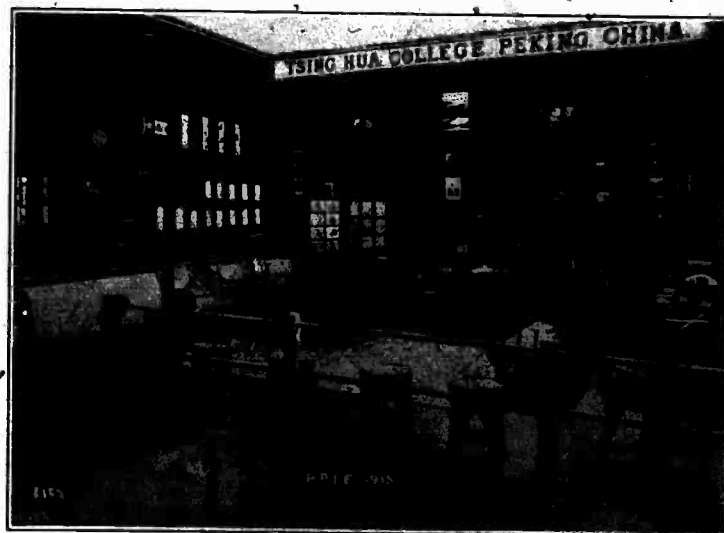


Arts and crafts work by orphans of the Zikawei Catholic Mission, Shanghai, forming part of the Chinese educational exhibit.

cooperation, is supported out of the Chinese indemnity funds returned by the United States. Graduates of the college are selected



Part of the Chinese educational exhibit, showing work of secondary schools.



The Tsing Hua College booth.

annually for education in the United States. The college has about 600 students.

CUBA.

Cuba's exhibit in the Palace of Education was almost entirely devoted to hygiene and sanitation. The school exhibit proper was in the attractive Cuban pavilion, where an entire room was given to education. A miniature of the model school of Santiago de Cuba was exhibited, the work of pupils of the sloyd class in the city schools. The collection of industrial exhibits from the schools included several notable examples of pillow lacework. A model of a new type of one-room schoolhouse, designed for rural communities, indicated Cuba's concern with this world-wide problem. A chart emphasized the rapid development of education in Cuba, particularly since the beginning of the Republic—from an enrollment of 36,306 in 1892 (before the inauguration of the Republic) to 277,013 in 1913-14.

JAPAN.

Of special interest in the Japanese education exhibit were charts showing the subsequent careers of graduates of different types of Japanese educational institutions. In the case of the Imperial universities of Tokyo, Kyoto, Iohoku, and Kyuschu 4,067 graduates were public officials, 2,637 teachers or school officers, 2,606 in business, 2,174 hospital physicians or medical men in general practice, 511 were continuing university studies, and 323 were lawyers. Of the remainder, 1,064 are dead and 1,475 were not heard from or were still undecided as to their careers.

Of the 17,489 graduates of the middle schools for the year 1911-12, 388 were Government officials on March 31, 1913; 1,695 were school teachers or officials, 2,278 were in business, 1,220 were studying in higher schools, 3,936 were in special schools and special technical institutes, 502 were in other schools, 799 were in military and naval schools or in the service, and 6,585 were either unknown or undecided as to their occupations. Of the 4,916 graduates of technical schools of secondary grade, 2,773 were in business, 344 were in special technical schools, 191 were in other schools, 317 were in military service, while 574 were Government officials, 553 school teachers or officers, and 364 undecided as to their occupations.

Exhibits of both academic and industrial work were shown, representing the following institutions: Japanese Woman's University; Miss Tsuda's School, Tokyo; Tokyo Higher Normal School; Tokyo Imperial University; College of Agriculture and the Kyuschu Imperial University; the Art and Technical School of Kyoto City; the Fine Art School for Girls; and the technical schools of the Toyama prefecture.

A special publication descriptive of education in Japan treats of primary education, secondary education, technical education, the training of teachers, higher education, education of women, art education, education of the blind and dumb, libraries and miscellaneous educational agencies. The cost of public education in Japan is shown to have increased from 43,000,000 yen in 1903-4 to 80,500,000 yen in 1912-13. Special attention is given to school hygiene. Libraries increased from 93 in 1903-4 to 540 in 1912-13; the number of volumes grew from 1,000,000 to over 3,900,000; and the visitors to the libraries increased from 550,000 to nearly 4,000,000.

The growth of the Imperial universities was as follows: In 1911-12 there were 6,440 students, as compared with 3,370 in 1902-3; there were 1,270 graduates, as compared with 625; the teachers numbered 600, as compared with 308 in 1902-3; and the expenditures increased from \$1,800,000 to \$4,550,000.

The following summary table affords a view of the development of educational institutions in Japan between the years 1908 and 1913:

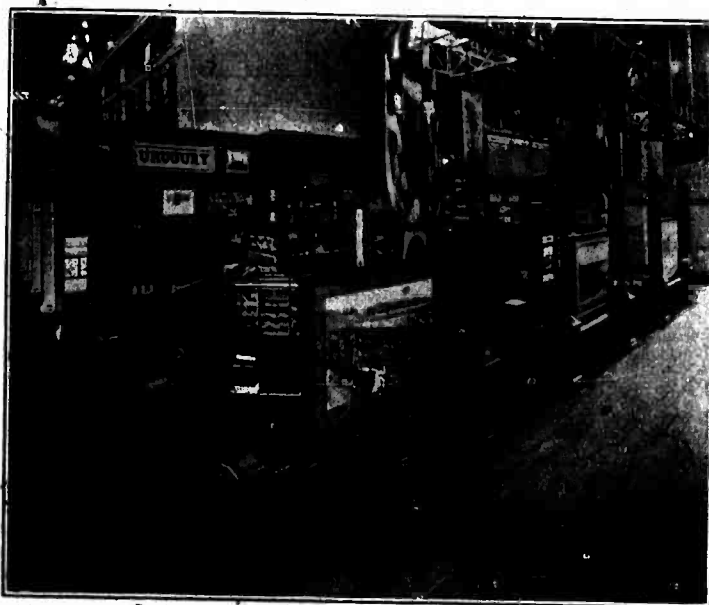
Number of students and pupils from 1908-9 to 1912-13.

Classes of schools.	1908-9	1909-10	1910-11	1911-12	1912-13
Elementary schools.....	5,996,139	6,473,592	6,861,718	7,023,661	7,087,430
Schools for blind and dumb.....	1,802	2,003	2,238	2,571	2,669
Normal schools.....	21,618	23,422	25,391	27,076	27,653
Higher normal schools.....	880	1,078	1,063	1,070	1,091
Higher normal schools for women.....	365	450	506	590	659
Special institutes for training of teachers.....	56	53	62	55	122
Middle schools.....	115,638	118,133	122,345	125,304	128,973
High schools for girls.....	216,582	51,781	56,239	59,619	64,871
Domestic science high schools for girls.....				4,408	10,257
Higher schools.....	5,236	6,029	6,341	6,665	6,537
Imperial universities.....	7,517	7,559	7,239	7,438	8,946
Special schools.....	27,438	26,945	26,244	27,468	27,048
Special technical schools.....	6,114	6,526	6,694	6,863	6,896
Technical schools of secondary and primary grades.....	56,573	59,657	64,739	70,085	74,869
Technical continuation schools.....	192,331	223,719	262,978	302,341	346,767
Institutes for training of technical school teachers.....	151	184	177	150	170
Miscellaneous schools.....	148,971	149,339	145,122	142,808	148,761
Total.....	6,627,410	7,150,470	7,589,117	7,809,140	7,893,719

URUGUAY.

A number of screens indicated the progress of elementary education in Uruguay. The primary enrollment grew from 72,972 in 1904 to 91,882 in 1909, and 113,620 in 1914. Photographic views illustrated the type of primary work. Special attention was given to health care and education.

The National Institute of Agronomy exhibited models showing various forms of vineyard culture, practical and ornamental plans for trimming.



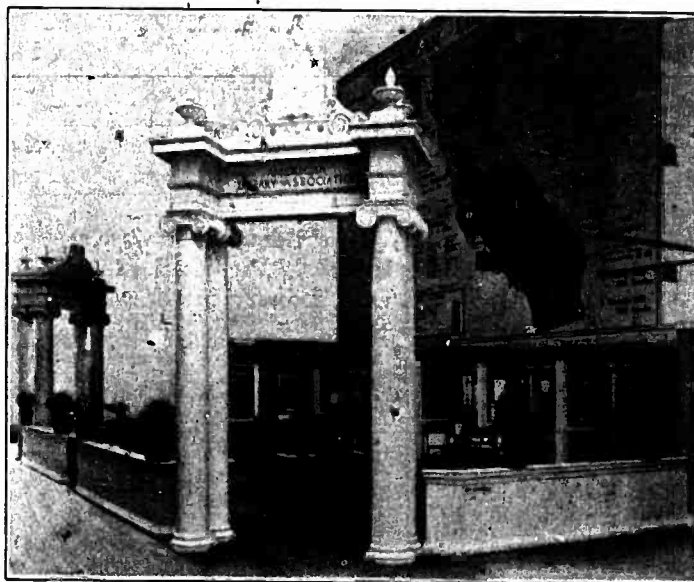
Photograph through courtesy of the Pan-American Union.

The Uruguay exhibit in the Palace of Education.

V. EXHIBITS OF INSTITUTIONS AND ORGANIZATIONS.

AMERICAN LIBRARY ASSOCIATION.

How libraries are reaching out to do effective work in all communities, however remote, and in many other ways than by simply hoarding books, was told in the exhibit of the American Library Association. The exhibits showed in a direct way what librarians are



Entrance of the American Library Association space; California County library map in the background.

doing to bring books and reading into every home, shop, school, and office.

"Education need not cease when school is finished," according to the exhibit. "The library habit learned in youth brings pleasure and inspiration all through life. Books and libraries are a real help in the problems which arise in every person's work."

Rural library work was featured, with illustrations from Washington County, Md.; Multnomah County, Oreg.; Hood River County, Oreg.; Van Wert County, Ohio; Monterey County, Cal.; Alameda County, Cal.; Yolo County, Cal.; and other localities.

A map indicated what States had and had not State library commissions. "A library commission for every State" was the demand—to lend encouragement to the establishment of libraries; to give expert advice on library problems; to organize public and school libraries; to lend traveling libraries; to publish lists of good books.

The following States have library commissions, according to the exhibit:¹ Alabama, California, Colorado, Connecticut, Delaware, Georgia, Idaho, Illinois, Indiana, Iowa, Kansas, Kentucky, Maine, Maryland, Massachusetts, Michigan, Minnesota, Missouri, Nebraska, New Hampshire, New Jersey, New York, North Carolina, North Dakota, Ohio, Oregon, Pennsylvania, Rhode Island, South Dakota, Tennessee, Texas, Utah, Vermont, Virginia, Washington, Wisconsin.

Growth in library service was indicated by charts portraying circulation and distribution in several progressive cities. The Cleveland (Ohio) Public Library, for example, has 270,000 borrowers in the main library, 24 branch libraries, 17 school branches, 360 classroom libraries, 57 home libraries, 41 deposit stations in shops, schools, etc., and 55 delivery stations, or a total of 555 separate agencies for distribution.

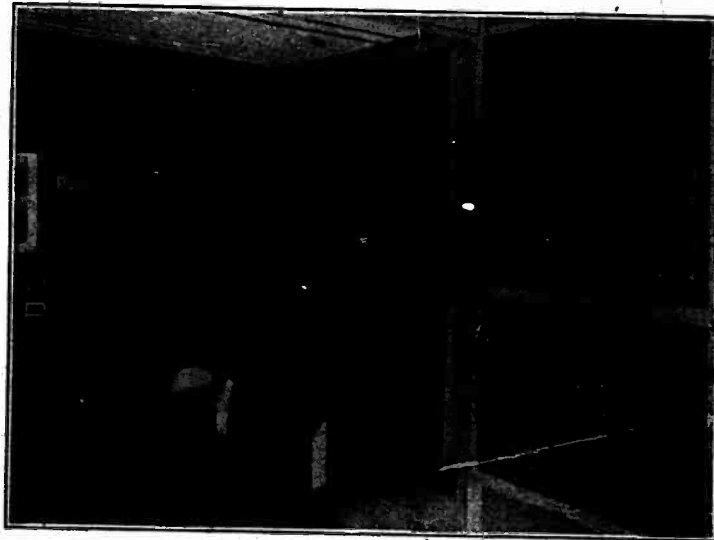
Special emphasis was laid upon children's libraries, one entire section being given to children's books. Various charts and tables showed how the Cleveland Public Library reaches the children through the following agencies:

- 1 teacher's and parent's room;
- 17 children's rooms in branches;
- 3 settlement libraries;
- 4 small libraries (conducted usually in rented quarters);
- 1 normal school library;
- 9 school libraries;
- 360 classroom libraries (in 65 public schools, 16 parochial schools, and 27 institutions);
- 57 home libraries.

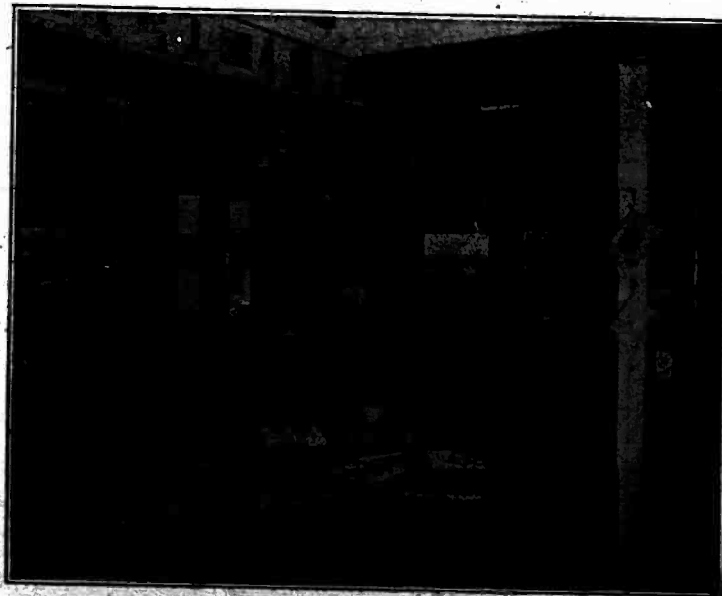
Good books for all children, only books read and approved by experienced children's librarians, are in the Cleveland Public Library, according to the exhibit. More than 1,000,000 books are read by Cleveland children every year; 20 per cent of all persons of reading age in Cleveland are children under 15 years; 39 per cent of all borrowers are children; 43 per cent of all books read are children's books (more than 1,000,000).

Photographs and book lists showed the widely varying uses of the library in typical cities. Books for business men, for housekeepers, farmers, and artisans are brought to the attention of thousands of

¹ Arkansas now has a State library commission.



"Getting books to all the people." A corner of the American Library Association exhibit, showing the widening scope of library activity—in art and music, in civics, in work for the blind, and as an aid to industry.



Children's corner in the American Library Association exhibit.

citizens in communities everywhere. The exhibit emphasized the fact that many libraries are circulating reproductions of paintings and other art works, music scores, and even player rolls and phonograph records, while other libraries maintain large collections of foreign books, and employ experts to make these books as widely used as possible.

The California library service was explained in detail by a huge map 25 feet high by 22 feet wide, by photographs, and by a special publication issued for the exposition. The "county free library," it is declared, "acts as a storehouse and center of distribution for the whole county and as the connecting link between the State library and the people of the county." The following figures give an idea of the work accomplished:

<i>California's library service.</i>	
Free public libraries.....	132
District libraries.....	5
County free libraries.....	26
Law libraries.....	66
County teachers' libraries.....	58
Libraries in educational institutions.....	334
Association and subscription libraries.....	111
Miscellaneous institution libraries.....	47
Total.....	779
Branches and deposit stations connected with above listed libraries.....	1,263
Library buildings:	
Gifts.....	129
Others.....	21
Total.....	150
Growth in one sort of library service:	
California—	
Area, square miles.....	158,297
Second in size among the States.	
Population in 1910.....	2,377,549
Assessed valuation for 1914-15.....	\$3,134,811,284
Number of counties.....	58
County free library service—	
Area covered, square miles.....	95,950
Population reached.....	1,557,008
Appropriation made.....	\$280,362.58

An interesting set of charts was devoted to library publicity. Book displays in department store windows; advertising the library's benefits through motion-picture theaters; direct newspaper publicity; posters—these were all suggested as effective means of making the work of the library known, for it was asserted, "when a town has a library, and the library has the books, the real work of the library has not commenced."



Publicity for the library. "When a town has a library, and the library has the books, the real work of the library has not commenced."

Other subjects treated in the exhibit were: Book rebinding; efficiency in library service; library buildings, and training for library work. The following list of library training schools was displayed: New York Public Library School; Pittsburgh Training School for Children's Libraries; Simmons College Library School; St. Louis Public Library Training Class; Syracuse University Library School; University of Wisconsin Library School; Western Reserve Library School; University of Illinois Library School; Atlanta Carnegie Library Training School; California State Library School; Chicago Public Library Training Class; New York State Library School; Pratt Institute School of Library Science; Riverside Public Library School; Los Angeles Library School.

AMERICAN MEDICAL ASSOCIATION.

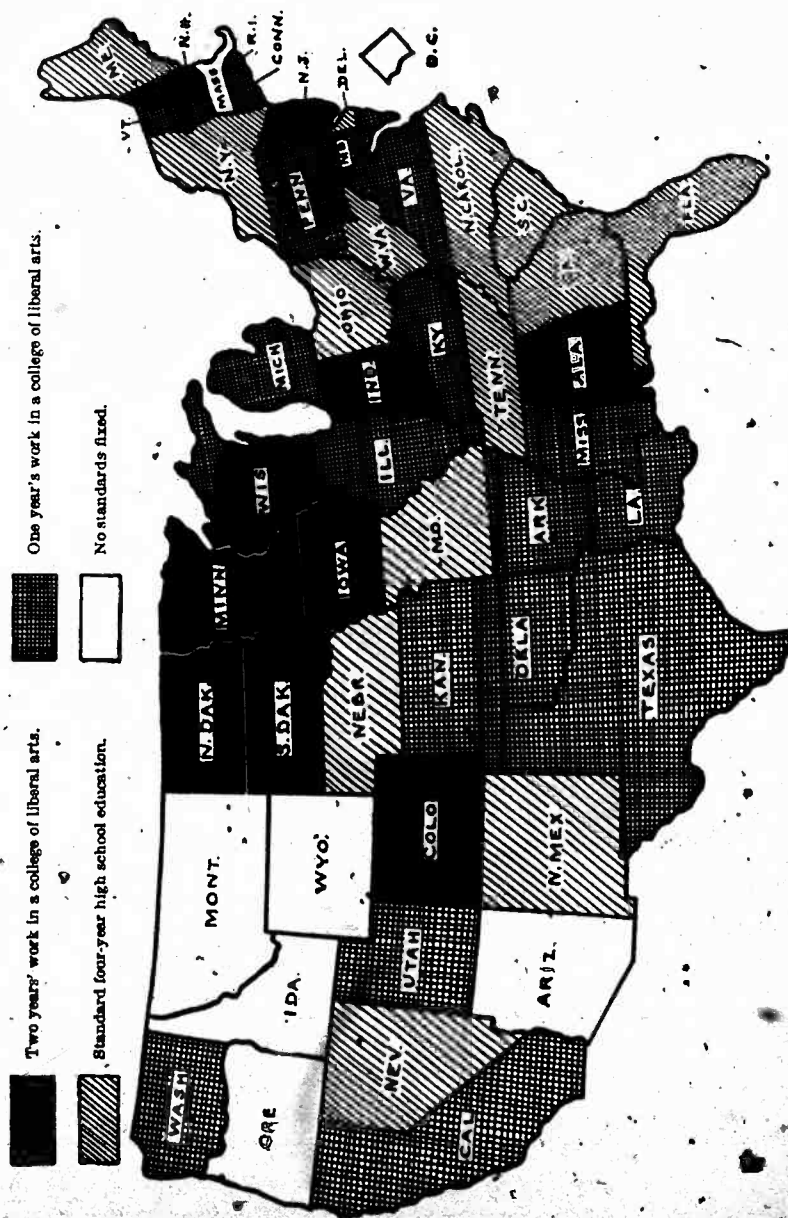
Medical education.—Though not primarily an education exhibit in the narrower sense, the American Medical Association exhibit gave some attention to medical education. Several charts showed the improved entrance requirements to medical colleges. The map on page 87 indicates the present status of preliminary education in the various States.

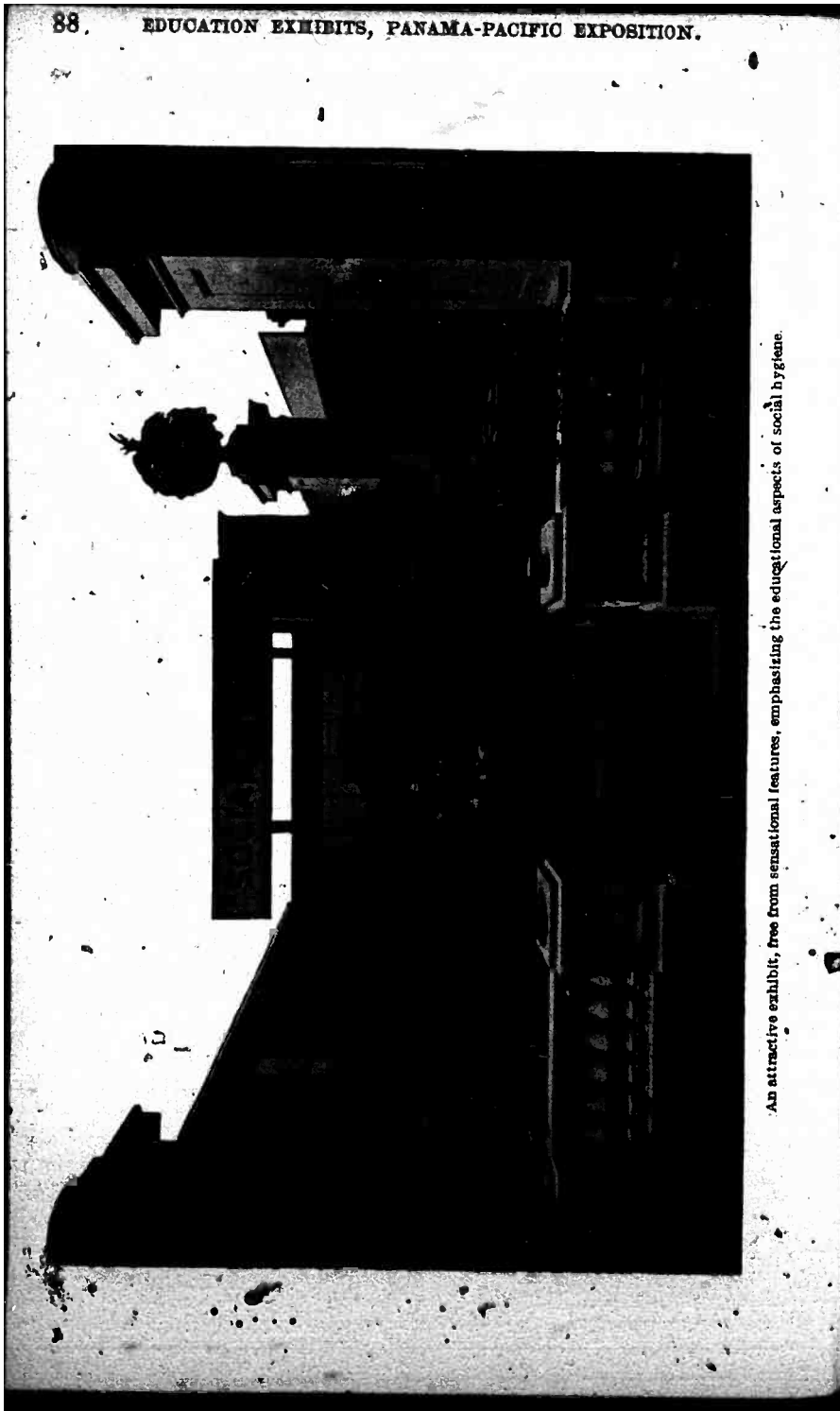
AMERICAN MOUTH HYGIENE ASSOCIATION.

Care of the teeth as the basis of good health was emphasized in the exhibit of the American Mouth Hygiene Association. A fully equipped model dental clinic, such as might be installed in any up-to-date school system, was exhibited, and there were frequent demonstrations of modern dental work. The Forsyth Infirmary, of Boston, was pointed to as representing the answer of one city to the question of caring for children's teeth.

AMERICAN SOCIAL HYGIENE ASSOCIATION.

The exhibit of the American Social Hygiene Association was notable for its emphasis on the educational phase of the sex problem. As an important part of education for social hygiene it was urged that the school should train pupils in "home craft"; encourage parent-teacher organizations; and develop recreation centers. Ten "chapters on social hygiene," directed to the promotion and guidance of sex education, were as follows: I. Parents. II. Home. III. Knowledge. IV. Recreation. V. Occupation. VI. Marriage. VII. Education. VIII. Religion. IX. Medicine. X. Law. Parents should secure for the child good heredity, good health, good habits, according to this outline. Harmful sex habits are often due to lack of early training in personal hygiene, it was

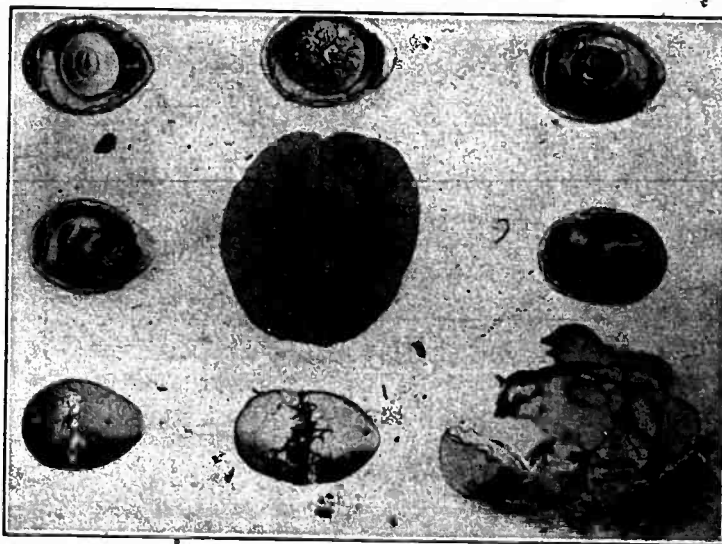




An attractive exhibit, free from sensational features, emphasizing the educational aspects of social hygiene.

declared. The home should provide good environment, good playmates, good social training. Training in the social conventions is a moral safeguard for both boys and girls.

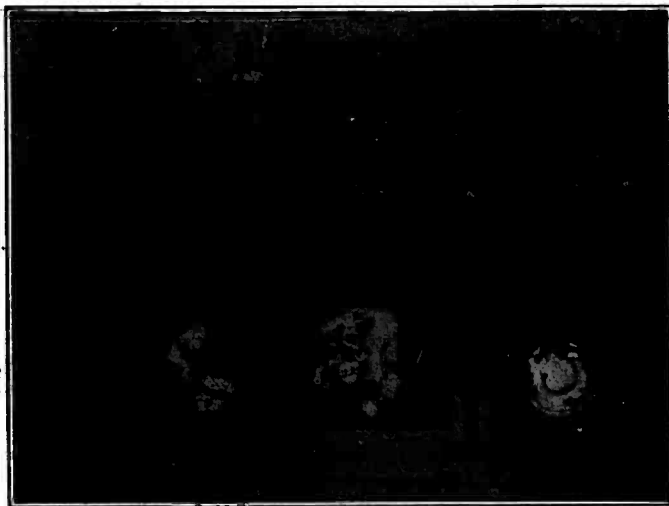
Recreation should give a sound body, a sound mind, and a sound environment. Physical exercises and training rules are safeguards. Mental recreation is also needed in the battle for normal sex life. Wholesome social recreation for men and women conserves stand-



The life process, nature study, and sex education as illustrated in the social hygiene exhibit.

ards of morality. Through education sound knowledge of social hygiene is diffused, plainly but delicately, without exaggeration or morbid suggestion, and with due regard for parental rights and religious convictions.

Throughout the exhibit the point was emphasized that children can safely be taught the essentials of sex through nature study without the undue stress that treatment as a separate subject of instruction might involve; and a number of attractive pictures, as well as live pets, were displayed to show how effective these methods could be.



Two of the charts in the Social Hygiene exhibit: The home as the first agency in education: one of the series of chapters on "Knowledge."

CARNEGIE INSTITUTION OF WASHINGTON.

The exhibit of the Carnegie Institution of Washington presented in definite form the work of the Departments of Experimental Evolution, Botanical Research, Entomology, Marine Biology, Terrestrial Magnetism, Meridian Astrometry, Economics and Sociology, and Historical Research, the Nutrition Laboratory, the Geophysical Laboratory, the Mount Wilson Solar Observatory, the Division of Research Associates, as well as the general plan and scope of this important scientific foundation.

The Carnegie Institution of Washington was founded by Andrew Carnegie on January 28, 1902, with an endowment of \$10,000,000, which was later increased to \$22,000,000. The institution was originally organized under the laws of the District of Columbia and incorporated as the Carnegie Institution, but was reincorporated by an act of the Congress of the United States, approved April 28, 1904, under the title of the Carnegie Institution of Washington.

Under the Department of Experimental Evolution the work of the laboratory at Cold Spring Harbor, Long Island, N. Y., and at Goose Island was described, especially studies in the theories of heredity of sheep, goats, cats, rats, poultry, canaries, pigeons, and various insects; beans, sunflowers, maize, poppies, etc.; and the study of heredity in man. For the Department of Botanical Research the work of the laboratory at Tucson, Ariz., and Carmel, Cal., was outlined.

The exhibit described recent work undertaken by the Department of Embryology in association with Johns Hopkins University. The Department of Marine Biology has a main laboratory at Tortugas, Fla., but temporary branch laboratories have been established at Nassau and at Andros Island (in the Bahamas), in Jamaica, and upon Murray Island, Torres Straits, Australia. The object of the department is to "pursue intensive studies upon problems of the tropical ocean, paying special attention to those of physiology, heredity, variation, and others lying in the borderland between biology and pathology."

Investigations in nutrition have been carried on, according to the exhibit, since 1913, and a laboratory especially designed for this purpose was completed at Boston in 1908.

The exhibit illustrated also the work of the Department of Terrestrial Magnetism, with its plan for a general magnetic survey of the earth, which began in 1904. A specially designed nonmagnetic ship, the *Carnegie*, of which a model was shown in the exhibit, has been engaged in the work since 1909. Her novel equipment and freedom from magnetism permit the making of precise magnetic

observations at sea, for navigational and scientific purposes, almost as readily as on land.

Investigations to determine the modes of formation and the physical properties of the rocks of the earth's crust; the endeavor through a southern observatory, located in South America, to secure accurate measure of the stars visible in the Southern Hemisphere; additional studies of the sun made at the Mount Wilson Observatory, near Pasadena, Cal.; studies in American economic history; investigation of the source of American history in foreign archives, are some of the activities of the institution as described in the exhibit.

EDUCATIONAL WORK OF THE CHURCHES.

Special attention was given in the 50 or more church exhibits to the school work of the different denominations.

The American Missionary Association emphasized the Corn Club work at Tougaloo University, Tougaloo, Miss. According to the exhibit of this association—

A wise democracy will not offer its masses merely the schools of the professional or leisure classes, but will multiply schools until there are enough to go around and thus one to fit each American group.

As an invitation to the fairer possibilities—because the best wealth of a nation is always its poor boys—all these diverse groups of schools will be "open at the top." The State, as destiny, must never forbid the university to any child because he is poor or black.

The association reported a total of 7,605 pupils under industrial instruction in its schools: Sewing, dressmaking, and millinery, 3,344; cooking and housekeeping, 1,352; mechanical industries, 1,101; printing, 54; agriculture (advanced), 415; elementary manual arts, 1,339.

Charts of the American Baptist Home Mission Society showed that the society began its work of education for the Negroes in 1862. Special emphasis has been laid upon the training of preachers and teachers. The society assists in the maintenance of 13 higher educational institutions and 10 secondary schools, with an enrollment of 7,491, and a teaching force of 197, of whom 107 were Negroes. Educational work is also done for the Indians and the people of Mexico, Cuba, and Porto Rico.

Colored charts described the work of the board of foreign missions of the Methodist Episcopal Church. Some of the educational work listed was as follows: Korea, mission established 1885, 6,136 students under instruction; China, mission dating from 1847, 17,807 students; Malaysia (mission founded 1885), 7,061 students; India (mission founded 1856), 39,309 students; Africa (mission founded 1833), 8,071 students; South America (mission founded 1836), 2,827 students; and Mexico (mission established 1876), 4,617 students.

In India the Bareilly Theological School, founded in 1872, has three departments: (1) Seminary course for men, (2) normal school for teachers, and (3) a woman's training school. The Woman's Home Missionary Society of the Methodist Episcopal Church maintains 11 industrial buildings and kindergartens, 25 mission schools, 3 national training schools, and 4 conference training schools for missionaries and deaconesses.

The Protestant Episcopal Church showed pictures of activities in St. Augustine's School, Raleigh, N. C.; St. Paul's School, Lawrenceville, Va.; and St. Philip's School, San Antonio, Tex., with emphasis on such practical activities as corn growing, sewing, and bench work.

The ideal training for social service was set forth from the point of view of the Protestant Episcopal Church by means of the diagram given herewith:

ABOUT SCHOOL CHILDREN

OF THE 100,000,000 SCHOOL CHILDREN IN THE UNITED STATES

1. 10,000,000 ARE 14-15 YEARS IN SCHOOL

2. 10,000,000 ARE 10-13 YEARS IN SCHOOL

3. 10,000,000 ARE 6-9 YEARS IN SCHOOL

4. 10,000,000 ARE 3-5 YEARS IN SCHOOL

5. 10,000,000 ARE 1-2 YEARS IN SCHOOL

6. 10,000,000 ARE 1 YEAR OR UNDER IN SCHOOL

7. 10,000,000 ARE 1 YEAR OR UNDER IN SCHOOL

8. 10,000,000 ARE 1 YEAR OR UNDER IN SCHOOL

9. 10,000,000 ARE 1 YEAR OR UNDER IN SCHOOL

10. 10,000,000 ARE 1 YEAR OR UNDER IN SCHOOL

THE OPEN-AIR SCHOOL ADVOCATES

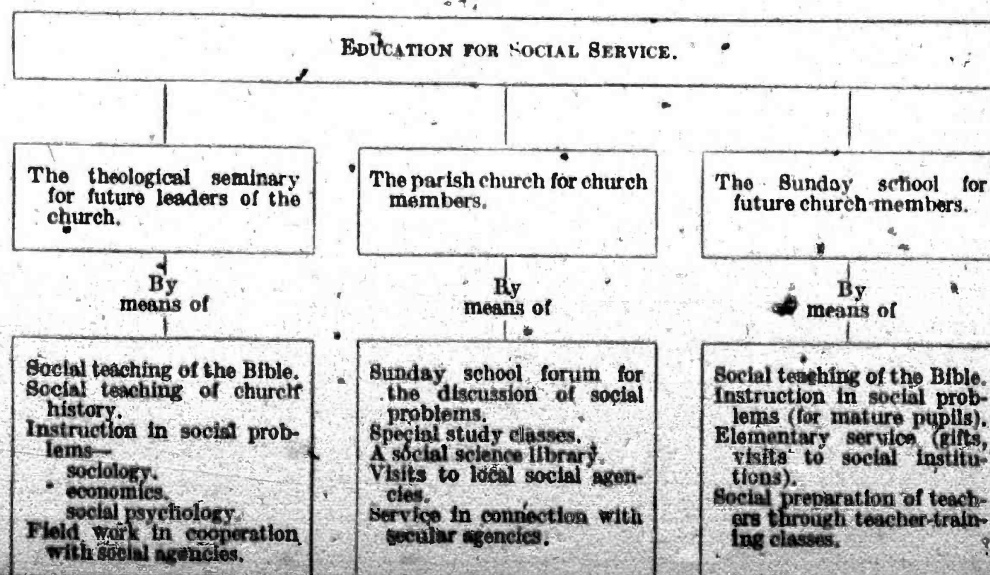
I. FRESH AIR AND HYGIENIC LIGHTS FOR 100% OF THE SCHOOL CHILDREN

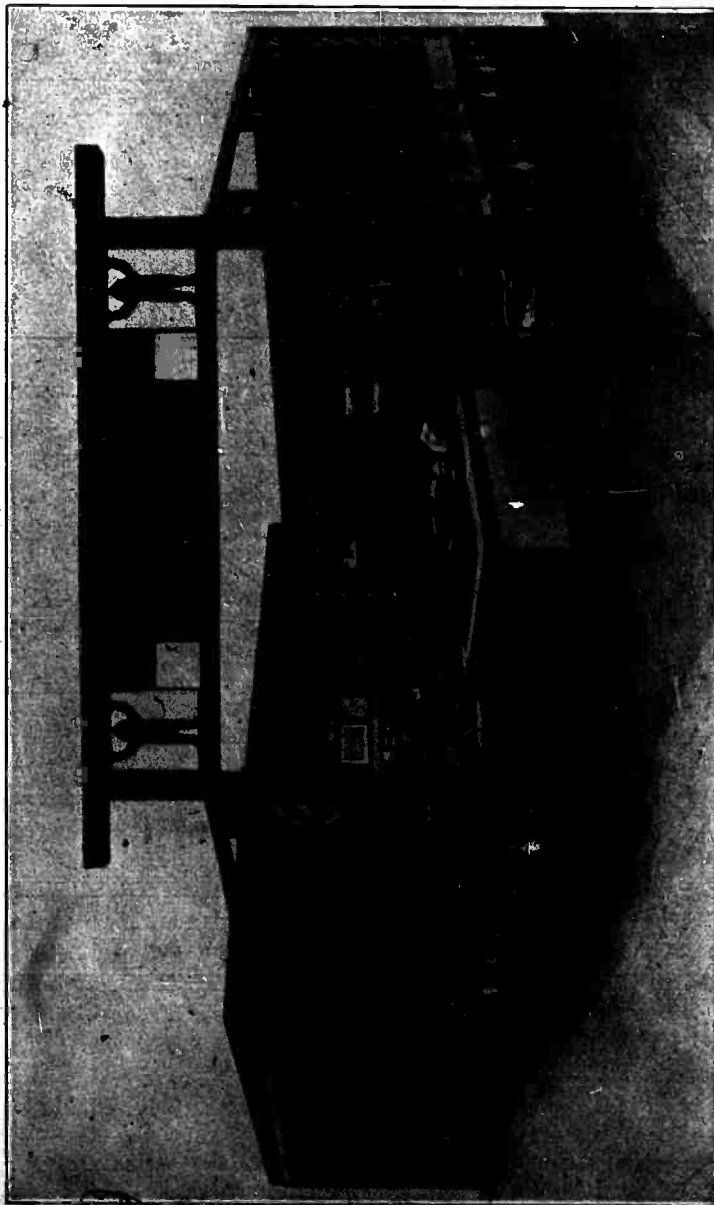
II. MEAL AND NURSING SERVICE ADEQUATE TO CONSERVE AND PROMOTE THE HEALTH OF 100% OF THE SCHOOL CHILDREN

III. A SYSTEM OF EXERCISE DESIGNED TO INSURE THE NECESSARY LEAD TO HEALTH & EFFICIENCY

WHAT SHALL IT PROFIT A CHILD IF HE GAIN THE WHOLE CURRICULUM AND LOSE HIS HEALTH?

The health challenge of the open-air school exhibit.





Open-air school exhibit of the Elizabeth McCormick Memorial Fund.

ELIZABETH McCORMICK MEMORIAL FUND.

Open-air schools were illustrated in the exhibit of the Elizabeth McCormick Memorial Fund, of Chicago. A model of an open-air school and grounds was shown, the school building being built on the unit plan. Life-size figures demonstrated proper clothing for use in the various phases of open-air school work. Miniature reproductions of the Chicago open-air schools and photographs of open-air schools from different nations indicated the world-wide spread of the open-air school movement.

"Fresh air, sunshine, food, rest, medical and nursing service, personal hygiene, recreation, study, comradeship" were some of the

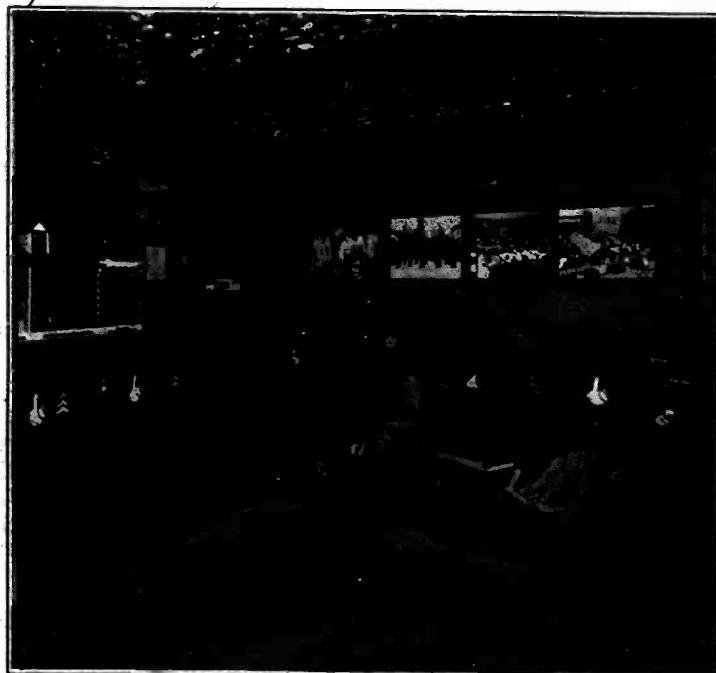


Model of an open-air school built on the "unit" plan.

fundamentals of the open-air idea as insisted upon in this exhibit, and the purpose of open-air school work was declared to be: "To weave together these different features in a process of education and a hygienic way of life." The model of the open-air school on display, it was explained, combined features found in various existing schools. The unit plan of building would allow for adjustment to take care of increased enrollment; each unit would accommodate 25 children.

The general object of the Elizabeth McCormick Fund, according to the exhibit, is to improve the conditions of child life in the United States. "It has made open-air school work and the physical welfare of school children one of its activities because it believes there are possibilities for promoting the 20,000,000 school children in the United States, which make this perhaps the most fruitful field for service to childhood." Legends in the exhibit called attention to the

fact that open-air schools have practically doubled in number each year since first introduced by Providence, R. I., in 1908. There are



A nearer view of a portion of the open-air schools exhibit. The figures illustrate types of wearing apparel, cots, desks, and other equipment for out-door work.

now more than 600 open-air and open-window classes in public and private schools, hospitals, and sanatoriums in the United States.

FINE, APPLIED, AND MANUAL ART EDUCATION.

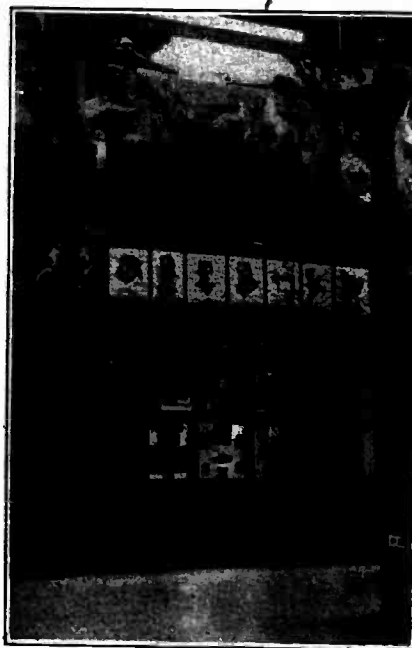
A special section of the Palace of Education was devoted to an exhibit of fine, applied, and manual arts education, made up of 63 separate exhibits and ranging from the simplest form of water-color work in the grades to painting from the finest workers of the professional art schools. Simplicity and sincerity were the predominant notes of the exhibit. On the one hand the level of taste in motives and treatment was high; on the other side, the emphasis upon the practical was marked. A center of interest was the suite of rooms furnished and decorated by pupils of the high schools. To illustrate, one room, a child's bedroom and playroom, was designed and furnished by the drawing and art departments of the State Normal School, San Jose, Cal. The rug was woven on 80 hand looms by students in the primary handwork department. Flowers and hangings were made by students in the millinery and sewing departments. The electrolier was designed and made by students

in manual work. Children of the fifth and sixth grades of the Normal Training School designed the chair cushion and made the toys. The chair cushions were embroidered by students in the normal art department. The children's drawings were done by the first and second grades training-school children.

Schools and institutions participating in the fine-arts exhibit included the Academy of Fine Arts, Chicago; Alameda public schools; Albany School of Fine Arts; the Art Institute of Chicago; Baltimore public schools; Berkeley (Cal.) High School; Bristol

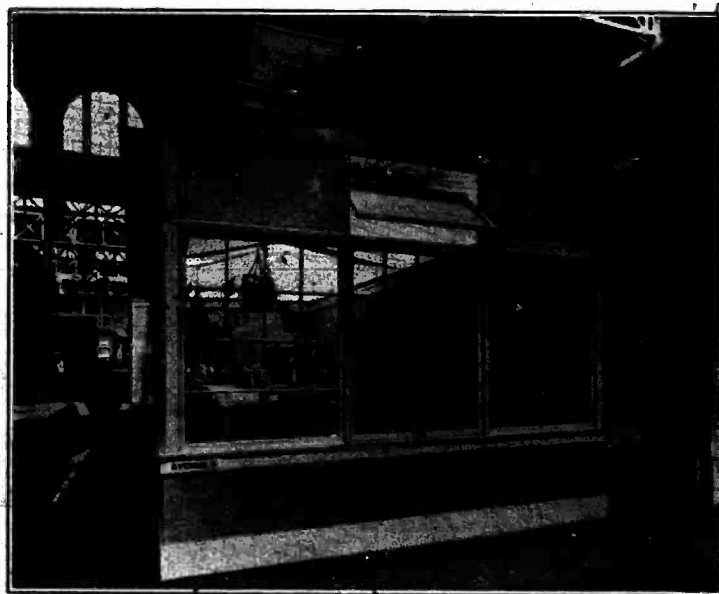
(Conn.) public schools; Chicago School of Applied and Normal Art; California School of Arts and Crafts; Chicago Normal School; Chicago public schools; Cogswell Polytechnic School, San Francisco; Crocker School, San Francisco; Crocker Intermediate School, San Francisco; De Kalb (Ill.) public schools; Denver public schools; East Orange (N. J.) public schools; E. Spencer Mackay School, San Francisco; Eben Comins School of Art, Boston, Mass.; Gloucester (Mass.) public schools; public schools of Gulfport, Miss.; Harvard University; Horace Mann School, San Francisco; Ohio Mechanics Institute, Cincinnati, Ohio;

Intermediate School, Oakland, Cal.; Jamestown (N. Y.) public schools; Leland Stanford, jr., University; Los Angeles public schools; Los Angeles High School; Lowell High School, San Francisco; Minneapolis Institute of Art; Minneapolis public schools; Minneapolis School of Art; Mission High School, San Francisco; University of Nevada; Newark (N. J.) public schools; Northern Illinois State Normal School; Oriental School, San Francisco; Polytechnic High School, San Francisco; Salt Lake City public schools; Ralph Johnnot Studio; Richmond (Cal.) High School; Richmond (Cal.) public schools; San Francisco Institute of Art; Santa Barbara (Cal.) High School; Seattle (Wash.) High



A corner of the art exhibit in the Palace of Education.

School; Sophie Newcomb College, New Orleans; Springfield (Mass.) High School; the California State normal schools at Los Angeles, San Jose, and Santa Barbara, Cal.; the State normal school at Warrensburg, Mo.; St. Louis public schools; St. Louis School of Fine Art; St. Paul Institute of Art; St. Walburgs Academy; Syracuse University; Teachers College, Columbia University; Trade School,



Glass enclosure in which the Montessori demonstration class was held.

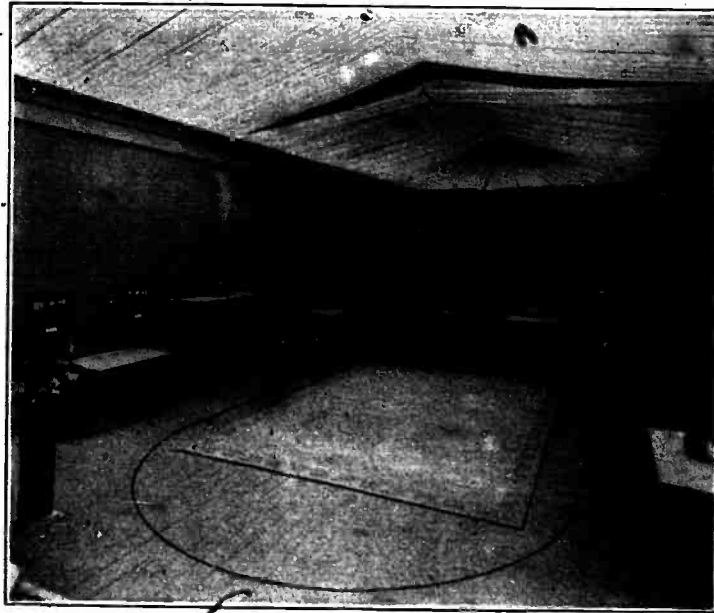
Hospital of Hope, New York; Union High School, San Mateo, Cal.; Wilmerding School; West Division High School, Milwaukee, Wis.; West High School, Minneapolis, Minn.

THE MONTESSORI DEMONSTRATION SCHOOL.

A glass enclosure in the center of the Palace of Education housed the Montessori demonstration school, which was operated for a period of six weeks in connection with the Montessori training class of the exposition. Dr. Montessori and two assistants conducted the demonstrations.

The school began on August 4 with an enrollment of 30 children. The daily average attendance during the six weeks of school was 24. Several of the children were just three years of age, and three had just passed their sixth birthday; the others were between three and six. In connection with the demonstration school a number of conferences were held at which Mme. Montessori answered, through an interpreter, numerous questions raised by teachers and parents.

While the demonstration was carried out under such artificial conditions that it was difficult to obtain accurate impressions of the true value of the Montessori work, visitors could not but be impressed with the attractiveness of the surroundings—the harmonizing color effects; simple, tasteful furniture; and the delightful manner of the directress.



Interior of the Montessori room. The color scheme was lavender; the furniture a pearl gray.

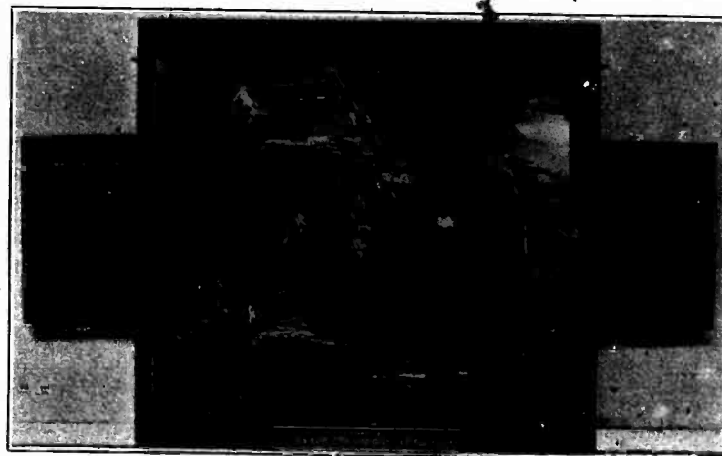
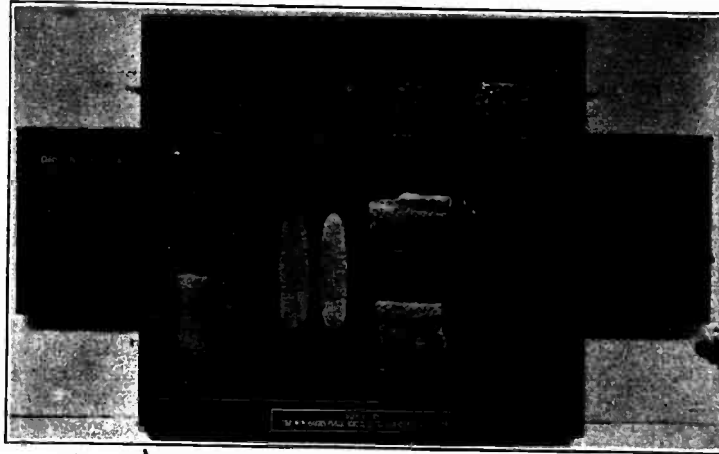
N. W. HARRIS PUBLIC SCHOOL EXTENSION.

The significant school-extension work that can be done by a large city museum was illustrated by the exhibit of the N. W. Harris Public School Extension of the Field Museum of Natural History, Chicago. Convinced that the influence of the Field Museum, already one of the great museums of the world, could be extended to reach into the classrooms of the public schools and affect more closely the daily lives of the school children, Mr. N. W. Harris, of Chicago and Pasadena, Cal., established a fund of \$250,000 for the establishment of cooperative work with the schools. As a result of this foundation collections of birds and small animals, of useful and rare plants, and of objects illustrative of economic geography are distributed to the public schools of Chicago and made an integral part of the educational facilities of the city.



General view of the exhibit of the N. W. Harris Public School Extension of the Field Museum of Natural History, Chicago.

The display at the exposition included typical cases of exhibits furnished by the museum. These cases are distributed by automobile to the various schools, where they may remain two weeks, upon the expiration of which time they are changed for others. Racks pro-



Two of the cases of exhibits furnished by the Harris Extension to the Chicago public schools. Upper picture, origin of coal; lower, the water snake.

vided by the Chicago School Board serve for display of the cases, and when not occupied by cases, the racks serve for display of a placard explaining the scope and design of the museum, how it may be reached, etc.

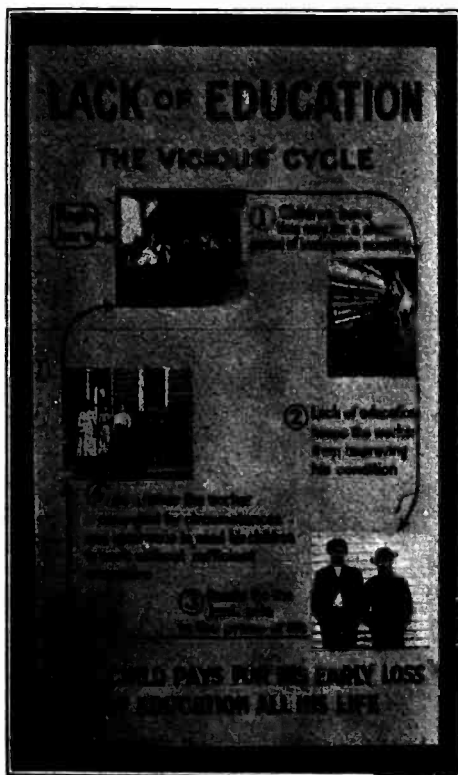
NATIONAL CHILD LABOR COMMITTEE.

The exhibit of the National Child Labor Committee touched the school side of the problem at several points. Attention was called to the fact that the child who works can not have adequate schooling,

even if his work is done outside of school hours.

"But many in the cotton mills, in shrimp and oyster canneries, and in other occupations scattered through the States with poor child-labor laws are deprived of schooling. Their work does not take the place of school, and they too often grow up illiterate, inefficient, and ultimately unemployable."

Under the caption "Compulsory education and child-labor reform," the exhibit pointed out that States with the largest percentage of children 10 to 13 at work have also the largest percentage of illiterates. Together, good child-labor laws and good compulsory-education laws decrease illiteracy and crime,



A significant chart from the child labor exhibit.

increase earning power, elevate citizenship, and make real democracy possible.

Continuation schools were urged for all working children under 18 years of age. There are 1,990,225 children under 16 at work in the United States to-day, according to the figures given at the exhibit; 817,800 of these are working in nonagricultural occupations or are hired out to work on farms.

The following table indicates the child-labor situation in the various States as summarized for the exhibit:

WHERE DOES YOUR STATE STAND?

States which have no 14-year limit in factories or a 14-year limit with exemptions:

*California.	North Carolina.
*Colorado.	South Carolina.
*Delaware.	*South Dakota.
*District of Columbia.	*Tennessee.
*Georgia.	*Texas.
*Idaho.	*Utah.
*Indiana.	*Vermont.
*Maryland.	*Virginia.
*Mississippi.	*Washington.
*New York.	*West Virginia.
New Mexico.	Wyoming.

NOTE.—States marked * have a 14-year limit with exemptions.

States which have no 16-year limit for night work in factories or a 16-year limit with exemptions:

*Colorado.	*Tennessee.
Georgia.	Texas.
*Maine.	*Utah.
*Maryland.	*Virginia.
*Mississippi.	Washington.
Nevada.	West Virginia.
New Mexico.	Wyoming.
South Dakota.	

NOTE.—States marked * have a 16-year limit with exemptions.

States which have no 8-hour day for children under 16 in factories, or States which have an 8-hour day with exemptions:

Alabama.	Maryland.
*Colorado.	Michigan.
Connecticut.	*Mississippi.
Delaware.	New Hampshire.
Florida.	New Mexico.
Georgia.	North Carolina.
Idaho.	Oregon.
*Indiana.	Pennsylvania.
Louisiana.	Rhode Island.
Maine.	South Carolina.

NOTE.—States marked * have an 8-hour day with exemptions.

States which have 10-year limit in mines and quarries or a 10-year limit with exemptions:

Delaware.	*Louisiana.	New Hampshire.	*South Dakota.
District of Columbia.	Maine.	*New Jersey.	*Utah.
*Florida.	*Massachusetts.	*New Mexico.	*Vermont.
*Georgia.	*Michigan.	North Carolina.	*Virginia.
*Idaho.	*Minnesota.	North Dakota.	*West Virginia.
*Indiana.	*Mississippi.	Oregon.	*Wyoming.
*Iowa.	*Nebraska.	Rhode Island.	
*Kansas.		South Carolina.	

NOTE.—States marked * have a 10-year limit with exemptions. States marked † have mining products valued at \$2,500,000 a year or over.

CONTINUATION SCHOOLS

Working children
go to school
part of the time



Employers spare them
a few hours each week
out of their work time
without reducing wages



CHILDREN GET
A better chance for promotion
EMPLOYERS GET
Increased efficiency in workers
School work is related to shop work
HENCE
The child becomes
an intelligent workman
and a better citizen

**EDUCATION IS THE ENEMY
OF CHILD LABOR**

The value of continuation schools as set forth in the exhibit of the National Child Labor Committee.

South Dakota.	Virginia.
Tennessee.	*Washington.
Texas.	West Virginia.
Utah.	Wyoming.
Vermont.	

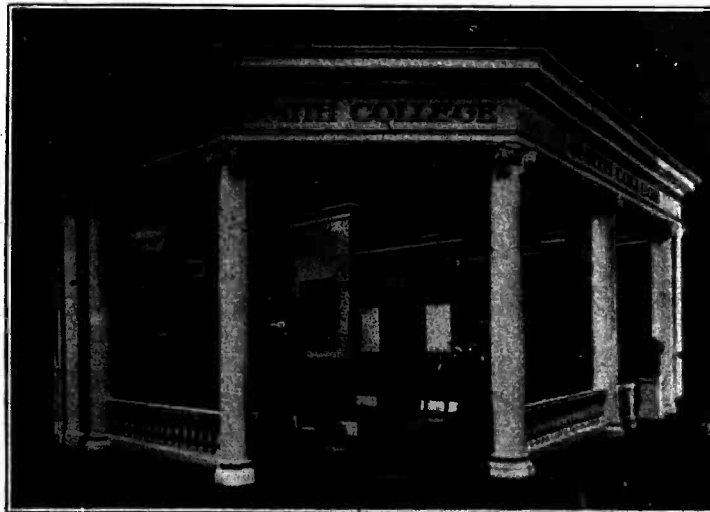
ROCKEFELLER FOUNDATION INTERNATIONAL HEALTH COMMISSION.

"Teaching by demonstration" was the keynote of the International Health Commission exhibit. Wax models, pictures, and other devices were used to show the ravages of hookworm disease and the campaign of eradication that has been waged. During the five-year campaign, according to statistics presented at the exhibit, more than half a million children of school age (6 to 18, inclusive) were examined for hookworm disease in 11 Southern States. As a result, 216,828, or 39 per cent, were found infected. In other words, two out of every five children of school age were found to be infected. It was pointed out that infection means: Impaired health; greater susceptibility to other diseases; stunted body; dulled mind; diminished results of teaching; blighted manhood and womanhood.

Other features of the exhibit illustrated the improvement in community well-being wrought by the substitution of sanitary conditions for insanitary.

SMITH COLLEGE.

The Smith College exhibit was designed to set forth the developments in higher education for women. Charts were presented to



The Smith College exhibit.

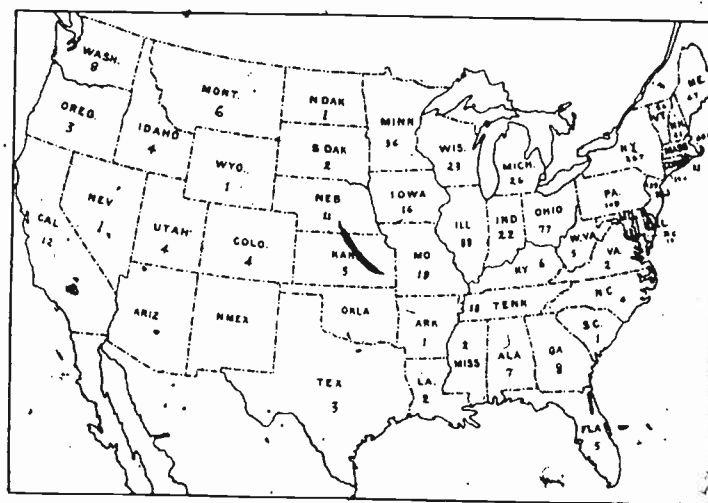
show the increase in number of students, the ratio of elective to required work, the type of work offered, and work taken for 1914-15, and the geographical distribution of students. The distribution of subjects and subject hours was of special interest. The following

table shows the number of students in each of the four classes (1918, 1917, 1916, and 1915) taking each subject, with the average number of student hours taken by each:

Number of students taking the various subjects. Student hours taken by each class.

Subjects.	1918		1917		1916		1915		Totals.	
	Stu- dents.	Hours.	Stu- dents.	Hours.	Stu- dents.	Hours.	Stu- dents.	Hours.	Stu- dents.	Hours.
Art.....	162	207	62	96	164	372	169	401	567	1,076
Astronomy.....	17	51	18	54	15	38	15	45	65	188
Bible.....	57	132	336	766	24	60	18	54	435	1,018
Botany.....	50	150	43	128	48	148	33	115	174	541
Chemistry.....	59	172	89	266	27	82	17	58	192	578
Economics.....	2	6	5	15	157	458	124	384	288	863
Education.....					11	33	82	246	93	279
English.....	443	967	263	716	201	756	198	827	1,105	3,326
French.....	349	1,048	305	909	115	353	83	280	752	2,280
Geology.....	6	14	19	42	7	20	25	72	57	148
German.....	276	830	151	456	110	346	84	297	621	1,929
Greek.....	42	124	20	54	27	75	20	44	109	297
History.....	210	435	302	659	169	584	159	657	840	3,335
Italian.....			8	24	13	41	14	42	35	107
Latin.....	528	1,588	51	125	24	75	21	73	624	1,863
Mathematics.....	518	1,554	35	105	27	84	24	85	604	1,830
Music.....	86	228	79	207	86	245	69	176	320	856
Philosophy.....	4	12	40	60	300	902	99	301	423	1,275
Physics.....	58	174	91	272	55	167	12	38	216	651
Spanish.....	3	9	13	39	26	85	25	78	67	209
Spoken English.....	186	373	85	171	68	165	43	85	382	794
Zoology.....	32	96	53	159	66	194	47	134	198	583

The map reproduced herewith shows the geographical distribution of Smith College students in 1914-15, the figures indicating the



Geographical distribution of Smith College students.

number of students from each State. In addition to those shown on the map, four came from the Territory of Hawaii, and one each from Ontario, Province of Quebec, British Columbia, China, and Turkey.

ST. LOUIS EDUCATIONAL MUSEUM.¹

The exhibit of the St. Louis Museum was designed to show its work with the public schools. Typical exhibits furnished by the museum to the school were shown and a working model pictured the system of automobile deliveries between the museum and the school buildings.

The material in the museum is arranged and grouped in accordance with the course of study followed in the schools.

The material is sent to the schools by a large automobile truck in the service of the museum. The schools are divided into five sec-



St. Louis Educational Museum. The moving automobile on the rear wall illustrated the method of distributing museum material to the schools.

tions, each of which has a delivery day once a week. The principal of a school which has its delivery day on Monday asks his teachers on the preceding Friday to send him the numbers of all the collections in the museum catalogue they will need for the illustration of their lessons during the following week. These numbers he inserts in an order blank for the curator, and on the following Monday the wagon delivers the material at the school, taking back at the same time the collections used during the previous week.

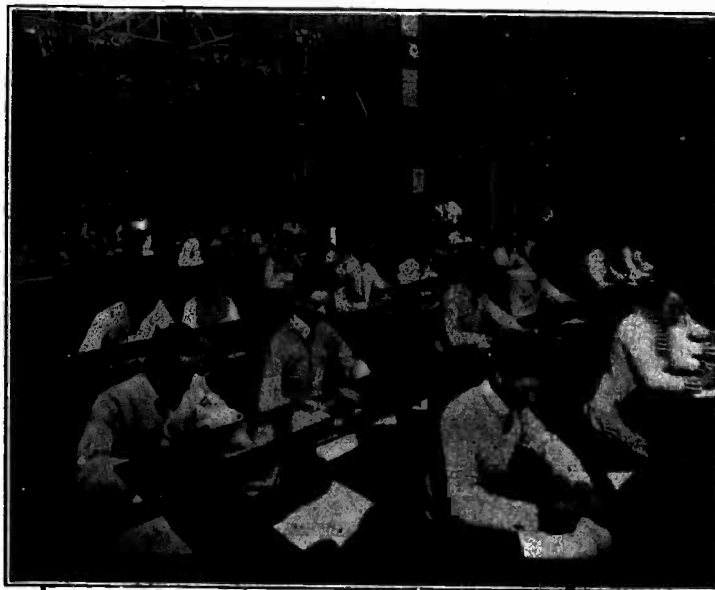
The method is further described as follows in a pamphlet distributed at the exhibit:

¹ The plan is described in detail in Bulletin, 1914, No. 48, of the Bureau of Education.

The material is not simply shown the children as new and extraordinary things to satisfy their curiosity. The specimens of mammals, birds, insects, etc., the minerals, the natural and manufactured products of a country, in geography, for instance, are placed before the children to verify what they themselves have discovered through their own observation and reasoning as to the animal and vegetable life, the soil products, and the occupations of the people. The objects are handled, observed, studied, compared with each other and with such as have been considered in connection with other countries, and generally discussed. The pupils determine how the products before them affect the life of the people, their industries and commerce, their intercourse with other nations, their place among the nations, etc. In many schools each child takes up one of the articles and by his reading gathers all the information he can regarding it and presents such information to the class. At the present time the museum is delivering from four to six loads of a 1-ton auto truck to the schools of St. Louis daily.

STANDARD COMMERCIAL SCHOOL.

The "Standard Commercial School" was a living exhibit of the methods and equipments of modern commercial education of second-



The Standard Commercial School of the Panama-Pacific Exposition in session.

ary grade. Forty students, selected by competitive examination from California high schools, took a regular six-months course of stenography, typewriting, and business methods in specially prepared rooms in the Palace of Education and were graduated at the close of the period with appropriate ceremonies. The object of the exhibit was to make it possible for school officials to see a standard school

actually at work and thereby gain suggestions on the organization and maintenance of a commercial department.

A view of the Standard Commercial School is given on page 107. The exhibit covered 3,000 square feet of space, marked off by glass partitions, with a balcony for visitors and a special booth for practice and training. The purpose of the exhibit was declared to be: "Not to show what a few sensational masters of shorthand and typewriting can do, but to point out the possibilities for young boys and girls of a thorough business training, if they have the necessary foundation for the work."

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BULLETIN OF THE BUREAU OF EDUCATION.

Note.—With the exceptions indicated, the documents named below will be sent free of charge upon application to the Commissioner of Education, Washington, D. C. Those marked with an asterisk (*) are no longer available for free distribution, but may be had of the Superintendent of Documents, Government Printing Office, Washington, D. C., upon payment of the price stated. Remittances should be made in coin, currency, or money order. Stamps are not accepted. Numbers omitted are out of print.]

1906.

- *No. 3. State school systems: Legislation and judicial decisions relating to public education, Oct. 1, 1904, to Oct. 1, 1906. Edward C. Elliott. 15 cts.

1907.

- *No. 1. The continuation school in the United States. Arthur J. Jones. 15 cts.

1908.

- *No. 6. The apprenticeship system in its relation to industrial education. Carroll D. Wright. 45 cts.
- No. 8. Statistics of State universities and other institutions of higher education partially supported by the State, 1907-8.

1909.

- No. 2. Admission of Chinese students to American colleges. John Fryer.
- *No. 3. Daily meals of school children. Caroline L. Hunt. 10 cts.
- No. 5. Statistics of public, society, and school libraries in 1908.
- No. 7. Index to the Reports of the Commissioner of Education, 1867-1907.
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- *No. 2. State school systems: III. Legislation and judicial decisions relating to public education, Oct. 1, 1908, to Oct. 1, 1909. Edward C. Elliott. 25 cts.
- *No. 5. American schoolhouses. Fletcher B. Dresslar. 75 cts.

1911.

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- *No. 3. Agencies for the improvement of teachers in service. William C. Ruediger. 15 cts.
- *No. 4. Report of the commission appointed to study the system of education in the public schools of Baltimore. 10 cts.
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- *No. 1. A course of study for the preparation of rural-school teachers. F. Mutchler and W. J. Craig. 5 cts.
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- *No. 17. The Montessori system of education. Anna T. Smith. 5 cts.
- *No. 18. Teaching language through agriculture and domestic science. M. A. Lelper. 5 cts.
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- *No. 28. Cultivating school grounds in Wake County, N. C. Zebulon Judd. 5 cts.
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- *No. 30. Latin-American universities and special schools. Edgar E. Brandon. 30 cts.
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- No. 1. Monthly record of current educational publications, January, 1913.
- *No. 2. Training courses for rural teachers. A. C. Monahan and R. H. Wright. 5 cts.
- *No. 3. The teaching of modern languages in the United States. Charles H. Handsehn. 15 cts.
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- *No. 22. Bibliography of industrial, vocational, and trade education. 10 cts.
- *No. 23. The Georgia club at the State Normal School, Athens, Ga., for the study of rural sociology. E. C. Branson. 10 cts.
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- *No. 38. Economy of time in education. 10 cts.
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