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THE AMERICAN RURAL SCHOOL



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THE

AMERICAN RURAL SCHOOL

ITS CHARACTERISTICS, ITS FUTURE AND ITS PROBLEMS

BY

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To

THE THOUSANDS OF CONSCIENTIOUS HARD-WORKING TEACHERS

WHO ARE CONSECRATING THEIR LIVES

TO LABOR IN RURAL COMMUNITIES

THE HOME OF THE NORMAL AMERICAN LIFE

DEVOTING THEIR BEST ENERGIES

TO PREPARE OUR

TWELVE MILLION COUNTRY BOYS AND GIRLS

FOR USEFUL CITIZENSHIP

THIS BOOK

IS AFFECTIONATELY DEDICATED

BY THE AUTHOR

PREFACE

THIS book is intended for rural school teachers, superintendents, and schoolboard members; for teachers' reading circles, normal school training classes, and all the public at large who are interested in the profound movement to make our American rural life richer and its labor more effective by means of schools adapted to the changing needs of rural society and the demands of modern life.

So far as the public school is concerned the term *movement* is here used advisedly. It is not used in the destructive sense. It does not seek out a new base for school conduct, nor does it run counter to established laws of life and growth. On the contrary, it is constructive in its use. It aims at fundamental harmony by facing the rural school away from the many artificial interests which have hampered the usefulness of this institution in the past. Indeed, the new movement strives to place the school where the school inherently belongs — in the midst of natural interests where it can prepare the youth for sane, wholesome lives on the farm — the only normal American life of our day.

Broadly speaking, no other subject is now engaging so much public attention as is the movement to organize rural life. With his usual clearness of vision, President Roosevelt sizes it up in these words: "With the single exception of the conservation of our natural resources, which underlies the problem of our rural life, there is no other material question of greater importance now before the American people." Our National Executive some time ago appointed a commission of experts on rural life to investigate and report its needs, with recommendations for improvement. This commission has just made a voluminous report which sets living and achieving in rural communities in their right relation to our national life. While sensible and suggestive rather than drastic and revolutionary, the report is so thoroughgoing in its questionings that we may indeed look to see "the benefits of organization, of coöperation, of quick travel, of swift communication, all the machinery to prevent waste of time and effort," which are even now part and parcel of urban life, applied to the entire length and breadth of rural life.

The social philosophers have outlined for us our task. They have indicated needed reforms and suggested remedies. They may even induce government to furnish the material means of reform. But it is the rural teachers, after all, who must bear the brunt of the change. The real reform must begin with the hearts and minds and hands of the rural youth. To make them receptive to the con-

templated changes, to fit them to make use of the material means placed at their disposal, to inspire them with a genuine love for the soil and all that goes with it — these, and many similar problems, are, and must largely remain, the teachers' work.

It is the author's conviction that teachers should be more conversant with rural school history and know more about the educational problems now looking toward solution. If they were generally familiar with the educational activities and impulses manifesting themselves in other rural communities, teachers could coöperate to better advantage and accomplish better results. The same is true of all others whose interests lie in the schools. If superintendents had a stronger grasp on the many perplexing problems come from supervision of schools; if school boards realized as they should the surpassing importance of their duties in the administration of school affairs; if the general laity could but half know the dire consequences of parsimony and closefistedness in school support, — if all these were so, many of the stumbling blocks in the way of rapid improvement would be cleared away.

This book was penned in the hope that earnest teachers and school officers might find in it some help in solving the questions set forth above. It is not a treatise on school methods nor yet on school management. It partakes more of the nature of an educational history, setting forth what has already been accomplished, indicating what is

yet to be done. It points out shortcomings in prevailing systems and suggests, wherever possible, remedies which can be applied profitably.

The author realizes that he is not the pioneer in this field. Others have been here before him. He has made free use of the experience and conclusions of all such, adding his own mite when and where he could. The book shall not have been in vain if he succeed in some small measure in shedding light on this greatest of twentieth-century problems.

H. W. F.

ATCHISON, KANSAS,
July, 1909.

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TWENTIETH-CENTURY NEEDS OF AMERICAN COUNTRY LIFE

As discovered by the Country Life Commission and summarized by President Roosevelt in a special message to Congress in 1909: —

"First, effective coöperation among farmers, to put them on a level with the organized interests with which they do business.

"Second, a new kind of schools in the country, which shall teach the children as much outdoors as indoors and perhaps more, so that they will prepare for country life, and not, as at present, mainly for life in town.

"Third, better means of communication, including good roads and a parcels post, which the country people are everywhere, and rightly, unanimous in demanding.

"To these may well be added better sanitation; for easily preventable diseases hold several million country people in the slavery of continuous ill health."

THE AMERICAN RURAL SCHOOL

CHAPTER I

Introduction: The Problem Stated

It is conceded by students of education generally that the great desideratum of the times is a proper solution of the rural school problem. Secondary and higher education within our country have attained a satisfactory degree of excellence and efficiency. Modern unification and standardization have wrought marvelous things for the internal development of such institutions. Public liberality and private philanthropy have succeeded in making the schools an expression of the great material prosperity, and forward and upward movement so peculiar to our present-day American civilization. The universities, denominational colleges, and professional schools are definitely established and have acquired an educational momentum sufficient for all purposes. Graded schools, in city and village alike, have reached a stage of development or evolution so satisfactory that their future is practically assured.

Pathetic Story of the Rural School. — While the public attention has been centered on work and plans for the im-

provement of city schools, a great factor for or against the public weal has been sadly neglected. This is the rural school. All well-informed persons agree that conditions in the rural schools are not to-day what they should be for the proper training of the twelve million boys and girls growing up in rural communities. One half of our entire school population attend the rural schools, which are still in the formative stage. And at least 95 per cent of these children never get beyond the district school. The country youth is entitled to just as thorough a preparation for thoughtful and intelligent membership in the body politic as is the city youth. The state, if it is wise, will not discriminate in favor of the one as against the other; but it will adjust its bounties in a manner equitable to the needs of both.

Heretofore, the rural schools have received very little attention from organized educational authority. Whatever has been accomplished may be credited to local initiative; whatever has been neglected may be traced to general apathy and indifference. As a result, in some sections of our broad land, there has long existed a state of affairs bordering dangerously close on educational coma. It is not putting facts in too strong a light to say that vast numbers of our rural boys and girls are annually turned out by the schools systematically dwarfed through more or less purposeless courses of study, leaving them poorly prepared for the life struggle.

All Rural Schools not Bad; all Rural Teachers not Inefficient. — Of course, all district schools are not bad and all rural teachers are not inefficient. We have, indeed, many excellent schools in farming communities. Many capable, painstaking teachers are spending their lives there, giving the best there is in them for the children of the farm. Yet the fact remains that a majority of rural schools are badly equipped for school purposes, and a majority of teachers are lacking in both academic and professional training. It is conceded, too, that a great many men of eminence, scholars, statesmen, and professional men got their early training, and in many instances all their training, in the old-fashioned district school. But this can hardly be taken as proof of the general efficiency of such schools. Many things conspire to prove that these men had the native ability and talent to succeed not so much on account of the district schools as in spite of them.

Cause of these Conditions. — These unsatisfactory educational conditions must not be charged as a reflection on the character or public spirit of our farm population, as they are largely the result of unavoidable circumstances. The early settlers on the Atlantic seaboard had their battle with the wilderness. Then the period of intense struggle before and after the Revolutionary War kept the impoverished people in no condition to solve effectively the educational problem staring them in the face. Ever since the first hardy pioneers crossed the Alleghenies on their west-

ward march, like conditions have prevailed. On prairie and plain every energy has been centered on redeeming the soil to the cause of civilization. Under such stress of economic and social effort the rural school has been sorely neglected. But now, with the opening of the new century, the great westward migration is nearing the end, and we are to all practical purposes a settled people. Under such circumstances we might soon, with reason, look for a fixity of conditions in rural communities, such as is found in urban centers. But, unfortunately, other factors of far-reaching consequences upset our expectations, the chief being, perhaps, the startling disintegration of rural population and influx to the larger cities.

Disintegration of Rural Population. — Man is by nature gregarious. He only follows natural instincts when he seeks the large centers of population where he can enjoy a keener social existence. In primitive times agricultural tribes reared walled towns for defense against predatory tribes. These became the cradles of industrial, commercial, and political life. The city and city state have from the beginning played an important rôle in history, though it was not before the opening of the last century that the growth of urban life at the expense of rural communities became in any way marked.

For a half century the cityward movement has been on the rapid increase. This is to-day a universal condition. European countries are all experiencing an unexampled

growth of cities. In the United States the problem is even more serious. The affixed table illustrates graphically the startling urban tendencies in our country: —

Year	Total Population	Urban Population of Cities of 8000	Number of Places	Per cent of Urban Total
1790	3,929,214	131,472	6	3.4
1850	23,191,876	2,897,586	85	12.5
1870	38,558,371	8,071,875	226	20.9
1880	50,155,783	11,318,507	286	22.6
1890	62,622,250	18,272,503	447	29.2
1900	75,468,039	24,992,199	545	33.1

A glance at these figures shows that the urban population has increased in a little over a century from 3.4 per cent to 33.1 per cent. Unofficial figures for 1908 indicate a further increase to about 38 per cent. The government reports take into consideration only cities with a population of 8000 and upward. If all incorporated cities were counted, the total per cent of urban growth would be materially increased.

Changes in Industrial Life. — Such phenomenal growth of cities has been coincident everywhere with growth in manufacturing industries. These latter have produced modern, labor-saving machinery for the farm, and have consequently reduced the demand for farm hands. Factory-made wares and cheap transportation have sounded the death-knell of many local industries which in the olden time flourished at every cross-road. Rural crafts-

men were formerly in great demand in making and repairing farm instruments, in cabinet making, in fact, in upbuilding the entire farm place. Their occupation is now gone, and they have flocked to the cities. Worst of all, untold numbers of farm youth, without whom the rural communities will languish, are drawn thither by the glamour of city life and its many flattering opportunities for advancement.

Finally, in direct ratio as the rural population decreases the size of farms increases. The tendency is in the direction of increasingly extensive machine farming rather than toward the intensive small farming which many have long hoped to see realized, and which *must* be realized before the rural problem is finally settled. Figures show that for the twenty years from 1880 to 1900 the average size of farms for the whole country increased almost 10 per cent.

The City a Positive Menace to Country Life. — Just how far this depletion of the rural population shall go, no one can say. But this is certain, the present tendency is toward yet larger farming units, and every indication points toward a still further decrease in population. City life is terribly devitalizing. In its artificial, hot-house atmosphere the human organism literally starves and early deteriorates. Into this life, then, our best country boys and girls are thrown annually by hundreds of thousands — their manifest destiny to reënforce the ebbing vitality

of city life. The infusion of the sturdy country stock into the city assures a continuation of city prosperity and progress. But at what an awful cost! *American Medicine*, an excellent authority in this field, speaks editorially thus: "City life is very deadly to the young, a fact known to anthropologists for a long time, and we are now in a fair way to explain the phenomenon. For hundreds of years country families have flocked to the towns, to die out in a few generations, so that cities are said to be the consumers of rural populations. A man raised in the country seems to stand the unknown strain, but his children sometimes perish long before he does. Every physician knows of these disappearing families where the country-bred parents survive all their city-bred children."

"The City and Country express the Equation of Life." — After such forceful statements it is in place to emphasize here that "the city and country express the equation of life, a weakness in one member means the ruin of both. Each must supplement, but not destroy, the other, and both must be preserved." Whatever may be said about the devitalizing effects of city life upon the individual from the farm, this truth remains, that the welfare of the one is closely bound up with that of the other. The farm produces the raw material and demands the manufactured product in return; the city supplies a market for the farm output and expects a market for its own finished product. We have here the ancient fable of *the Body and the Members*

retold. As well might we expect the "body" to remain well nourished and healthy after the "members" had struck work and refused to supply the stomach with food, as to expect the body politic to thrive and wax strong while its members, the city and country, failed to work in harmony. There is every reason to believe that the city-ward tide will soon abate. A state of equipoise between city life and rural life must be reached in a not distant future. Several factors are quietly at work to relieve the situation. The city will never resound with a cry of "back to the country," that is certain; those who are in the city now will remain there. But, as we shall see below, both nature and man are doing what they can to organize rural life as a perfect member in our equation of national life.

The United States preëminently Agricultural. — President Roosevelt believes that the most pressing question of a material nature now before the American people is the conservation of our natural resources. We have certainly been prodigal of the vast stores of natural wealth placed at our disposal. We have been wasteful. The proud forests exist no more; gas and oil fields are becoming drained; coal and other mineral deposits are generally exploited. We have misused the sacred right of eminent domain, and public utilities have gone to the most persistent and crafty jobber. Now we stand face to face with changing conditions. The natural competencies which

the forefathers got for the taking, the sons of the later day must earn through the sweat of their brow. The future will not be chary; but she will expect labor, and intelligent labor at that, by all who would succeed. Profits are sure to become smaller, and competition keener. Gradually, it would seem, the demands for industrial labor will decline. Then the cityward migration will lessen and perhaps cease altogether. Then the agriculturist will come to his own.

The United States is preëminently an agricultural nation. While the choicest parts of the public domain have long been settled, and even semi-arid Indian reservations are going fast, there is room here for hundreds of millions yet unborn. Dry farming and irrigation will increase manifold the tillable areas in the West. Systematic drainage will do as much for the South. Twentieth-century agriculture must become scientific and intensive — smaller farming units and better farming, the aim.

The Rural School Problem not wholly Educational. — The rural school problem in our country is not wholly an educational problem in the general meaning of that term. It has to deal with a great many subjects besides ordinary schoolroom practice, school administration, and supervision. Issues of an economic and sociological nature arise, which seek solution in part in the school, in part from without. The problem is thus more than educational. The new movement in the schools must not be looked

upon as an end in itself, but as a means to the end of organizing rural life. Here the rural teacher must work hand in hand with the social philosopher. In many ways their fields of activity coincide and their interests blend. One can hardly conceive of improving the intellectual and ethical without improving the material and social, and *vice versa*. Indeed, their aim *is* the same — the improvement of all rural conditions and activities, whether they be intellectual or social, material or ethical. The main difference lies in the point of attack and methods of procedure. The teacher's work is from within, with the child in school; the social philosopher proceeds from without and deals mainly with the parent. The former begins at the fountain source — the child mind and child heart — and prepares the children for the new rural life; but without this impulse from without, furnished by the reformers in high places, the work of winning over the parents, of convincing them of the need of change, would be both difficult and slow.

President Roosevelt's Commission on Rural Life. — President Roosevelt's commission on rural life has endeavored to arrive at an exact understanding of American rural life and public opinion in regard to this life. Once we know conditions as they really exist, it will be less difficult to indicate remedies than now. The field of investigation, as outlined by the commission, is very comprehensive and reaches into every corner of rural endeavor,

touching the strictly educational issues with the rest. The subjects considered are these: —

Home-making. — The choice and preparation of food; wells and water and waste; house construction; conveniences and appliances; help.

Education. — Rural schools; agricultural and household subjects; preparation of teachers for country life; farmers' institutes; colleges; extension work.

Buying and Selling. — Coöperation in dairying, in poultry, in raising fruit, marketing, etc.; middlemen, buying associations.

Communication. — Roads; trolley lines; telephones; postal service.

Organizations. — Farmers' clubs; granges; experiment clubs; farmers' unions, etc.; women's organizations.

Land. — Tenancy; form of rental.

Farm Labor. — Supply; housing; wages; board.

Finance. — Savings banks; rural credit societies; insurance.

Public Health. — Regulation; water supplies; the prevention of disease.

Social Life. — Public gatherings; festival days; literary clubs; reading clubs; church, schoolhouse, and other social centers.

The commission held meetings in thirty different states and received thousands upon thousands of answers to its formal questions about conditions in rural communities. Besides this it gathered a vast amount of information by letters and special reports. All this was embodied in its report to the president.

Report of the Commission on Country Life; the Three Great Needs. — The investigation reveals, according to Commissioner Walter H. Page, "that the level of well-being in the country in general is higher than it ever was

before; that our country population is increasing its wealth and the productiveness of its life — in fact, that the condition of our rural population is better than any equally large rural population could ever show before; and this is true." But it reveals many serious problems also which must be worked out before modern rural life can become truly efficient. The three which people everywhere emphasized and clamored for are set forth by President Roosevelt in his special message to Congress, quoted elsewhere in these pages. Stated in general terms they are: (1) effective coöperation, (2) a new kind of schools, and (3) a better means of communication. To these is added (4) better sanitation.

Farmers feel keenly the need of coöperation in buying and selling, of eliminating certain non-essential middlemen, of forming their own local commercial exchanges — in a word, they feel the need of as thorough an organization as that which now belongs to the city interests with which they do business.

People in rural communities everywhere emphasize the necessity of making the schools an exponent of rural life, and not, as at present, chiefly for city life. "Criticism of the schools as they now exist," says Mr. Page, "was almost universal by the people, because their influence is rather to train youth away from the soil than to train them how to make the soil more productive and life on it more satisfactory. There is, in fact, a universal unrest in edu-

cational subjects, an unrest so profound and general as to point to the necessity of fundamental changes."

The demand for good roads comes from almost every community in every section of the country. This means of better communication carries with it a desire for the extension of rural free delivery and the introduction of a parcels post.

Finally, the commission finds that rural communities show a marked ignorance on the subject of health and sanitation. Altogether too little attention is paid to this subject. Typhoid fever and similar diseases now hold in continual thraldom numberless rural people — diseases, all of them, which under effective organization might easily be prevented.

Even if not holding out the promise of any great immediate results, the commission has begun a remarkable work. For to have promulgated the successful experience of certain sections to the country at large is sure to bear important fruit. In this way modern organization will spread throughout the great agricultural communities. Means will be found to make home and social life there satisfactory; greater returns will come from the soil than under present conditions; then at length a love for the God-given acres must follow.

Now, to limit ourselves to the school side of the problem: —

The Twentieth-century Problem. — The great task of

twentieth-century education is, then, to instill in the country boys and country girls this very love for the country and all that pertains to country life; to fit them, through thoroughly practical courses of study, to receive and preserve their wonderful heritage. "The tremendous advantage of a rational course of work in country schools," says Francis W. Parker, "is that it would make a strong, binding union of the home and the school, the farm methods and the school methods. It would bring the farm into the school, and project the school into the farm. It would give parent and teacher one motive, in the carrying out of which both could heartily join. The parent would appreciate and judge fairly the work of the school, the teacher would honor, dignify, and elevate the work of the farm."

The Ideal Twentieth-century School. — Fortunately, our rural schools are making distinct progress in the direction of rational courses and the teaching of essentials. But the work of reform is merely begun. The old-fashioned, blind teaching is, alas! very prevalent. The subject-matter taught is still borrowed from the city curriculum. It is foreign to the country child's world — the farm. In the country the soil must ever remain the real factor. Nature study in its broadest meaning together with manual training and instruction in the various crafts which shall make the farm child satisfied with his lot in life are the real essentials. The school of to-morrow will teach the

farm child how to live, and how to do things. The teacher of to-morrow must be able to take the child in its own little world, and lead it along the pathway of life, directing its native adaptabilities, sentiments, and powers; he must develop in the child breast a sympathy with its environment, and in the child's mind an understanding of nature and nature's intent. The twentieth-century teacher must teach the child to love nature for nature's own sake — and not to judge it by a mere commercial or money standard. The teacher must lead the child to see in the old farmstead with its God-given acres the most precious heritage that can come to mortal man. He must teach the child that the farm is his treasure, then there will his heart be also.

The Complete Country Life. — Country life must cease to be a mere complement of city life; it must be made complete in itself. It is not enough for the new awakening to conserve that which is best in the country life as we now have it. No! let it carry to the country all that is best and most ennobling in present-day city life. Remove the causes for the cityward exodus by making the country life attractive. Provide against its present social starvation. Introduce music and art into the schools, and thence into the farm homes. Encourage school libraries and home reading, as well as lecture courses of a practical sort. In short, let everything that is really worth the while in our best city systems be provided for the rural school.

Requirements of the Twentieth Century. — It has already been intimated that our country schools are making distinct progress in the direction of rational courses and the teaching of essentials. But this must not be construed to mean that conditions, as they now exist, are ideal or even satisfactory. Indeed, it is true, as shown in a later chapter, that some sections of the country are making remarkable progress in the direction of needed reform and are to be congratulated upon what has already been accomplished; though it is just as true that other sections have been sadly indifferent to their opportunities and have done but little to remedy existing school evils. Even where the real conditions approach the nearest to ideal there is much still to be done. So it would be folly to claim that conditions are, or ever have been, satisfactory. But the movement for better rural schools, and more practical schools, is upon us, north, south, east, and west; nor will it subside before the reform is complete. To this end the times demand: (1) more thorough school organization and administration; (2) greatly increased school support; (3) professional supervision and instruction; (4) modern school plant; (5) practical course of study; (6) centralization and consolidation of schools.

Rural Schools must be better organized and have better Administration. — The first phase of the subject to demand attention is school organization and administration. The *size* of the unit of organization plays an important rôle in

school affairs. The success or failure of school administration and supervision as well as of school support depends very largely upon it. Paradoxical as it may seem, wherever the unit of organization is very small the schools suffer, and where it is very large the same holds true. It appears therefore that the extremes must be avoided. Upon the whole, there is more danger from units too small than too large. The small local *district unit* which has long been in use in Eastern states, and which later was adopted in the Middle West and the West has proved generally unsatisfactory for purposes of organization. Many of the evils from which rural schools suffer are traceable to the small district. As we shall see in a later chapter, local partisanship and jealousy, and often close-fistedness and indifference in school affairs, make the district an inadequate basis for administering school affairs. The local school board is too often hampered in its work by obligations to friends and neighbors who elect them and retain them in office. Such a unit cannot possibly afford to pay for professional supervision. But, most important of all, the last word in tax matters should never be left with so small a unit, since two or three influential men are generally able to dictate the policy of the district, and make this narrow or broad in proportion as they themselves are narrow-minded or broad-minded. The *county unit* which prevails in the South has some bad features and many good ones. Upon the whole, the *township unit* is,

at any rate for the East and Middle West, the most practical and satisfactory basis of organization, and should be encouraged by all who are interested in the *best business basis in rural education.*

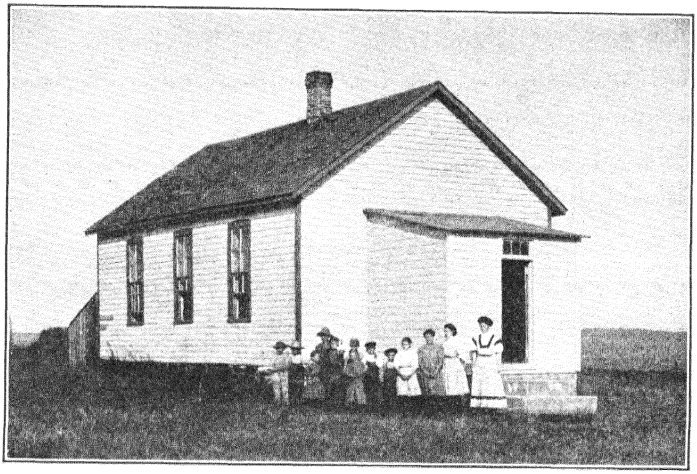
More Money must be spent to provide and maintain Schools. — The chief essential in school affairs is unquestionably ample funds with which to provide and maintain the schools. Right now we are spending $33.01 on the city child's education for every $13.17 on the rural child's. This is for school maintenance alone and has nothing to do with permanent school investment. In this field the cities, with their much smaller total valuation, invest vastly larger sums of money in school buildings and equipment than rural communities. This is not giving the farm boys and girls a fair chance. The farmers must become awake to their great responsibility in these matters. They must spend much more money for professional teaching, for modern buildings, for equipment, for books, tools, etc. Otherwise, rural schools can never reach the standards demanded by the changing twentieth-century life. Let every advocate of better rural conditions do what he can to convince farmers that increased taxation for school support will be a *gilt-edge investment.*

Instruction must become Professional. — Another extremely important factor in rural school success or failure is the teacher himself. This naturally involves: (1) better preparation, (2) longer tenure of office, and (3) better sala-

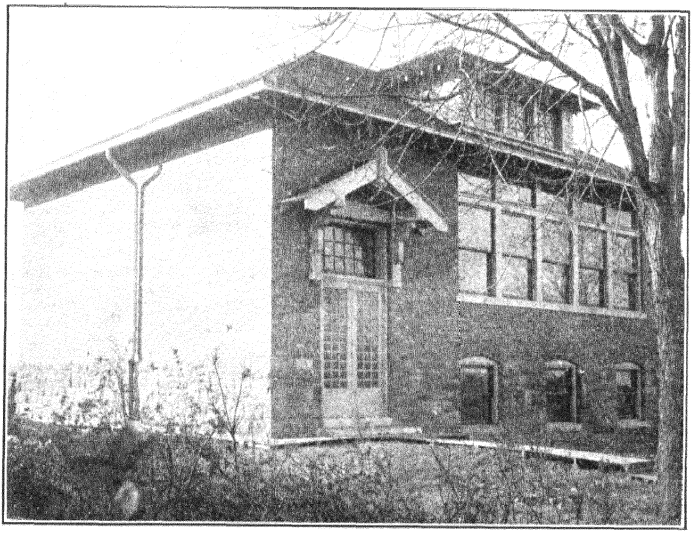
ries. In many instances our teachers' qualifications are al together too meager. Too many teachers do not grasp the real significance of the teaching problem. Some are too poorly grounded in the fundamentals, or they lack skill to present the subject-matter. Most unfortunate of all is it that many young men and women who dabble in teaching do not expect or intend to become professional teachers at all; to them teaching is only a makeshift, a stepping stone to something better. Under such conditions teaching is not and never can hope to be a profession.

The great need is for professionally trained rural schoolteachers — teachers trained to grapple with problems as they now exist. The teachers who are first to realize this fact will be the first to reap the reward. This will come in the shape of materially increased salaries — salaries commensurate with the time and money expended in preparation for the work — and in tenures of office limited only by the good behavior clause or by the teachers' personal choice.

Supervision must be more Efficient. — A more satisfactory system of supervision in the rural schools is inseparably linked with this better instruction. As here understood, we do not mean this function as exerted by the teacher in the class room, but as belonging to such general overseers of schools as township, district, and county superintendents. In the East the geographical unit generally used in school supervision is the town (township). Very often the township has proved too small for the main-



Beach Glen School, Clay County, Kansas. A typical rural school, better kept than the average.



A one-room schoolhouse of the modern type. This building, which is fitted with every up-to-date appliance, should soon supplant the old box-car type.

such plans as are approved by the state superintendent of public instruction and the secretary of the state board of health, or some other specified committee competent to adjudge these matters.

School Exteriors. — All the necessary apparatus for doing good work must be supplied. The grounds must be made an appropriate setting for the dignified "temple of learning." Let the grounds be made as attractive as the professional teacher's art can possibly make them. Let curving walks and rustic seats, grass and shrubbery, vines and flowers, shed over structure and grounds an atmosphere of homelikeness. Let the school garden at the rear of the grounds be a place where the theoretical and the practical in school work shall meet. All in all, let grounds and building be the center of attraction to the whole countryside.

School Interiors. — The school interior must be in harmony with the general exterior. An æsthetic atmosphere should sit lightly upon the room. Tinted or papered walls, appropriate color effects, touches of the artistic here and there, neatly framed copies of the masters, plaster casts, shelves full of choice books, plants, and perhaps an aquarium, — all these should shed a glow of comfort and homelikeness over the room or give it a genuine scholastic stamp. With such a school plant rural children will find the irksome in school life disappear, and there will be less dragging of the heavy feet to school.

Course of Study must be Practical. — Hitherto, the course of study pursued in the country has come from the outside — from the city. It has trained the child away from the farm and not towards it. The new methods must begin right in the child's own world and develop right out of his own experience. The subject-matter taught must be an expression of the needs of the country community and must render country life more significant. Experience teaching is what is needed. Industrial work and nature study will take their place as coördinate with the study of books. Training in handwork, and a study of plants and soils and animal life will come to be of almost incalculable value to country life. The policy shall be not so much to give systematic instruction in practical agriculture, as to lead up to it by awakening in the child's breast a love for the wonders in nature. Then it may be expected that the state agricultural school will continue the work here begun, and in time return the young man to the farm — an enthusiastic, scientific farmer.

Consolidation of Schools a Panacea for Existing Ills. — Consolidation is offered as a remedy for the ills existing in districts most affected by disintegration of population. The ideal plan contemplates the discontinuance of weak schools and the consolidation of a number of districts sufficiently large to maintain a graded school. Where conditions are satisfactory this means the establishment of graded schools in every respect equal to village and city

schools, right in the heart of rural communities. In addition to what the urban child gets, consolidation offers opportunities for study under the benign influence of field and grove in the very bosom of mother nature. With these schools at his own doors, the farm child need no longer seek urban centers in quest of learning.

We shall now take up in detail the various phases of our subject. But, first, let us consider the main currents of educational history in our country, at least so far as they pertain to the rural schools.

CHAPTER II

Organization and Administration

General Statement. — The history of rural school organization and administration in our country is full of interest to students of education. It tells the story of "system sprung from chaos," of order and progress come out of confusion and stagnation. The first schools knew no higher authority than the will of the community which maintained them. Any policy of an administrative or supervisory nature was necessarily shaped by local opinion and governed by local needs. This meant, in practice, as many standards of school management as there were schools; or, more properly speaking, it meant no standards at all. "If the people as a whole are to be educated," says Professor Dexter, "definite standards of excellence must be demanded of all schools, and such can only be maintained through the appointment of responsible officials vested with authority to make demands, and competent to direct the schools in the process of making them."

All the several states have sought such uniform standards through statute enactment, and all have realized them to a more or less satisfactory extent. Conditions in many

states are still far from ideal. It has been in great measure a matter of experimentation, of groping about in the unknown, in our efforts to provide the best system for the different sections of the country. The various units of organization with which we are concerned in the rural schools are the following: (1) school district organization, (2) township organization, (3) county organization, (4) community system.

School District Organization. — The school district is the smallest and most democratic of these units of control. It developed in New England after the scattering of the population, due to the cessation of early Indian hostilities. New communities sprang up on the edge of the wilderness, too distant from the parental centers of population to make use of the old town schools. Consequently, they organized their own educational unit and established their own schools. All who lived within easy reach of the centrally located school and were banded together for its support constituted the school district. This organization was at first wholly voluntary; it antedated all legal enactments pertaining to schools, and came about solely because it was the only possible thing to do under the circumstances. It answered the needs of our colonial schools well enough, and had the district been founded for the purpose of school supply merely, or to regulate attendance, there would certainly have been no objection to its formation. Unfortunately, the organizers,

jealous of what they deemed their inherent rights, made it also the center of school support — *i.e.* the unit of taxation. In Massachusetts the Act of 1647 had declared the town the basis of school organization; but the district plan worked so well that it received full legal sanction in 1789. From this time until well into our own day it has been a controlling power in school matters in the state.

Objections to the District Unit. — The Massachusetts Act of 1789 was, to quote Horace Mann, "the most unfortunate law on the subject of common schools ever enacted in the state." The great educator was quick to discern what we have long experienced; namely, that the school district is too small to be intrusted with final legislation in matters of importance. Especially is this true where the taxing power is concerned — a power which was vested in the district by the Massachusetts Act of 1801. Local jealousy, parsimony, and individual indifference contribute much to make the district unsatisfactory in actual practice. "In many cases," says Professor Dexter, "the sentiment among the limited number of voters within a single district is the opposite of generous toward the schools or the district too poor to do much; and although the acts of 1789 and 1801, and similar laws, passed in the neighboring states a little later, gave to New England the 'little red schoolhouse' in great numbers, they were frequently not very red for want of paint, nor was the teaching within their walls of a very high order.

Yet it cannot be denied that much good came from them."

Great Spread of the District System. — The district system spread at an early date to every part of New England, and was later adopted by nearly all the states westward, where it sprang up either as a matter of pure imitation or because conditions prevailed similar to those which had earlier called forth the system in Massachusetts. Let this be as it may, if we except the Southern states where county organization is in vogue, the district soon established itself as the unit of school organization and administration throughout the country, and as such continues in a great majority of the states to-day.

Change from District to Township System of Organization. — Massachusetts, which was the first to legalize the district unit, was likewise the first to abolish it. This happened in 1882. New Hampshire, Vermont, Maine, New Jersey, Indiana, Ohio, and Pennsylvania very soon followed suit and likewise changed to the township system. More than twenty other states have laws permitting township organization for school purposes, although they have as yet not exercised this permission to any marked extent. The change to the township in the old Atlantic states is easy to explain. The rapid disintegration of the population in many rural communities and the great influx to the cities left many of the small school districts impoverished and all but bereft of population. This left no alter-

native except to organize into larger units — units strong enough to provide good schools and a more equable system of maintenance. These demands the township system has satisfied. The larger unit is getting a strong hold on the Middle West also, generally, for the same reasons that apply eastward. The newer Western states, which do not yet and perhaps never may feel the effects of the city-ward migration, will be slower to make the change.

Township Organization. — The township organization is less democratic than the district organization, but it "has the advantage of forcing the wealthier portions of the township to contribute to the support of the schools in the poorer communities, thus bringing about a more uniform standard of excellence."

Care should be taken here not to confuse township organization for school purposes and township system of local government. The latter pertains to local affairs generally, the former to school matters only. Township organization for school purposes is in fact only a merger of districts lying usually within the political township, and administered by a central board, elected at the annual town meeting. Such boards are called, variously, school committees, as in Massachusetts; boards of education, as in Ohio; and boards of directors, as in Iowa. This system naturally enough tends to give rise to consolidation of schools and township high schools, although several states in which it has reached a normal development

utilize the township system chiefly for the better administration of the several school districts within the township. Thus in Iowa, for example, the congressional township is divided into a number of subdistricts, each with its own school plant and subdirector. These subdirectors constitute the township board and administer the school affairs for the entire township. They fix the rate of taxation, elect teachers and fix their salaries, decide on the length of the school year, and perform many kindred duties of an administrative nature.

Respects in which the Township System is Superior to the District System. — The many advantages of the township system over the district system are so admirably set forth in the *Report of the Subcommittee on School Maintenance* in the *Committee of Twelve on Rural Schools* (Proceedings N.E.A. 1897) that I venture to quote them in detail: —

1. If the schools of a township are under a single board elected from the township at large, schoolhouses will far more likely be built where they are needed than under the other system.

2. Equality of school provision will be much more fully secured in respect to schoolhouses and grounds, length of school terms, and the ability and character of teachers.

3. The tendency will not be to multiply schools unduly, but to restrict their number, bringing together more scholars, and thus making better classification, grading, and teaching possible, and increasing the interest and enthusiasm of the pupils.

4. Better supervision can be secured. The county superintendent can deal more effectively and easily with one board in a town-

ship than with six, ten, or twelve; while township and township-union supervision will be greatly promoted.

5. Simplicity and economy of administration will be facilitated, and the sense of official responsibility be enhanced.

6. The tendency will be to employ teachers for longer terms, and thereby to restrict, in a considerable degree, the evils that flow from frequent changes.

7. The strifes and contentions between districts that are now not infrequent will be prevented.

8. Transfers of pupils from school to school will be made more easy.

9. The reason last to be mentioned is perhaps the strongest of all. The relations of the township-unit system to school consolidation have already been suggested. The township system does not necessitate such consolidation, although it is likely to work that way; but consolidation is almost wholly dependent upon that system; schools will not be consolidated in great numbers if a plurality of district school boards have to do the work.

As mentioned above, some eight states have made legal provision for township organization. The states which have permissive legislation on the subject are: Connecticut, Florida, Georgia, Illinois, Iowa, Kansas, Louisiana, Michigan, Minnesota, Missouri, Nebraska, New York, North Carolina, North Dakota, Pennsylvania, Rhode Island, South Dakota, Tennessee, and Wisconsin.

County Organization. — The states which have adopted the township unit for school purposes are the states which make use of the township unit for general purposes. A few of the Central states and most of the Western are organized under the district form, with here and there a

leaning towards the township unit. In the South, however, conditions are materially different. Here, a widely scattered population, large agricultural areas, and a dearth of village life, from the first called for a unit of government organization radically different from the small, compact township used in the North. Thus the larger English county became established. From Virginia it spread over the entire South-Atlantic group, including Texas and Missouri, and from the frontier of the latter state went forth to Oregon, California, and Utah. Wherever the county system was adopted for general government purposes it has become the unit of school administration as well.

It would seem, everything else being equal, that the county ought to make an ideal unit for school purposes, especially in the South with its many sparsely populated districts. The Subcommittee of Rural Schools, in its report, is very sanguine "that this mode of organization has a great future before it in the United States." And to prove this assertion it points to the very satisfactory operation of the system in Richmond county, Georgia, which includes the large city of Augusta. We read: —

> The county is the unit area of organization, and the rural parts and the urban parts of the county district, as far as practicable, are treated just alike. A board of education, composed of representatives elected by the people of the county for the term of three years, one third retiring each year, manages all the schools. The school tax is levied at a uniform rate upon all the property of the

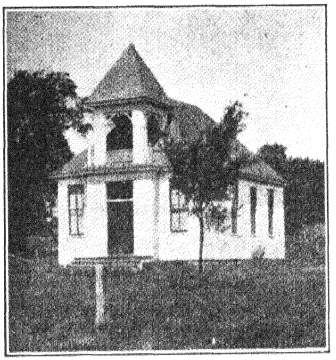
county, without revision by any other authority and without any limit as to rate or amount. The county and state funds are distributed to the schools according to the number of children to be educated. There is no district tax. The same qualifications are required for country and for city teachers. The teachers are treated as nearly alike as the conditions admit, and they are paid about the same salaries. The schools are in session the same length of time in a year, nine calendar months. The country schoolhouses, on the average, are situated four miles apart, and no child is out of walking distance of a school open nine months in the year, and taught by a good teacher. One superintendent has charge of all the schools. Augusta has nine tenths of the taxable property of the county; but only three fourths of the school population. In other words, the rural parts of the county pay one tenth of the school tax and receive the benefit of one fourth of it. For the most part, these are excellent provisions. The county would seem to be the natural area unit for popular schools under the county system of local government.

Necessary Reforms in the County System. — It is of peculiar interest to know that the states which have not subdivided the county for what is termed *convenience* in school administration report less difficulties than where subdivisions are made. Georgia, quoted above, and Maryland are examples of states which do not subdivide their counties. Each of which is for school purposes virtually one large school district. This places the complete management of the schools, including taxation, in the hands of a strong county board, and results in very equable administration. Alabama has until recently made use of the township as a taxing unit, and West Virginia has employed the so-called " magisterial district " for the same

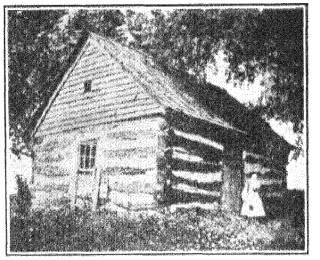
purpose. This has resulted in serious discrimination against the sparsely populated sections where but slight material development has taken place. The former state has made a decided change for the better in abandoning the old system. Superintendent Miller of the latter state recommends strongly a change, making the county the unit of distribution. With the inauguration in the Southern states generally of some such just and equable system of school administration as is practiced in counties of the type of Richmond county, Georgia, there is every reason to believe that this unit will prove highly satisfactory.

The Community System. — Before leaving the units of organization we must dwell briefly upon one additional system, the community system of Texas. This " impractical and inhibitive system," as State Superintendent R. B. Cousins very properly denominates it, is fortunately confined to the one state, and here greatly on the decline.

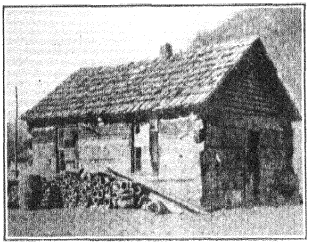
The Community System. — Under this "system" any teacher, or other person interested, may direct a petition to the county superintendent or county judge, place on it the names of the children that are to attend the school, procure the signature of parents and guardians of said children, and present this petition to the county judge or superintendent who credits the school with the state and county pro rata, and appoints three citizens to act as trustees for one year. At the end of the term the school dissolves into its original elements; as a school each is a mere experiment, which must be repeated from year to year, never advancing beyond the experimental stage.



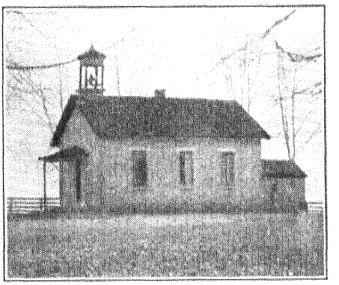
A well-kept rural school in Illinois.



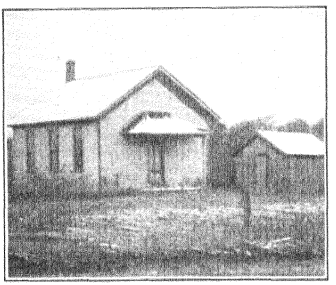
Schoolhouse built in Fillmore County, Minnesota, in 1858, and until recently used for school purposes.



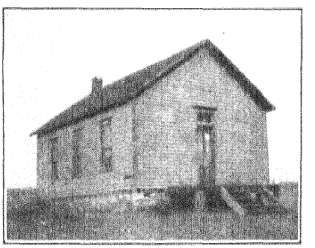
Old schoolhouse at Holden, Logan County, West Virginia, just replaced with a splendid modern building.



Schoolhouse in Clark County, Ohio, recently abandoned for a consolidated school.



Schoolhouse in northeastern Ohio, recently abandoned for a consolidated school.



A dilapidated schoolhouse in eastern Kansas.

A variety of one-room schools.

they be considered as educators. If board members undertake to dictate methods of instruction or how the school ought to be managed, they unquestionably encroach upon the rights of the legally appointed teacher and the superintendent whose chief work lies in this part of the educational field.

In view of the generally prevailing misconception of a school board's powers and duties, this matter cannot be emphasized too strongly. Board members should understand that their chief business is to provide the means of education — *i.e.* to secure building and equipment, engage teachers, and enforce attendance of children of school age. They may go so far as to undertake the rôle of helpful mentor to the teacher, but here their authority ends. An officious board member has not the right to inflict himself upon the teacher in educational matters. This may have been quite proper in the day of the old school committee, but that was before it voluntarily surrendered all rights of supervision. The rural teacher should understand these matters, and, if necessary, insist upon his rights.

Work of the Board depends upon the Size of Geographical Unit. — The foregoing discussion concerning the size of unit of organization and administration has made it sufficiently clear to the reader that the organization and work of the board must depend upon the size and organization of the geographical unit. Where the district unit is in

vogue a small board, usually three men, — director, clerk, and treasurer, — administer school affairs. Under township organization the board is generally larger, elected at large from over the township; or it may be composed, as in Iowa, of as many subdirectors as there are subdistricts (schoolhouse districts) in the township. Under county organization the number ranges from three upward. Sometimes they are elected by commissioner districts, sometimes from the county at large.

Difficulty in procuring "Good" Board Members. — A great menace of the rural school is found in the general weakness of its boards. Very few country-bred persons have had adequate educational advantages to appreciate the needs of the schools. Those who are capable of filling this important office are usually too busy with other interests — or they do not consider the work worth their while. This results frequently in a board-organization of honest, well-meaning but ignorant and, therefore, inefficient men, whose work is, now and then, further weakened by the addition of some aggressive, self-opinionated individual with an ax to grind. Thrifty farmers who see the ideal rural school a reflection of the kind of school that they attended a generation ago are not likely to make good board members. They will be too apt to point back to the time-magnified virtues of the school of the olden time. Men whose education has taken them to college or the agricultural school have generally a broader view of life,

and are the logical candidates for the office. But altogether too frequently such men cannot be induced to accept what is considered a thankless job.

Board Members might be Trained. — Our rural schools are suffering through the incompetence of school boards. If the best men cannot be induced to do their duty by the state, we should at least assist those who are willing to serve to do their best. We train teachers, then why not train board members, also? Some states are already awake to the great possibilities of such enterprise. To illustrate: enact laws which shall provide good pay as inducement to attend meetings of such members at the regular teachers' associations and the annual teachers' institutes, when they may be addressed by specialists on school administration and by other practical school men. Indeed, they may themselves take active part in the programme. This may be counted on to give the schools a progressive administrative force where we now have much of apathy and incompetence.

What an Active Board can Accomplish. — The school board represents the educational interests of its constituents: (1) in the community, (2) in the school, and (3) with the superintendent.

The members of the board should carry out the wishes of the annual school meeting which they represent; but their work does not end here. It is their manifest duty to further stimulate school progress among the very electors

who put them in office. They should plan for and secure increased revenues with which to provide the best plant and instruction. In other words, they should be alert to make their school the best possible. The members should, moreover, encourage the teacher by removing obstacles to progress, and pupils by frequent visits and display of interest. Above everything else should they lend the superintendent every assistance to mold proper educational thought in the community, and then heed his advice in all matters relating to selection of teachers and equipment; in plans for buildings, grounds, etc.; in the general organization of school work, and in shaping the general school policy of their community.

CHAPTER III

Rural School Maintenance

THE first essential in the solution of the common school question is ample funds with which to provide and main-

TABLE 1. — EXPENDITURE PER CAPITA OF SCHOOL POPULATION

YEAR	EXPENDITURE *Per Capita*	YEAR	EXPENDITURE *Per Capita*
1870–1871 . .	$1.75	1889–1890 . .	$2.24
1871–1872 . .	1.83	1890–1891 . .	2.31
1872–1873 . .	1.84	1891–1892 . .	2.40
1873–1874 . .	1.88	1892–1893 . .	2.48
1874–1875 . .	1.91	1893–1894 . .	2.55
1875–1876 . .	1.85	1894–1895 . .	2.55
1876–1877 . .	1.72	1895–1896 . .	2.62
1877–1878 . .	1.67	1896–1897 . .	2.63
1878–1879 . .	1.56	1897–1898 . .	2.67
1879–1880 . .	1.56	1898–1899 . .	2.70
1880–1881 . .	1.63	1899–1900 . .	2.84
1881–1882 . .	1.70	1900–1901 . .	2.94
1882–1883 . .	1.80	1901–1902 . .	2.99
1883–1884 . .	1.88	1902–1903 . .	3.15
1884–1885 . .	1.96	1903–1904 . .	3.36
1885–1886 . .	1.97	1904–1905 . .	3.53
1886–1887 . .	1.97	1905–1906 . .	3.67
1887–1888 . .	2.07	1906–1907 . .	3.90
1888–1889 . .	2.17		

tain the schools. That the public is awake to the importance of school improvements is well illustrated in

Table 1, which shows that the *per capita* expenditure for the nation has more than doubled in thirty-seven years. The annual budget, as reported by the Commissioner of Education has assumed surprisingly large proportions. The common school expenditure in the states of our Union for the year 1906–1907 reaches the grand total of $330,780,809, an increase of more than one hundred million in six years. Seventeen states expended more than $5,000,000 each, eleven more than $10,000,000 each, four more than $20,000,000 each, three more than $30,000,000 each, and one more than $50,000,000. Statistics show that of the 16,820,386 pupils enrolled in urban and rural schools in 1906–1907, 5,500,266, or 32.7 per cent, were from urban centers ("villages and towns of 4000 population and over") and 11,320,120, or 67.3 per cent, were from rural districts ("outside of cities, towns, etc., of 4000 and over"). Further, out of the total annual expenditure, $181,567,632.54, or 54 per cent, was expended for the maintenance of urban schools, while only $149,113,168.48, or 45.6 per cent, was used for rural schools. This means, in other words, that while $33.01 was expended on the city child's education, the country child had to get along with $13.17.

Now, on the presumption that city school expenditures are at the present time ample for all purposes, the figures would indicate that rural school efficiency cannot be attained, or approximated before the present rural school

budget is nearly trebled. This is the financial phase now calling for solution.

TABLE 2. — AMOUNT EXPENDED FOR COMMON SCHOOLS EACH YEAR BETWEEN 1896–1907[1]

YEAR	EXPENDED FOR —			TOTAL EXPENDITURE
	Sites, Buildings, Furniture, etc.	Teachers' and Superintendents' Salaries	All Other Purposes	
1896–1897 . . .	32,376,476	119,310,503	35,995,290	187,682,269
1897–1898 . . .	31,415,233	124,192,270	38,685,408	194,292,911
1898–1899 . . .	31,229,308	129,345,873	39,579,416	200,154,597
1899–1900 . . .	35,450,820	137,687,746	41,826,052	214,964,618
1900–1901 . . .	39,872,278	143,378,507	44,272,042	227,522,827
1901–1902 . . .	39,962,863	151,443,681	46,855,755	238,262,299
1902–1903 *a* . .	46,289,074	157,110,108	48,058,443	251,457,625
1903–1904 *a* . .	59,453,269	167,824,753	55,938,205	273,216,227
1904–1905 *a* . .	66,416,168	177,462,981	57,737,511	291,616,660
1905–1906 *a* . .	60,608,352	186,483,664	60,673,843	307,765,659
1906–1907 *a* . .	65,817,870	196,980,919	67,882,012	330,780,809

Colonial Support of Public Schools. — In early colonial times school maintenance was wholly of a local character. Very frequently schools were established by private bequest, or district and town taxes were levied, or tuition fees charged. Then, too, fines, penalties, and forfeitures imposed in certain courts, excise fees, poll taxes, taxes on the sale of spirituous liquors, and the income from public fish weirs all went for school support. As all these sources were inadequate, the colonists conceived the plan to set

[1] This table is compiled from the U.S. School Commissioner's report for 1907. Years marked *a* are subject to correction.

apart public lands for these purposes, a plan which is indeed almost as old as our history. In 1616 the London Company granted 10,000 acres in Virginia for the establishment of an Indian school. This was followed up in several colonies with local grants. In 1733 Connecticut set apart a considerable area "to the perpetual use of schools." Fifty-three years later Massachusetts reserved a "school lot" of 320 acres in all townships of public lands "for the support of common schools in such townships."

Creation of a Permanent School Fund. — Other states established permanent school funds either through apportionment and sale of land or through direct state appropriation. New York established a permanent fund in 1801, Virginia in 1810, South Carolina in 1811, Maine in 1821, and North Carolina in 1825. The central government initiated its liberal policy of land grants when, under the Ordinance of 1787, it ordered "that one section (the sixteenth) of each township in the Northwest Territory should be designated as school land, and that the proceeds of its sale should go to the support of public schools." States added subsequent to 1848 have received the thirty-sixth section in addition to the sixteenth. Up to 1900 nearly 86,000,000 acres had been devoted to this purpose. In addition to these grants surplus funds in the national treasury to the amount of $42,000,000 were, in 1836, distributed among the thirty-seven states then organized, the funds thus received being generally devoted to the sup-

port of education. The states have all made material additions to the permanent school fund (Appendix A). So that in 1906–1907 it reached a grand total of $218,973,736 with an annual income of $16,579,551.

Permanent School Funds Inadequate. — But while this is a generous sum, it is, relatively speaking, inadequate for the ends intended. It is but a drop in our ocean of school maintenance. By way of illustration, it would require a permanent fund of almost $1,000,000,000 to defray the expenses, at the present rate of outlay, of New York State alone, to say nothing about the country at large. The early friends of this form of endowment did not even dream of the vast proportions which have been reached in recent years by our public school system — proportions which have in a way defeated the very purpose of these men. It is important at this point to understand that while the permanent funds have served a very useful purpose, especially in the early stages of our educational endeavor, and should be carefully husbanded and administered, they must necessarily play a constantly diminishing part in popular education.

An examination of Table 3 will show that the public school revenue is drawn from four sources — permanent funds, state taxes, local taxes, and other sources (bequests, fines, etc.). It appears further as a patent fact that while the income from the permanent school fund has little more than doubled in sixteen years, direct taxes — espe-

cially local taxes — have increased manifold in the same space of time. On the percentage basis the permanent school fund represented .054 per cent of the total income in 1890, and only .048 per cent in 1907. It is evident from this that the great source of revenue in our country is, and must continue to be, taxation — state and local.

TABLE 3. — PUBLIC SCHOOL INCOME, BY YEARS

	1875	1880	1885	1890
Permanent funds . . .	—	—	—	$ 7,744,764
State taxes .	—	—	—	26,345,323
Local taxes .	—	—	—	97,222,426
All other sources . .	—	—	—	11,882,292
Total . . .	$ 88,648,950	$ 83,940,239	$113,521,895	$143,194,803

	1897	1902	1906	1907
Permanent funds . . .	$ 9,047,097	$ 10,522,343	$ 11,641,059	$ 16,579,551
State taxes .	33,941,657	38,330,589	47,942,509	46,281,501
Local taxes .	130,317,708	170,779,586	223,491,405	230,424,554
All other sources . .	18,652,908	29,742,141	39,031,031	50,317,132
Total . . .	$19,1959,370	$249,374,659	$322,106,004	$343,602,738

" Manifestly such areas or units of taxation should be created, or continued if already in existence," says the Subcommittee on School Maintenance, " as will fully develop

the sound American principle, that *the whole wealth of the state shall be made available for educating all the youth of the state.* This is both right and necessary, for it must be remembered that in the United States education is a civil or state function, to be supported like other similar functions." Such logical taxing areas are: (1) the state, (2) the county, (3) the township, (4) the district.

The State a Logical Taxing Unit. — Of all systems of taxation the state is manifestly the most democratic and equable. Schools are certainly established for the good of the whole state. Ignorance or inefficiency in the local community reflects on the entire commonwealth, and eventually levies a heavy burden on it for the maintenance of penal and similar institutions. There are tens of thousands of schools scattered over our country to-day that are carried on with the greatest difficulty. They are so small and poor that the burden of local taxes is almost unendurable; and, with all this, terms are short and the teaching poor. It is unjust that one district should tax itself three or four times as much as some more fortunately situated district in order to do its share of the work which primarily belongs to the state. It is unjust to the child and destructive to all civil endeavor to get along with these short terms and such indifferent instruction. By way of illustration, take the two New Hampshire towns of Ellsworth and Dublin. According to the school returns made July 15, 1906, the former had an equalized valuation per pupil of $1358, while

the latter had $19,433. The former levied five mills for school purposes and realized only $9.54 per pupil, the latter levied only two and one half mills, but on the greater valuation realized the handsome sum of $48.81 per pupil. This plainly shows that Dublin can raise fully ten times as many "sinews of war" for school maintenance, at an equal rate of taxation, as can Ellsworth. And the result? Dublin pays an average salary of $42.40 for a term of thirty-six weeks, and Ellsworth, at the double tax rate, pays an average salary of only $18 for a term of twenty weeks!

State Taxation not on the Increase. — It is a fact to be deplored that our lawmakers do not take kindly to state taxation for school purposes. A glance at Table 4 reveals the truth that in the younger Western states and the South Atlantic states alone is this form of taxation on the increase. With the former the principle was incorporated in the fundamental law from the very beginning and shows very satisfactory results. To inaugurate uniform and equable systems of state taxation in the older states seems difficult at this late date. These states have so long depended upon their several local units that they rather resent the change; and especially are the cities and larger towns which have a large school valuation and school systems already in a high state of development, reluctant to make any such change.

Several North Central states make no state levy at all,

although state superintendents have repeatedly petitioned their legislatures to make such provision. Kansas, for instance, levies neither a state nor a county tax and depends solely on local taxation and the income from the permanent fund. Repeated attempts have been made to place a state and county tax law on the statute books, but up to the present time they have ended in failure.

TABLE 4.— STATE AND LOCAL TAXES ON THE PERCENTAGE BASIS

DIVISIONS	1894–95		1905–6		1906–7	
	State Taxes	Local Taxes	State Taxes	Local Taxes	State Taxes	Local Taxes
North Atlantic States . .	19.4	68.2	12.17	71.67	11.82	76.41
South Atlantic States . .	38.1	51.3	39.01	53.91	41.01	51.89
South Central States . .	48.4	31.7	35.78	42.22	38.03	32.02
North Central States . .	9.9	75.4	6.88	76.57	3.84	69.09
Western States	23.0	61.3	28.70	61.77	26.43	55.23
United States	27.76	57.58	14.69	69.64	13.47	67.06

It should be understood, finally, that where wealth abounds and is fairly well distributed, as, for instance, in uniformly developed agricultural states, there is not the same necessity for a state system of taxation as where the state presents the extremes of wealth and poverty, of concentrated population and scattered population.

County and Township Taxation. — A further inspection of Table 4 reveals that 67.06 per cent of the school revenues of the country comes from local taxes, 13.47 per cent from state taxes, and 19.47 per cent from all other sources.

Unfortunately the Bureau of Education offers no statistics showing just how the 67.06 per cent is apportioned among county, town, and district. An examination of many state reports shows conclusively, however, that there is a gradual shifting from the small and undesirable district unit to the larger town and county. Table 5, taken from the 1905 report of the Connecticut Board of Education, illustrates this tendency.

TABLE 5. — ILLUSTRATING DECLINE OF DISTRICT TAXATION

YEAR	DISTRICT TAX	PER CENT	TOWN TAX	PER CENT	STATE TAX	PER CENT
1895	655,177.02	26.6	1,195,138.88	48.6	255,883.50	10.4
1896	708,509.63	28.3	1,259,660.70	50.3	261,664.50	10.4
1897	701,634.08	25.6	1,474,566.19	53.8	290,818.67	10.6
1898	769,686.94	27.0	1,384,614.12	48.6	291,848.84	10.2
1899	853,437.25	27.9	1,661,934.00	54.4	313,140.46	10.2
1900	828,015.78	27.8	1,489,243.42	50.1	315,360.23	10.6
1901	930,327.98	29.7	1,631,727.67	52.2	326,576.98	10.4
1902	659,248.06	19.1	2,104,120.34	61.1	348,448.79	10.1
1903	664,075.81	19.2	2,077,105.98	60.8	363,351.53	10.5
1904	641,854.42	17.0	2,252,557.98	59.7	399,131.35	10.5

Conclusion Drawn. — It will now suffice to say that circumstances alone must determine this matter of taxation. In states where the county system of government prevails this should naturally become the unit of taxation; in states where the township is the political unit of government this should likewise become the unit for school revenue. These remarks apply in a similar manner to coun-

ties where the mixed system of government prevails. It is very essential to realize that *the idea of taxation should be consistent with the general social and political habits of the community.* In no case does it seem wise to depend on any one form of taxation to the exclusion of others. Experience favors a combination of all. We have found that state taxation is both just and wise. Local taxation, more than any other agency, keeps alive and fosters local interest in school affairs, and withal develops a great measure of local independence and self-reliance. What our rural schools demand, then, is (1) a persistent and rational scaling up of all the several sources of revenue till a true equilibrium shall appear in state and local taxation; and (2) a liberal increase of taxation all along the line. This alone can elevate the rural school to the level of the city school —*financially.*

CHAPTER IV

Rural School Supervision

General Statement: the Business Side. — The time has arrived when incidental and slipshod supervision in our rural schools must cease. True educational interests demand this. Skilled supervision is undeniably essential for the future efficiency of school education. Indeed, all successful industrial and business enterprises of the present time are based and operated on the principle of expert supervision. Trained specialists have systematized our giant industries and business enterprises till the minimum of cost has resulted in the maximum of remuneration. Shall we not do as well by our schools? Surely the only sensible way is to apply the same business principles to the management of our schools that we do to our private affairs!

City Supervision *vs.* Rural Supervision. — Our city schools are well organized, well disciplined, and well instructed, because we have professional city superintendents. These are generally college men who, having served their apprenticeship as instructors or principals in less important schools, were advanced to the superin-



Model rural school on the campus of the Missouri State Normal School, Kirksville. Rural children are actually conveyed to the school in covered wagons and taught by an expert teacher. Thus normal school students may become familiar with a typical rural school before setting foot in country districts, and so be ready to meet the many difficulties awaiting them there.

tendency because of real worth and thorough qualifications. Professional prestige and reasonable remuneration have enlisted, and been sufficient to continue, our best educational talent in this field. But, meanwhile, what of our rural schools? What of the schools in which a majority of American children must receive their education? The answer: They have been neglected most shamefully in many sections of the country and left to a haphazard supervision that is usually underpaid and often both unskilled and inefficient. And is it at all surprising that the rural school superintendency does not attract and retain our best educational talent? Assuredly not. The office, which in reality is the most important public holding in the gift of a community, is seldom recognized as such by the general public, a fact going far to divest it of the professional dignity which is its due. As a matter of fact the office is all too often dragged to the level of party politics and made to depend upon political favor instead of individual worth. When to this we add the slight opportunity for professional promotion in the superintendency and a salary often so inadequate as to be beggarly, we shall have little reason to be surprised that our best teachers prefer employment elsewhere. What, then, can be done or, rather, what is being done, to remedy these defects in our system? We shall see.

Origin of School Boards and School Superintendents.—Rural school supervision, such as it is, is the result of long

growth. The Massachusetts Act of 1789 charged the ministers of the Gospel and selectmen of the several towns or districts with the supervision of schools. This "school committee" was charged with the election of teachers, the visitation and inspection of schools, the enforcement of discipline, and many other duties. Similar committees came into existence in other states. They were from the leading men of the community who took commendable pride in seeing that the master earned his salary "and kept his pupils in paths of righteousness and godliness." Their tasks were both of an administrative and a supervisory nature. In time, as population increased, these duties became multiplied and complex, requiring more time than an unsalaried committee would care to give the work. The natural result was division of labor and specialization. The administrative functions have been retained by the school committee which to-day finds expression in the district, town, and county board of education, or just plain school board, while the supervisory functions have been delegated to a supervisor or superintendent, whose unit of supervision corresponds with the administrative unit of the board.

The Question of Supervision Unit. — The first of the several phases of this question to enter into our discussion may well be *the unit of supervision.*

Thirty-nine states, mainly west and south, leave the general supervision in the hands of elective or appointive

officials — county superintendents or, as in Louisiana, parish superintendents and, in Michigan and New York, respectively, county and district commissioners of education. The New England states generally choose union district or town (township) superintendents. Several states provide both county and township superintendents — a very thoroughgoing system. Again others of the county unit class have permissive legislation on the election of township superintendents.

A careful investigation of the subject will show that the unit of supervision which suits one section of the country is not necessarily the best unit for every other section. Says the Committee on Rural Schools: —

> The simplicity and effectiveness of supervision are promoted when the units of political organization and of school administration are identical. This condition has its limitations, however, in the amount of territory to be covered and in the density of population, which is a varying quantity. The main point is to bring every rural school of the country as far as possible under the watchful care of a competent supervising officer. Responsibility is a strong stimulant. It is one of the weak points in our present system that too often the rural school-teacher is responsible to no one.

Township and District Superintendents in New England. — The enactment of the Massachusetts Supervision Law, in 1888, marks the beginning of great things in New England rural school organization, methods of instruction and discipline. Heretofore school supervision was hardly worth the name. The work of the early committee had

been limited to incidental visitation once or twice a year. Even when later the law required them to elect one of their own number to act as supervisor of common schools, at a stated sum per diem, no marked improvement was noticed. The reason is not far to seek: such supervisors were usually men of affairs whose vital interests centered in some other occupation, who gave the work of school supervision only such time as they could spare from their regular business. They lacked professional training and schoolroom experience. Moreover, the remuneration was too meager to be an inducement to their best efforts.

Manifestly, the solution lay in larger supervisory districts. Towns could be brought together for the purpose of supervision in numbers sufficiently large to warrant the engagement of a professional superintendent, who should devote his entire time to work in such a union district. His salary could then be paid on a *pro rata* basis by the several towns comprising the district. This was the plan realized under the Massachusetts Act of 1888.

In Massachusetts. — This act has brought practically the entire rural population of the state under professional supervision. The results have been almost phenomenal. As early as 1896 the State Board of Education wrote: —

> Wherever this policy has been fairly tried, whether in the large cities or in the small towns, the recognition of its importance as a prime factor in the improvement of the public schools is nearly or quite universal. Practically, the question may be said to have passed the

debatable stage. The chief benefits resulting from the employment of trained and skillful superintendents are these: more regular and increased attendance, greater economy in the expenditure of money, and greater interest in the schools on the part of the pupils, parents, and the community in general.

In Connecticut. — We shall not take the time to discuss the details of the Massachusetts Act, but may instead consider some of the interesting provisions of another law of great importance; namely, the Connecticut Act of 1903. While in principle the two are much alike, Connecticut has profited by the experiences of her neighbor and improved upon the earlier act. The leading provisions may be summed up as follows: —

SECTION I. The larger towns may — through their school committee — elect a superintendent of schools, fix his salary, and prescribe his duties. Several towns are acting successfully under this clause.

SECTION II. Two or more towns which together employ not less than twenty-five nor more than fifty teachers may unite to form a supervision district. A joint school committee may then be appointed, which shall be a joint committee on behalf of the several towns constituting the supervision district. This committee shall then employ a superintendent, fix and apportion his salary, and manage the affairs of the district. Four districts of two towns each have been organized under this clause.

SECTION III. Wherever a superintendent has been employed according to the provisions of Section II, the state shall pay one half of such superintendent's salary, provided that it shall not pay to exceed $800 in one year to any one district.

SECTION IV. The superintendent must have had at least five years' successful experience as teacher or superintendent or hold a certificate of approval by the state board of education.

SECTION V. The state is authorized to appoint agents who shall be superintendents in towns having ten or less teachers. In such case the town pays one fourth of such superintendent's salary and the state the remaining three fourths. Eight towns have applied for agents under this clause, and appointments have been made.

Frank O. Jones on the Connecticut and Massachusetts Systems. — Mr. Frank O. Jones, state agent for the towns of Prospect and North Canaan, in his report to the secretary of the Connecticut State Board of Education, makes a very instructive comparison of this law with the Massachusetts law, which is here reproduced in part. He says: —

The outlook for supervision in Connecticut is especially good when comparison is made between its supervision law and that of Massachusetts, under which supervision has been extraordinarily successful.

The Massachusetts law was enacted in 1888. Connecticut, therefore, was enabled to profit by the experience of her neighbor and to improve upon the earlier law. In the Massachusetts law no qualifications on the part of the superintendent were required, either of education or of experience. In Connecticut the superintendent must have had at least five years' successful experience as a teacher or superintendent, or must hold a certificate of approval by the state board of education. Both laws permit two or more towns to unite for the purpose of employing a superintendent for the district. The state of Massachusetts, however, pays to the district one half of such superintendent's salary up to $750, while Connecticut reimburses the district for one half of such salary up to $800. The Connecticut law has a section, which has no counterpart in the Massachusetts law, enabling a town employing not more than ten teachers to apply to the state board of education to appoint a superintendent, the town paying one fourth and the state three fourths of his salary. The num-

ber of schools being limited to ten, a superintendent of considerable experience may be able to take charge of the schools of such a town in addition to his work in a larger place, thus giving the small country towns the unusual advantage of having supervision of equal efficiency with that of the larger towns.

In Other New England States. — The other New England states have permissive legislation on the subject of union district supervision. Maine and New Hampshire have made remarkable progress in scholastic lines since the enactment of the law; Rhode Island has given it some attention; Vermont, the last state in the group to adopt the system, has just placed a very effective law upon its statute books.

Ohio and several other states westward have a few union districts or township districts in the experimental stage. Such districts are unquestionably the most satisfactory supervision units in states under township organization, and may, no doubt, prove satisfactory in states under the mixed county-township system as well.

The County Superintendency. — The states which maintain county superintendents exemplify various stages of evolution in county supervision. Some few have developed the system in a very satisfactory way and attain good results; but a majority of states under county organization cannot boast such results. County supervision, as now generally practiced, does not discharge the important duties of close, intelligent, helpful supervision. Some of the older states southward have been very neglectful

of school supervision. There are states in our Union in which, until recently, rural school supervision existed in name only. Arkansas, for example, has been satisfied for years to get along with such incidental supervision as her "county examiners" — men similar to the old New England district supervisors, with whom school inspection was a side issue rather than vocation — cared to give. Fortunately for the future of her schools the state is even now passing from the antiquated examiner system to that of county superintendent. Several of the younger states suffer under similar difficulties. Such a one is Nevada. Here a state legislature, in evident harmony with economy but with utter disregard for the prosperity of the rural schools, passed an act in 1885 abolishing the county superintendency and making district attorneys *ex officio* county superintendents of schools — an act which was denounced by the state superintendent as "vicious, retrograde legislation and a standing reproach to the state."

County Supervision as it often Is. — The most perplexing thing in the matter of county supervision is the generally large unit. The county, indeed, is as much too large for such purposes as the township is too small. The statement as here made is general and has its exceptions; for there are to be found many counties which certainly are neither too large nor have they too many teachers for one able superintendent to manage. But, averaging

things up, we find it is just as unreasonable to expect satisfactory results from county supervision as now generally practiced as it was under the old town régime. Teachers who have taught in rural schools, and who are therefore conversant with the facts in the case, agree that the county superintendent, even when qualified and progressive, is unable by reason of circumstances to give them effective assistance in supervision. His perfunctory "calls" once or twice during the school year can hardly be dignified with the name supervision. Such visits too often take the nature of an inquisition to both teacher and pupils, and his departure is welcomed with a sigh of relief. No one in particular is responsible for this condition of affairs. The superintendent is, and remains, a stranger to the average rural child and to many rural teachers. He comes out from the county seat occasionally to criticise, they say, and to show his authority as the duly elected head of the county schools!

But, as has been said, the average superintendent is an official whose time is given to drawing warrants, issuing circular letters, compiling statistics, and performing other clerical duties incident to his office. To many superintendents the office work appears the most important. Through it they come in touch with the political world which placed them in office, and the commissioners who vote them their pay. The monthly teachers' meeting and the annual teachers' institute are their chief source of

contact with their teachers and completes the circle of their annual routine.

It is agreed that the county unit is too large; but, then, what *can* be done about it? The younger states with their large counties and sparse population and the poorest among the older states, we fear, are destined to struggle along in much the same way that they are now doing for years to come. But this need not be the case with the large number of wealthy, well-populated states under county supervision.

Whenever a business man realizes that his business enterprise has grown to such dimensions that he can no longer do the work alone without seriously crippling his business, he immediately casts about for assistance. This is business in the business world. Why should it not be the same in the educational world?

Proposed Remedies. — The really encouraging feature of the whole situation is that educators are fully alive to the seriousness of the situation. Several remedies are proposed. One plan is to furnish the superintendent with competent office help, which would enable him to spend all his time in the field, to visit the schools, visit the patrons, hold township and county school meetings, and organize parents' meetings. In short, it would give him time to lead, to originate, to promote things educational. Another plan is to subdivide the county into two or more supervision districts, as they may be needed; each to be supervised by

a practical teacher appointed by the county superintendent, who shall invariably be held responsible for the conduct of his appointive deputies. Both plans are certainly feasible and should be given serious trial.

What Some States are accomplishing for Better County Supervision. — A number of Wisconsin counties provide clerical assistants for their superintendents. Minnesota advocates the appointment of an assistant county superintendent in every county of one hundred and fifty or more districts. The Kansas Educational Commission hopes for the enactment of a law to provide superintendents who have seventy-five or more teachers with clerical help, at least during their busy season. New Jersey appropriates $600 per annum for every township that employs a superintendent or, as there called, supervising principal. Oregon furnishes all necessary office help; the same is true of California. North Dakota insists that the superintendent should have sufficient assistance so that he and his deputies would each have the supervision of not more than fifty schools.

From the above and an abundance of like testimony from other states we can get some conception of the headway making for more satisfactory county supervision.

A second phase of this question is *the election of the superintendent.*

The Superintendent must be removed from Party Politics. — It is conceded that rural supervision cannot be put

on a true professional basis before the election of the superintendent is removed from party politics. The elimination of partisanship is the only guarantee we have that qualifications and real fitness of the candidate would be given just consideration. Now, where the office is political, many of our best teachers deem it unprofessional to enter the contest for office, and the mere political vote-getter walks off with the office.

Fortunately this evil is limited mainly to the Western and Southern states, and even here a strong sentiment is at work to correct it. Where township or township-district supervision prevails the superintendent is chosen by the town school committee or joint town district committee. Such election is strictly non-partisan. Even county superintendents are not always left to popular election. In some states they are chosen by county boards of education; in others by the state board of education; and in still others by the state superintendent.

How elected in New Jersey and Pennsylvania. — New Jersey is an example of a state in which the state board of education elects all county superintendents. The latter are looked upon as state officers, and provisions are accordingly made for the payment of their salaries by the state, which is generous in its support of public schools, paying both teachers and superintendents living salaries. County superintendents receive $2000 per annum from the state and an allowance of $350 from the county for

traveling expenses. In Pennsylvania the school boards of each county meet in mass convention and elect a county superintendent for a three-year term. The method has proved very satisfactory. It removed the office from party politics; placed it directly in the hands of the school officers themselves; and gives them withal an opportunity to come into closer relationship with each other.

North Carolina may well serve as another example of a state pursuing a liberal policy in the election of county superintendent. Here he is chosen by the county board of education, without regard to politics. The state superintendent of public instruction in his interpretation of this section of the revised statutes finds occasion to make use of these ringing words: —

Ringing Words from North Carolina. — The board has no more important duty than this, of electing a county superintendent. I beg to urge the observance of the following in the selection of a county superintendent: —

(1) Without fear, without prejudice, political or sectarian, having before your eyes only the welfare of the children and the success of the public schools, select the most competent man to be had for the money, choosing him from your county if such a man is to be found there, and if not to be found in the county, seeking him wherever he can be found, as the law permits. (2) If your present county superintendent possesses the necessary qualifications for a successful administration of his delicate, difficult, and important duties, as I trust he may, reëlect him and give him a chance to show what is in him and to make a greater success of his work, by paying him, if possible, a sufficient salary, under Section 2782, to justify him in giving all his time and thought to the work of super-

vision, and to justify you in requiring him to do this. (3) Take advantage of the law and pay your superintendent as large a salary as your school fund will justify, but be sure that you get *more man and more time for more money.*

Minnesota Plan of Electing Superintendents.— Minnesota is still another of the many progressive states striving to attain a professional basis in county supervision. Here the office of county superintendent is still political, though it is only a question of time when it shall be removed from party politics. A recent legislative committee of the Minnesota Educational Association recommends the following excellent plan as a substitute for the prevailing mode of electing superintendents:—

The creation of a county board of education, to be elected at the annual school meeting; such board to be non-partisan; one member of such board to be elected from each county commissioner's district; the term of office to be four years. At the first election odd-numbered districts to elect for two years. Such board to meet four times a year. The members of such board to be paid actual traveling expenses and per diem compensation. Such board to elect the county superintendent of schools. The county superintendent to be elected for two years, and to be *ex-officio* member of the board. County superintendents to be paid a minimum salary of $15 per district; provided, however, that in counties of 150 districts or over an assistant superintendent shall be engaged; provided, also, that county superintendents shall receive as traveling expenses a sum not to exceed $3 per district for actual expenses incurred in visiting schools. That ex-county superintendents and present incumbents shall be eligible to office; qualification for office to be the holding of a first-grade certificate or its equivalent.

Such a plan, as here outlined, presents many advantages: —

1. It leaves the election of superintendent in the hands of a non-partisan board.
2. It increases the interest in and importance of the annual school meetings.
3. It provides a living salary, and, in large counties, an assistant superintendent.
4. It prescribes some reasonable qualifications for the office.

The Kansas Plan of 1908. — The Kansas Educational Commission offers the following plan for removing the superintendency from party politics, which was reported to the State Teachers' Association held in December, 1908, and adopted by it: —

First, the candidates for county superintendent shall be the two legally qualified persons receiving the highest number of votes for such nomination cast by the legal school meetings next preceding the biennial general election; second, the names of two said persons shall be printed in the independent column on the general election ballot; provided that nothing in this provision shall prevent the name of any other candidate from appearing in the independent column in the manner already prescribed by law.

The merits of the Kansas plan are in great part similar to those of the Minnesota plan: —

1. The removal of the office from party politics.
2. Women, who in this state may vote in school elections, will have a voice in choosing the candidates for the office.
3. The nominations will be made by the voters suffi-

ciently interested in school affairs to attend the annual meetings.

4. The annual meetings will be better attended than heretofore, because of this increased responsibility and duty, and will redound to the benefit of the schools.

The last, and in some respects the most important, phase of the subject to engross our time is *the superintendent's qualifications.*

Present Conditions: a Lack of Qualifications. — The old New England town superintendents were clergymen, farmers, merchants, doctors, — anything and everything except trained superintendents. The political county superintendents were, and are yet, largely chosen from the ranks of men more apt in manipulating votes at the primaries or party conventions than in the pursuits of the teaching profession. Such things should cease to be. The time has come to insist upon a certain degree of qualification, fixed by law, for the performance of the important office of school superintendent. He should at least know as much about the details of school routine as the teachers under his control. But it is a lamentable truth that many of the men who to-day supervise the training of children in rural schools know vastly less about teaching than do their own teachers.

Academic and Professional Qualifications of Superintendents. — What, then, is a professional school superintendent? We answer: a well-educated, well-trained teacher, who, partly through study and partly through

experience, has succeeded in his life-work — viz. in directing teachers and school interests. He should approximate the following academic and professional qualifications which may reasonably be expected: —

a. A minimum of a full high school course, or its equivalent. This will give him a technical knowledge of all subjects taught in the rural schools, and will furnish, besides, in the subjects studied but not required in the rural schools, a reserve force and breadth of vision which will make him a stronger supervisor for having mastered them.

b. A thorough knowledge of the professional subjects which lie at the root of the theory and art of teaching, *i.e.* psychology and child study, philosophy of education, history of education, methods of teaching, school management, school law and economics, and practice teaching.

c. A teaching experience of at least twenty-one months within the five years immediately preceding his appointment.

d. Satisfactory testimonials or other evidence setting forth: (1) his success in conducting recitations, (2) ability as disciplinarian, (3) skill as supervisor (if already tried), (4) power of organization and administration, and (5) general business tact.

e. A professional certificate granted as a result of a searching examination in academic and professional subjects, together with other requirements set forth above.

Such legal requirements will protect our schools against the machinations of the politician. They may not keep him from becoming superintendent, perhaps, but they certainly will oblige him to become qualified first.

A Summary of what is being done for Rural Supervision. —Lack of space forbids that we should pursue this inter-

esting subject any farther. Considerable progress has been made along certain lines which will eventually place rural school supervision on a professional plane. The unit of supervision is already satisfactorily adjusted in many states, and many others expect to reach a speedy solution of the problem. Educators everywhere are pretty generally agreed that the superintendency must be removed from party politics. The East generally leaves the choice of superintendent in the hands of a non-partisan board, local or state. Even the West and South, where the office is political, are planning for a change. And, best of all, the entire Union of states seems to stand united in its demands for a higher standard of qualifications for the office of superintendent. When these things are consummated, and not before, will our country boys and girls be brought under a system of supervision as inspiring and wholesome as that now enjoyed by their city cousins.

CHAPTER V

The Rural School Teacher — his Training

The Perplexing Teaching Problem. — Preceding chapters have dealt with the importance of proper organization and administration in rural schools, of the urgent demand for greater liberality in financial support, and the necessity for professional supervision. But *the* problem of all the problems which await our solution in these same schools is the teaching problem. It would avail but little were all other conditions satisfactory, if the teacher, on whom, after all, the great responsibility of education rests, does not measure up to the required standard. The old saying that "as the teacher, so is the school" is as true to-day as it was a hundred years ago. If we would have our rural schools measure up with the city schools, we must provide as good teachers for the rural districts as may now be found in the cities. And this can only be accomplished after surmounting many vexing difficulties. Do not misunderstand this statement. All rural teachers are not poor teachers, nor are all rural schools bad. Far from it! Our country districts have thousands of conscientious, hard-working teachers who have fought their

way, through many difficulties, to the professional plane. These are generally progressive and take advantage of every means for self-improvement placed at their disposal. All honor is due them for much really good work already accomplished. For their protection and the welfare of *all* rural schools the difficulties in the way of satisfactory work must be removed. Of these we have already considered: —

1. Poor unit organization and indifferent administration.
2. Insufficient school support.
3. Insufficient supervision.

To these we now add: —

4. Indifferent professional preparation of teacher.
5. Low salary.
6. Unsatisfactory tenure of office.
7. Short terms and irregular attendance.
8. Low educational ideals and lack of appreciation of importance of teachers' work.

These questions will be discussed in turn, beginning with the teacher's professional preparation.

"Born" Teachers and "Made" Teachers. — Some people will never get tired of telling us that "teachers are born, not made," and not altogether without reason, for some innate qualities are essential for the making of, at any rate, the best teachers. That *all* teachers are not "born" is obvious. The main trouble is that the "born"

teachers are not born fast enough to supply the ever increasing demand. This leaves us the alternative either to "make" teachers or to get along with "makeshift" teachers. We do both. Hundreds of permanent training schools throughout the country are at work "to make" teachers and aid "born" teachers. Unfortunately, however, many so-called teachers of the present day can neither be said to have been "born" or to have been "made." They are neither natural teachers nor professionally trained teachers — they are mere makeshifts, who neither pursue their work for the love of it nor because they are especially equipped, but simply because they must do *something*. These hangers-on, using teaching as a stepping stone to something better, are the individuals forever throwing obstacles in the way of teaching's becoming a real profession.

The High Calling of the Teacher. — No one should enter lightly upon the work of teaching, as this is assuredly the most glorious of callings, and also one of the most exacting. Let every one consider well the great opportunities and responsibilities involved in teaching children, in molding their lives, in preparing them for their great heritage. The Pestalozzis and Froebels of history have invariably entered upon the work with prayerful hearts, in full realization of their own unworthiness. Let none of us do less. No young person should venture to teach who is not satisfied of his own fitness for the calling. Certain natural qualifications are essential in the make-up

of every successful teacher. Here, too, must be added a reasonable degree of academic and professional training. Thus equipped, young men and young women may face the future with fair reason to believe that success will crown their efforts.

Our theme is the professional training of rural teachers; but, first, let us enumerate some of the qualifications that every teacher must have to be a worthy teacher: —

Natural qualifications: —

He must have, —

1. A sound body and good health.
2. Good common sense.
3. Natural aptitude and insight into things educational.
4. A social and agreeable nature.
5. Patience, sympathy, and love for children.

He must be —

1. Tactful and logical.
2. Genuine, whole-souled, and manly.
3. Frank and unsuspicious.
4. Firm and self-reliant.
5. Altruistic.

The mere possession of these natural qualities, while very essential, is not in itself sufficient to make the teacher. There must be added an acquired training: (1) *academic* and (2) *professional.*

Academic Training. — In general, no person should be permitted to teach school who has not completed a high school course or its equivalent. The high school graduate

may have pursued many subjects which he will never be called upon to teach in rural schools; but such subjects are certain to furnish him with a valuable reserve store of energy to draw upon as occasion may direct. A teacher so equipped is reasonably safe from the pitfalls and ruts ever threatening his co-worker whose educational horizon is narrower and less distinct.

No teacher can get too thorough an academic training. "Thorough mastery of the academic knowledge of subjects," says Dr. Levi Seeley, "is absolutely essential, and no methods or school room devices or superficial tactics can take its place. More teachers fail from ignorance of the subject matter than from any other cause."

Professional Training. — But if teaching is to be established on a professional basis, a specific knowledge of the science and art of teaching is indispensable. What person would for a moment think of becoming a surgeon and try his skill upon the human anatomy without first pursuing a course of study in some reputable school of medicine, albeit a college-bred man? We answer: no one. No more, it seems to me, should a teacher, untrained professionally, be permitted to learn his art in the schoolroom, through experimentation on human minds and souls. Every teacher, indeed, from the ungraded rural school to the college, should know something about the professional subjects — psychology and child study, philosophy of education, history of education, methods

of teaching, school management, school economics, and school law.

Rural Teachers must make the School an Expression of Life on the Farm. — The degree of proficiency required in these subjects will naturally depend upon the kind of school for which the teacher is preparing. It is evident that if all this agitation concerning redirecting and revitalizing the rural schools shall ever produce concrete results, we must have teachers equipped to make the rural school a natural expression of life in the average rural community. Such teachers are not yet very plentiful. As a matter of fact, we are not suffering so much from a dearth of teachers with a good academic preparation, as we are from a lack of teachers professionally trained to take hold of the new trend of education in rural communities. A majority of rural teachers have a fair knowledge of subjects, gained usually in city schools and in city environments. This is an unfortunate circumstance. For it is difficult for young teachers whose very lives are centered, or have been centered, on the city to enter into the spirit of the new rural life. The few teachers who are reared on the farm are no better situated, for they are usually defective both in academic and professional training. Many of the normal schools, while beginning to grasp the significance of the farm movement, have not, up to the present time, made any provisions worth mention for training rural teachers; or they are already taxed to their full capacity to supply the de-

mands for better-paid city teachers. Evidently, it will be necessary to make a radical extension in the normal schools to meet the needs of the rural teacher or to establish altogether new training schools for this purpose. It may become necessary to do both.

Aids to Teachers already in Rural Schools. — For the present, at least, the task of redirecting and revitalizing the rural schools will fall mostly to teachers who are now engaged in the schools. They have had no particular training in the new education, and must, consequently, get this training as best they can from the various agencies at their disposal.

The most important are: (1) summer schools, (2) teachers' institutes, (3) teachers' meetings, (4) reading circles, and other work of similar nature.

While such agencies cannot be expected to take the place of regular school education they may be sufficient to put the practical teacher in touch with the new problems and fire him with a zeal and desire for better things.

Summer Schools. — Since rural teachers as a rule have long summer vacations, the summer school naturally is one of the most valuable aids within their reach. The number of summer schools catering to the needs of teachers is rapidly increasing. Many leading universities and colleges offer vacation courses in theory and practice; but of greatest interest to rural teachers are the short-term courses very generally offered in normal schools. Several

have added excellent model schools, where rural teachers may be imbued with the spirit of *how* modern rural life must be lived. Nature study, garden culture, elementary agriculture, art, and even manual training are taught in a direct and practical way. Annually many a teacher enters the professional ranks by way of the summer schools.

Teachers' Institutes. — The first teachers' institute, so far as has been recorded, was held in Hartford, Connecticut, in 1839, by the great schoolman Henry Barnard. Twenty-six young men attended a six weeks' session. J. S. Denman, superintendent of schools for Tompkins County, New York, held a teachers' meeting in 1840 which was the first time the name " institute " was used. Horace Mann seized upon the idea and made it popular in Massachusetts and elsewhere. In our day very many states provide by law for the holding of such institutes in one form or another. They vary in length of time from a few days to a number of weeks; the longer ones being, strictly speaking, summer schools under the control of state departments of education. Teachers' institutes are dominated by the teaching spirit, as most of those in attendance are themselves teachers. This contact with able instructors and co-workers from the rural districts does the teacher a world of good. Opportunities are offered for study both of an academic and a professional nature; here, too, he may become acquainted with the latest movements in rural school education.

Nebraska Junior Normal Schools. — A type of vacation school which partakes alike of the peculiarities of the regular normal school and the teachers' institute is the so-called Nebraska Junior Normal School. It is a successful attempt to bring the normal school right to the doors of the rural population. Eight such schools have been established at strategic points throughout the state, where they reach many teachers and would-be teachers, living outside the sphere of influence of the regular state normal schools located at Peru and Kearney. In a measure, too, they become feeders for the latter. The annual term of instruction is " not less than six nor more than eight weeks.' The average size of the teaching corps is nine members. The work is comprehensive and includes a strong course in agriculture. A special feature of the junior normal is the model rural school which, under the law, is maintained for a specified time in charge of an experienced practice teacher.

State Superintendent J. B. Aswell on Institutes and Summer Schools. — Other states are following various plans in summer school and institute work. And everywhere is it fraught with importance for rural school progress. State Superintendent J. B. Aswell, of Louisiana, who has had remarkable success in his teachers' institutes and summer schools has this to say of their educational value:—

Much of the educational enthusiasm now stirring the people of Louisiana is traceable to the stimulus given through the in-

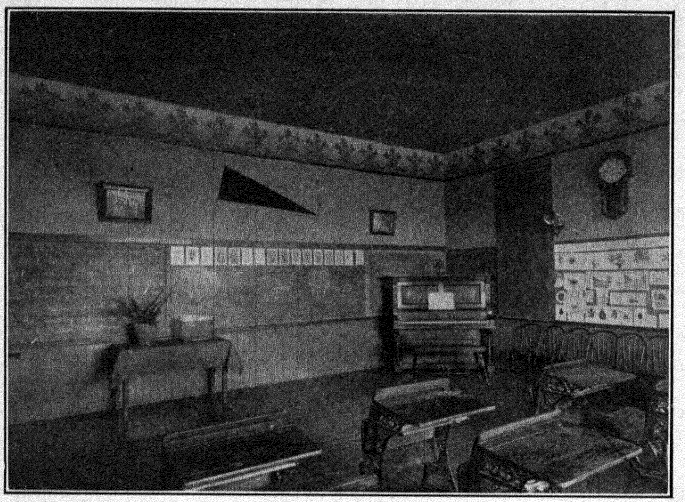
stitutes and summer schools. Earnest efforts for better teachers, higher salaries, longer terms, and new schoolhouses were organized in these meetings of the teachers. This spirit was carried to the people of the various communities, and the educational sentiment was crystallized into money which made possible the needed improvements.

Teachers' Meetings. — The rural teacher who wishes to keep abreast of the profession must be faithful in attendance at all county and local educational meetings. The wise teacher will go even farther than this and spend some of his hard-earned money in trips to the annual state and state district meetings. It is money well invested and results in better teaching, and to the teacher, in better professional ranking.

The county and local meetings may be made a source of enthusiasm and inspiration to the teacher. New methods are considered, local difficulties are discussed, and professional spirit is aroused or permanently strengthened.

No teacher can continue as a truly successful teacher who neglects to keep up his professional reading. It is just as unreasonable for a teacher to expect this as it would be for a physician or a lawyer to hope to keep abreast of his profession without following carefully the latest periodical output in his respective profession. Let every rural teacher, therefore, read several teachers' journals of state and national repute.

Reading Circles. — Then there is the teachers' reading circle. And for many rural teachers this is the only pro-



Interior of Country Training School, Western Illinois State Normal School, at Macomb.



Mode of conveying normal school students to the above training school, which lies one and one-half miles west of the normal school.

fessional reading available of a practical nature. Thoroughly organized and rightly managed, it is the source of a world of good. The circle is usually under the control of the state superintendent and a board of managers who arrange the annual course of study and have general oversight of the work. Local circles are managed by the county superintendent, who becomes, in a great measure, responsible for the success or failure of the work. There must be definite system in the readings. The meetings must be regular, the reviews emphatic, the aim in view absolute.

Such are a few of the agencies placed at the disposition of rural teachers. Let us now revert to the main question — the training of *new* rural teachers. This necessitates a brief discussion of the following types of institutions: (1) state normal schools, (2) county training schools, (3) high schools offering normal courses.

State Normal Schools and Rural Teachers. — How to provide trained teachers for the rural districts is a question of much moment. The state normal schools should in theory, at least, furnish trained teachers for *all* schools. Practically, however, they have been unable to do so. The demand for trained teachers in the city and village schools has been such as to give lucrative positions to all normal-trained teachers. The normal schools have consumed their energies in this line of work and have had little time to consider rural needs. Indeed, their very courses of study are fashioned to this end.

The N.E.A. Normal School Report, Page 29. — But if a majority of the normal schools as now constituted have not been of any great material help to rural teachers, the reason can be found in the demand for city teachers. The normals have only adapted their courses to prevailing demands. Now that the educational ideals are beginning to change, we may expect the normal schools to be prompt in their response. The N.E.A. Committee on Normal Schools comments on the adaptability of these schools in the following language: —

> The changes that have come to the possibilities and needs have always found the normal school ready to adapt itself to the new conditions. The normal school has been so near the public thought all this time that it is more nearly to-day an actual exponent of public sentiment than any other public institution of equivalent magnitude. It is specially sensitive to public demand, and sincerely endeavors to do for the people what is assumed to be essential to prepare teachers for the public schools.

Right now, with public sentiment in favor of rural uplift and industrial education in these communities, it is interesting to see how readily the normal schools take to the changed or changing conditions. There is a marked desire to be of use, to be of real value to the masses of our nation; to help in doing the most to make all members of our great commonwealth worthy, efficient citizens.

Rural Model Schools in State Normals. — As a matter of fact, in normal schools, especially in the Middle West and in the younger states, the demand for rural trained

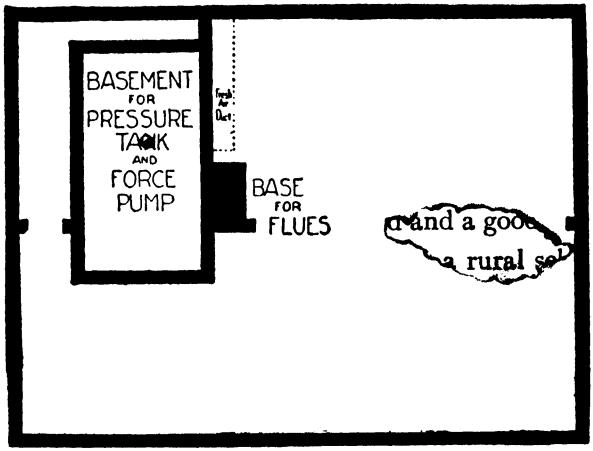


FIG. 1. — Foundation plan of model rural school at the State Normal School, Kirksville, Missouri. Outside measurement 36 by 28 feet. Pressure tank and force pump supplies all water for toilets, etc.

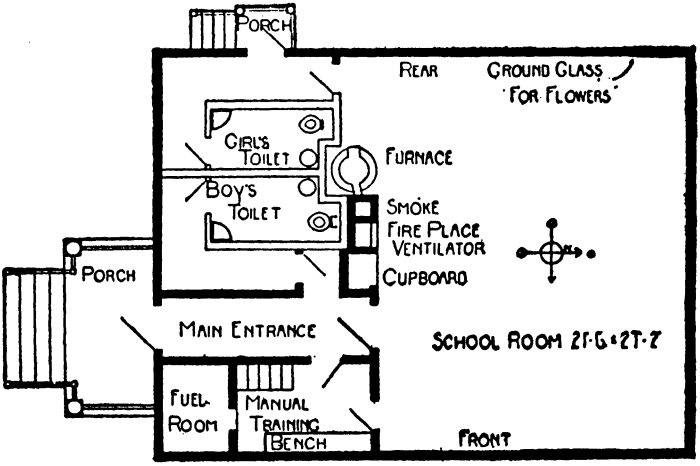


FIG. 2. — Floor plan of Kirksville model rural school. Indoor toilets can be added to any rural school, having a good water supply, at an extra cost of $350.

teachers is already in a fair way to be met. Model rural schools have been established in conjunction with the state normal schools at Terre Haute, Indiana, Macomb, Illinois, Kirksville, Missouri, Hays City, Kansas, and many

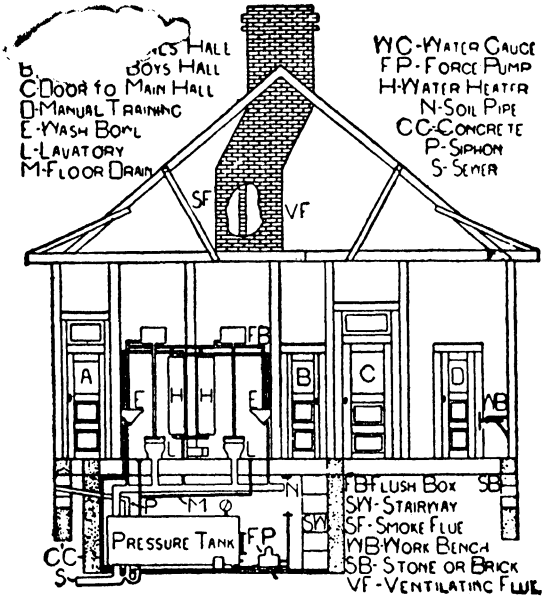


FIG. 3. — Section of Kirksville model rural school.

other states. At Kirksville the model school building was "designed and constructed to show that a rural school in any part of Missouri can, for the investment of about $350 in addition to the ordinary cost of a good building, have all the conveniences and comforts that can be secured in any city building in the state" (see chapter on Rural School

Architecture). It was designed as a model rural school and not as a mere practice school. Children are successfully transported by covered wagon to and from this school to-day. Students of the normal who expect to teach in country districts learn here through daily observation "the best things which a school board and a good teacher with the best facilities can do in and for a rural school."

The model schools at Terre Haute and Macomb are both located in the country and under the most ideal environment. Most competent critic teachers are employed, under whose supervision rural teachers receive the rural school inspiration before ever having put foot on the threshold of a real country school. The establishment of model rural schools as adjuncts to all state normal schools, especially in agricultural states, would do a great deal to hasten the day of rural school emancipation.

Agriculture in the State Normals. — Courses in agriculture, which were formerly mere adjuncts to natural science teaching, are now offered in many normal schools. In Georgia, for example, no one can graduate from the state normal school who does not complete the prescribed work in agriculture. In Nebraska conditions seem just as promising. The Nebraska State Board of Education has this to say about teaching agriculture in the state normal schools: —

> We are teaching it. Not just nature study dubbed agriculture, but really the elements of agriculture with a definite object and

specific aim in view. Thus we are meeting the imperative demand from the rural communities for teachers trained along these lines. We will send forth teachers that will be able to bring this great subject very close to the people who need it most. It was a little sentimental at first, but it has grown marvelously, until we are beginning to realize in our state the practical value of this kind of teaching. We are not for one moment aping the great agricultural college connected with our splendid state university, but our course of instruction in the normal school is practical and will prepare the teacher in the work of agriculture as it will be taught in the public schools of our state.

A Summary of what the State Normals are doing for Agriculture Teaching. — Professor E. E. Balcomb, of Weathersford, Oklahoma, read an instructive paper before the N.E.A. at Los Angeles, in 1907, entitled: "What has been done by Normal Schools and Agricultural Colleges for Popular Education in Agriculture." The paper embodies the results of a careful investigation into the present status of these schools and sheds new light on the remarkable progress made in the preparation of teachers of agriculture. It reads in part: —

> Of the ninety-one state normal schools from which information was received, seventy-five believe in instruction in agriculture, and are either giving it in some form or desire to do so. Of the sixteen not so expressing themselves, nine give good reasons, four give no reasons at all, and only three express themselves as questioning the course or being opposed to it.

A summary of Mr. Balcomb's paper shows that sixty-one state normal schools are actually offering the courses,

or have made plans to begin next year. Seven of the schools are giving a little agriculture in connection with science courses, nature study, and school gardens, but are preparing for more definite work. Eight others are doing considerable work in connection with school gardens and are planning to extend the work. The remaining forty-six are teaching the elements of agriculture in a more definite way. The work of all is interesting and inspiring.

Yet, after all that has been said above about the rural school movement in normal schools, we must not become oversanguine as to any great assistance from that quarter. Their chief work will continue to be to furnish our cities and villages with superintendents, principals, and teachers of every grade. Let the rural districts look nearer home for their supply. Let them establish schools especially and solely designed to train rural teachers; or, where this is not yet feasible, add training classes and normal classes to county and other high schools. This, we believe, is the true solution of the problem.

County Training Schools in Wisconsin. — Wisconsin is not only the pioneer in this field, but the state has without doubt developed the best training schools for rural teachers now to be found in our country. Sixteen of these institutions have been organized and applications are on file from several counties anxious to do likewise. Their one aim is to give "special instruction in the common school branches, and in the management of rural schools, to per-

sons preparing for rural school work." Here is the vital point — to take the teaching material from the rural districts to which the teaching product is again returned. The course of study is two years, and is as comprehensive as present rural conditions will permit.

The course which is given below is one of the uniform county courses and will give some idea of the subject-matter taught: —

First Year

First Quarter:

- Algebra
- Agriculture
- Grammar
- Primary Reading and Orthoëpy

Second Quarter:

- Algebra
- Political Geography
- Composition
- Expressive Reading

Third Quarter:

- Algebra
- English History
- Primary Constructive Work
- Expressive Reading

Fourth Quarter:

- Arithmetic
- United States History
- Spelling and Penmanship
- Literary Reading

Second Year of the Two-year Course, or the One-year Course for those prepared to take it

First Quarter:

- Arithmetic
- Drawing
- Reading and Orthoëpy
- Physical Geography
- Psychology and Pedagogy

Third Quarter:

- United States History
- Composition
- Literature
- Psychology
- Practice Teaching

Second Quarter:

Arithmetic
Grammar
Literature
Methods

Fourth Quarter:

United States History
Constitutions
School Management and Spelling
Practice Teaching

State Superintendent C. P. Cary on the Wisconsin Training School. — The influence of the Wisconsin Training School on rural life is most admirably expressed by State Superintendent C. P. Cary, who says: —

The county training schools are special institutions designed to meet a special and hitherto unmet need. The teachers in the country schools, prior to the establishment of the county training schools, were not receiving training directly designed to prepare them for their chosen work. They gained their knowledge of the rural schools by painful and often costly experience. They became teachers at the expense of their pupils and of the taxpayers who employed them. As a natural result the efficiency of the district schools was on the decline. It was high time that the lawmakers and educators of the state directed their attention to the relief of this highly important branch of the educational service of the state. The establishment of the county training schools has done much toward the placing of the rural schools in a healthy growing condition. In counties where the county training schools have been established, new interest has been aroused in all matters pertaining to rural school education. The very fact that taxpayers and members of the county board have had to provide means for carrying on this work has called their attention directly to the importance of securing the best possible instruction for the children in rural communities. The "little red schoolhouse" is again coming into prominence, and is once more a place about which the interest of the people of the districts center.

County Normal Training Classes in Michigan. — Michigan has adopted a system of county normal training classes which promises much for better rural schools. The law provides that such classes may be organized as adjuncts to already existing schools. A special teacher, competent to instruct in the professional subjects, is placed in charge of the work. He receives assistance from the other teachers of the school where the class is organized. All expense in maintaining the class is borne by the state. Up to the year 1906–1907 thirty-two training classes had been organized, with a present attendance of 500. Moreover, nearly 700 graduates have already gone forth to spread the gospel of the new education. "I consider the establishment of the county training class one of the greatest steps educationally that has been taken in Michigan in recent years," says State Superintendent Patrick H. Kelley. "Trained teachers are going into schools that heretofore could not get them, and the improvement of the teaching force of the state is one of the most vital matters in connection with our educational system."

We now come to the more general discussion of normal training in high schools.

Training Classes in New York High Schools. — The very earliest professional training of teachers in our country was done in New York State under the legislative enactment of 1834. It provided for the establishment of

eight academies where common school teachers could be trained. The schools designated in the act received $500 for books and equipment, and, besides, an annual appropriation of $400 for maintenance. In these academies we find the origin of teachers' training classes, which are likely to continue for some time the chief source of supply for trained rural teachers. These private academies became public high schools, preserving their early granted normal privileges. At the present there are 113 such training classes, one for each school commissioner district. They are under the absolute jurisdiction of the state department of education, and form separate and distinct departments in the high school where they are maintained. To get and retain a training school the local board of education must fulfill certain specific requirements in regard to qualifications of special instructor offered, and salary to be paid him; practicability of training department placed at disposal of class; opportunities provided the class for observation and practice teaching, etc.

Aside from thorough drill in the academic subjects, the training classes have ample opportunity to observe expert teaching in the grades and partake in practice teaching under expert critics. Students who pass their final examinations receive convertible three-year certificates to teach. At present nearly 1200 trained teachers annually graduate from the New York training classes and enter upon rural school work. As a result incompetent teachers

are being driven out, educational standards and ideals are raised, and the new teachers are beginning to receive a compensation commensurate with their preparation and worth.

Other States which maintain High School Training Classes. — Nebraska, Kansas, Minnesota, and Vermont are other states giving normal training in high schools a legal status. The first two states have but recently organized training classes on lines similar to the New York plan explained above, and have now in the schools many hundred young people preparing for rural teaching. Both states have adopted excellent courses of study containing a liberal amount of instruction in the professional subjects, including observation work, and, in Nebraska, the elements of agriculture. Kansas also grants an annual aid to its accredited high schools of a sum not to exceed $500. Minnesota and Vermont have offered normal instruction in high schools for some years; but unfortunately the instruction has usually been subordinated to the other high school courses, and treated as a side issue. As could be expected, the results have not been very gratifying. Such other states as may in the future plan to give normal training in high schools should invariably adopt the plan of separate and distinct normal departments in every respect coördinate with the other high school departments, and responsible to the state superintendent and his inspectors.

There is strong feeling in educational circles against a normal invasion of secondary schools. This is not without foundation. And yet we must have these teachers for the rural districts. The 11,200,756 boys and girls there have rights, too. Then, last but not least, it is already proved that the teachers trained under the high school acts go on and get more training after they have spent some years successfully as rural teachers. It will ultimately cause more of our young people to attend normal schools, colleges, and universities than any other known expedient.

This much for the training of rural school teachers; now the matter of adequate compensation.

CHAPTER VI

Salaries and Tenure of Rural Teachers

General Statement. — All thinking persons will agree that the permanence of democratic institutions depends solely upon public school education. The greatness of any nation is measured in the light of the thoroughness and vitality of its educational institutions, which can neither be greater nor better than the teachers who are the potent factors in fashioning and promoting these institutions. Any nation which undervalues the importance of the teaching profession and fails to give it adequate support and social recognition undermines its own national vitality. The greatest and most progressive nations in the world have the best school organizations, and they recognize the teaching fraternity by placing the teachers above pecuniary want and by granting them superior social recognition in the community.

In face of such statements as the above, Americans who love their country have every reason to feel profoundly moved. We may be optimistic enough to believe that the time shall never come, as some prophets of ill omen have ventured, that our public school will be nothing but "a

weak, inefficient make-believe, where senseless 'isms' and shoddy work will predominate"; but, at the same time we are not so blind as not to see that, in many respects, school conditions with us are not on a parity with existing conditions in leading European countries. It is particularly true that the American people has failed to give its educators the adequate pecuniary support and social recognition commensurate with their services.

To consider the salary question:—

Compensation of European and American Teachers Compared. — As a first step, let us compare European and American teachers. The following table gives the average annual salaries paid male and female teachers in four leading countries according to the latest available figures:—

England and Wales (elementary only)	$570 per annum
Germany (elementary only)	388 per annum
Austria (elementary only)	372 per annum
Holland (elementary only)	368 per annum

To make the table a just basis for comparison we must keep in mind:—

(1) The greater purchasing power of the European equivalent of American money;
(2) The enjoyment in Europe generally of free house and grounds, fuel, light, etc.;
(3) The granting of certain perquisites where the teacher acts as church chorister, etc.;
(4) The European system of teachers' pensions;
(5) The tenure of office during life or good behavior;
(6) Finally, the teachers' prominent social standing.

Now, in comparison, consider the following table, which gives the average monthly salaries paid elementary and secondary teachers in the United States.

The figures are from the report of United States Commissioner of Education Elmer E. Brown, for 1906: —

TABLE I

1	MEN	WOMEN	ALL
	2	3	4
United States	$56.31	$43.80	$50.04
North Atlantic Division . . .	64.95	44.11	61.69
South Atlantic Division . . .	44.35	33.54	36.26
South Central Division . . .	46.35	38.10	41.50
North Central Division . . .	57.99	44.17	49.08
Western Division	72.30	57.09	59.18

Conclusion Drawn. — The average salary for *all* in the United States is $50.04 per month. This when multiplied by 7.5 months (our school year for 1906–1907 was, to be exact, 150.6 days) gives a salary for the nation of just $375.30. When we consider that these figures include the salaries of superintendents, principals, and other teachers in 9560 high schools, public and private, bearing in mind as we do so that his salary is all the compensation he gets, — barring the sentimental, — the conclusion drawn is that the *American teacher is paid very much less than teachers elsewhere in the civilized world.*

Now study Table 2: —

TABLE 2

COUNTRY	TEACHERS IN 1906		PER CENT OF WOMEN
	Men	Women	
United States	109,179	356,884	76.4
England and Wales	26,200	66,300	71.5
Scotland	4,000	7,000	63.6
Italy	18,600	31,800	63.0
Ireland	6,000	7,000	53.8
France	56,370	49,400	46.7
Finland	1,500	1,170	44.0
Norway	3,852	2,234	38.0
Russia	38,700	22,400	36.0
Switzerland	6,400	3,600	36.0
Sweden	4,922	2,649	35.0
Denmark	4,500	2,000	28.0
Austria	51,500	20,000	28.0
Hungary	26,365	5,938	18.4
Germany	124,027	22,513	15.4

The table conveys the startling intelligence that the United States employs a very much larger per cent of women teachers than do European countries. More than three fourths of all our teachers are women.

Reasons for Better Salaries in Europe. — Now we are ready to seek the cause, to ask the reason why European countries pay better salaries and why they retain a much larger percentage of men in the teaching profession than we are able to do. In Europe teaching is as much a profession as is law or medicine or theology. Every teacher

is a professional teacher. No one may teach who has not completed a strict training course and passed a searching examination. The state has trained him, and it now puts him in a position to make a comfortable living for himself and his family. Every hamlet and city feels keenly that education is absolutely essential to success in life. After Napoleon had left Prussia prostrate at Jena its schoolmasters put the state on its feet again and in time pushed it to leadership in the empire. Since the disastrous war with Prussia and Austria, in 1864, little Denmark has more than regained in population and wealth what was lost in that disaster, chiefly through its schoolmasters, who have been indefatigable in the educational campaigns which have placed the kingdom in the forefront of nations intellectually and industrially. It is little wonder that teachers have a superior social ranking in such countries. Scholarship is respected and reverenced alike by high and low; all classes look up to the teaching fraternity because of its importance to the State.

To recapitulate: *Teaching is a profession in leading countries of Europe; none may teach there who is not professionally prepared. Teaching is for significant reasons held in high esteem. Teachers accordingly receive salaries commensurate with time and expense of preparation and dignity of position.*

Salaries of Teachers and Other Workers Compared. — The comparative salary argument is not the highest argu-

ment which may be used for increasing teachers' salaries; but it does answer the purpose we have in mind — viz. to emphasize in glaring reality *how poorly* teachers are paid in comparison with public workers generally. We have already seen that the latest report of the Commissioner of Education places the average annual salary for all teachers in our public schools at $375.30. Reports for thirty cities in every part of the country place the average annual salary for ordinary street laborers at $512.45, which is $137.15 more than the average for all teachers in the United States.

TABLE 3

	Av. Wages St. Laborers	Molders' Min. Wage	Elem. Teacher Min. Salary
Boston	$603.00	$825.00	$552.00
Cincinnati	493.50	960.00	400.00
Cleveland	480.00	900.00	475.00
Minneapolis	555.00	864.00	450.00
New Haven	534.00	825.00	300.00
New Orleans	481.00	900.00	315.00
Peoria	480.00	900.00	350.00
Philadelphia	503.00	870.00	470.00
Pittsburg	525.00	900.00	350.00
Racine	450.00	855.00	325.00
St. Louis	450.00	864.00	400.00
St. Paul	450.00	864.00	400.00
Seattle	697.50	1050.00	550.00
Average	$528.87	$901.70	$429.13

Table 3 illustrates this point further. It compares the annual earnings of street laborers and laborers in jobbing and machine foundries with elementary teachers in fifteen cities of the United States. The comparison speaks for itself.

TABLE 4

SECTION	BLACK-SMITHS	CARPEN-TERS	[1] FORE-MEN	PAINT-ERS	MACHIN-ISTS	[2]	MEN T'ch'rs
New England . .	$67.17	$58.33	$82.53	$73.66	$58.50	$49.83	$57.75
Middle States . .	65.00	56.33	97.50	52.00	60.66	45.50	50.10
Southern States .	71.50	56.33	91.00	——	58.50	45.50	49.32
Central States . .	71.50	56.33	91.00	——	58.50	45.50	49.32
Pacific States . .	80.16	——	——	——	78.00	60.66	62.36
Average . . .	$69.76	$55.75	$90.27	$62.83	$63.26	$48.62	$48.77

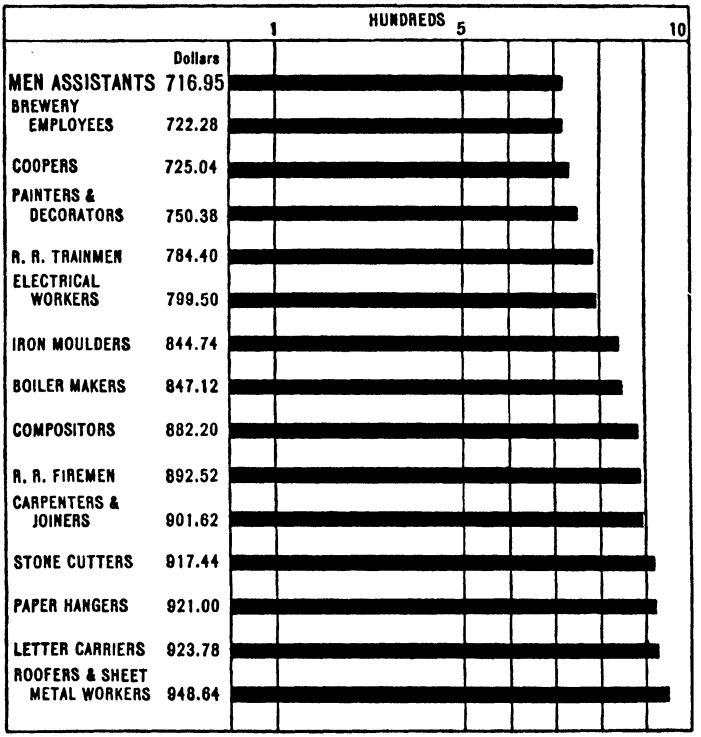
The above table, taken from the Ninth Biennial Report of the Superintendent of Public Instruction of North Dakota, is based on figures from the 1900 U. S. Census Report and deals with the subject by sections of the country.

The table on the opposite page is reproduced, by permission, from the Third Annual Report of the Education Department of New York State. It compares in a graphic way the average annual compensation of male assistants in secondary schools outside the cities and organized wage workers throughout the state.

[1] Foremen in machine shops.
[2] All other occupations, including those in which women are engaged.

A teacher has to spend much time and money in preparation for his work, and yet in the largest and one of the most progressive states in the country brewery employees actually earn a better living than he. The same is the case universally, it seems.

TABLE 5



Salaries paid Rural Teachers in Various Parts of the Country. — Let us now turn our attention more partic-

ularly to salaries paid in rural schools. So little attention has been paid to this feature of school maintenance that figures are hard to get and are more or less unreliable. Despite this we have ventured to compile Table 6, which will give the reader some idea of the subject. The states are picked at random, two from each of the five geographical divisions of the United States. The length of school year and monthly and annual salaries are given. It appears from the table that the extreme East makes the poorest showing, which is explainable in the rapid disintegration of rural population in those parts and in the rapid growth of cities. This leaves many depleted and impoverished districts with scarcely a handful of pupils. Nothing but starvation salaries can be paid in such communities. The salvation of these small schools assuredly lies in consolidation. The Western division shows up to best advantage; but it should be remembered, too, that living expenses are somewhat higher in the West. Of course the averages for the United States as set forth in the table are not final, since only ten states are considered; but the figures are not far from correct and will answer our purpose well enough.

We pay rural teachers throughout the United States on an average less than $300 per annum! Think of it! we expect these underpaid men and women whose best energies are consumed with the bread and butter problem, whose freshness and vitality early become blighted at the

prospect of the barren future opening out before them — we expect them to give, to impart, all the best that they have in them to our school children! We certainly expect much, and as a recompense, as a salarium, we give — $296.93! Fortunately, it may be said in justice to thousands of patient, conscientious rural teachers that the average school board receives much more than it pays for.

TABLE 6

DIVISION	STATE	AVERAGE NUMBER OF SCHOOL MONTHS	AVERAGE MONTHLY SALARY	AVERAGE YEARLY SALARY
North Atlantic	Maine	6.25	$24.00	$150.01
	Vermont	7.4	26.00	192.40
South Atlantic	Maryland	9.3	35.60	331.08
	North Carolina	4.3	30.24	130.03
South Central	Louisiana	7.0	42.89	300.23
	Texas	5.0	50.54	253.16
North Central	Minnesota	7.0	43.63	305.41
	Indiana	7.1	48.46	344.08
Western	Colorado	6.5	53.52	347.88
	California	8.5	72.35	614.98
United States	———	6.84	$42.72	$296.93

How the Rural Teacher makes Ends Meet. — It is often a puzzle to know just how these teachers can make ends meet. Take the New England teacher, for example, she who receives the princely salary of $196.65 per annum, a sum which is considerably less than that paid her sister drudge at the cotton mills. She must make a respectable

showing, be public-spirited and open-handed, and dress well. How does she do it?

In Kansas women teachers in the rural schools get an average of $40 per month for a school term of six and one half months, which gives them an annual income of $260. Miss A. is one of these teachers. She has kept accurate account of income and outlay. This annual budget, as she is pleased to call it, appears below, with her permission. Her school, however, is considerably above the average for the state and nation. Others fare much worse than she.

Miss A. is one of the really good teachers in Atchison county, Kansas. She teaches in what is termed a good district. The following is an honest account of her finances and time for the school year 1907–1908: —

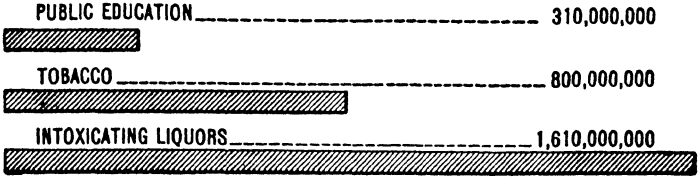
Income (8 months at $40)		$320.00
Cost of Board and Lodging	$ 96.00	
Dress	68.45	
Institute Expenses (4 weeks)	15.80	
Reading Circle Books	2.12	
School Journals	2.80	
Car fare — Teachers' Meetings	7.25	
Other "Self-improvements" (books and 3 theater tickets)	5.75	
Necessary Incidentals	11.43	
	$209.60	209.60
Balance		$110.40

Total Vacation		16 weeks	
Christmas Holidays	2 weeks		
Attended Institute during June .	4 weeks		
Rested after Strain of 8 months .	2 weeks		
Did the Winter's Sewing	2 weeks		
	10 weeks	10 weeks	
Clerked in Department Store		6 weeks	
Drew from Savings for Summer Living Expenses,			$21.45
Bal. at end of School Year			$88.95

There are those who allege that we cannot as a nation afford to pay larger salaries than we do at present. Look at these figures, they represent some of our actual annual expenditures: —

Alcoholic Beverages	$1,610,000,000
National Government Appropriations for 1908 . .	1,000,000,000
Beer	853,000,000
Tobacco	800,000,000
National Education	310,000,000
Army and Navy, Running Expenses	200,000,000
Pensions to Old Soldiers	142,000,000
Wine	106,000,000

Or arrange three of these more graphically thus: —



Education Bill *vs.* Drink and Smoke Bill. — As a nation we are rich beyond the wildest dreams of a Midas. Conservative statistics place our national wealth (1906) at $100,000,000,000, — a figure too large for human comprehension, — with an income of $24,000,000,000. Of this vast sum we actually drink up annually $1,610,000,000, or about $1 in every 15 produced. In the same way we burn up in tobacco, including cigarettes, $800,000,000, or $1 in every 30 produced. But we spend during the same period only $310,000,000 for national education, or $1 in every 78 produced. The *per capita* expenditure for the items is: —

Intoxicating Liquors	$19.10
Tobacco	9.49
Public Education	3.67

In face of these figures we *all know* that we can easily spend more for national education. If we were wise, we would invest our annual expense column and spend for education the $19.10 per capita which we now drink up. Then in a short while our national surplus would mount up into billions upon billions of dollars. The nation gets back a hundred fold, yes, many hundred fold, the amount invested in education, — and in teachers' salaries, — and it gets it back not alone in wealth, but in that which is much better, and which cannot be reckoned in terms of dollars and cents, viz. culture and morality, wisdom and happiness.

Low Rural Taxation. — Now, how about rural expenditure? Are the rural child and the rural teacher getting a square deal? Do rates of taxation as levied in the country compare favorably with the rates for villages and cities? The answer comes: *The rural districts where teachers are paid the poorest levy much lower rates upon a much greater taxable wealth than do villages and cities.*

Let us illustrate this by a series of diagrams. The first one gives the total rural and city school enrollment of children: —

Rural	11,200,757 (67.3 per cent)
City	5,441,214 (32.7 per cent)

The second diagram gives the total annual expenditure for school purposes in the two classes of schools: —

Rural	$140,242,795 (45.6 per cent)
City	167,522,864 (54.4 per cent)

Next we have the total amount invested for school purposes: —

Rural	$254,134,181 (32.4 per cent)
City	528,993,959 (67.6 per cent)

Finally, most striking of all, the amount annually expended for the education of each child, rural and city: —

Rural	$12.52
City	30.78

Superintendent O. J. Kern, on Rural School Maintenance. — The *World's Work* recently sent the following

inquiry to a number of distinguished educators: "What new subject or new method or new direction of effort or new tendency in educational work is of most value and significance and now needs most emphasis and encouragement?" Many striking replies were printed in the issue of July, 1908; one of the most suggestive is the following from the pen of O. J. Kern, superintendent of schools, Winnebago county, Illinois, and withal one of the most ardent advocates of the New Education in our country. He says: —

> The fundamental consideration is that the farmer *must spend more money on the education of his children and must spend it in a better way to meet the changing conditions of country life.* This proposition is the *sine qua non* in the consideration of any advance in the country school interest over the United States. It is the duty of educational leaders to demonstrate to farmers that a new educational ideal must obtain and that the increase of expenditure will pay.

Superintendent Kern speaks truly. The twentieth century must make large demands of the farmers. The district school cannot continue its haphazard teaching. It must hereafter teach the farmer boys and girls both to do things and to wish to do things. This kind of teaching takes capable teachers, and to get them and to keep them in the rural districts takes better salaries and greatly increased taxation.

The Law of Salary Regulation. — The law of salary regulation, which is of overshadowing importance to

teachers and the public alike, and which should be understood therefore by all, may be stated thus: (1) *If the earning capacity of teachers is not greater than the meager salaries they get, then the nation's life is endangered.* The education of the American of to-morrow is too important, too sacred a task to intrust to persons who cannot earn more than an ordinary scullion or a slaughter house employee. (2) *If the earning capacity of teachers is greater than the salaries they get, the teachers of great earning capacity will gradually shift to callings where the pay is commensurate with their earning capacity. This shifting will continue until it reaches an equilibrium in poor teachers and poor salaries. In this case, too, is the nation's welfare endangered.* In any event, the only salvation lies in increased salaries.

No doubt there are many teachers in the calling who do not earn more than they get. On the other hand, hundreds of thousands of teachers have been earning vastly more than they have been getting. Many of the best teachers — especially men — are leaving the profession for more remunerative work, often driven to take this step against their own wishes by sheer want. Unless a halt is called the ranks will become so depleted and the quality of teachers will deteriorate to such an extent that the public school may become a byword and a reproach.

The Threatened "Feminization" of the Schools. — Men teachers are entering other callings in such numbers as

to threaten the profession with feminization. The story of the male exodus is clearly apparent in Table 7.

TABLE 7. — NUMBER AND SEX OF TEACHERS — PERCENTAGE OF MALE TEACHERS

STATE OR TERRITORY	WHOLE NUMBER OF DIFFERENT TEACHERS EMPLOYED			PERCENTAGE OF MEN TEACHERS				
	Men	Women	Total	1870–71	1879–80	1889–90	1899–1900	1905–6
1	2	3	4	5	6	7	8	9
United States .	109179	356884	466063	41.0	42.8	34.5	29.9	23.6
North Atlantic Division	16599	100055	116654	26.2	28.8	20.0	18.4	14.2
South Atlantic Division	17396	36505	53901	63.8	62.5	49.1	40.7	32.2
North Central Division	27008	41612	68620	67.5	67.2	57.5	47.4	39.3
South Central Division	42016	153303	195319	43.2	41.7	32.4	28.3	21.5
Western Division .	6160	25409	31569	45.0	40.3	31.1	24.7	19.5

Of the whole number of teachers employed 356,884 are women, and only 109,179, or just 23.6 per cent, are men. In 1879, 42.8 per cent were men; in 1889, 34.5 per cent; in 1899, 29.9 per cent; and in 1905, 23.67 per cent. This state of affairs is almost serious enough to be classed as a national calamity. No one wishes to undervalue the immense influence of women teachers in the educational field. At the same time nascent manhood requires the influence of and contact with masculine teachers. Professor

Münsterberg, of Harvard, can see nothing but disaster come from our peculiar dilemma. The influence of women teachers on the male youth, he believes, is such as to feminize him in a startling degree. He says in part: —

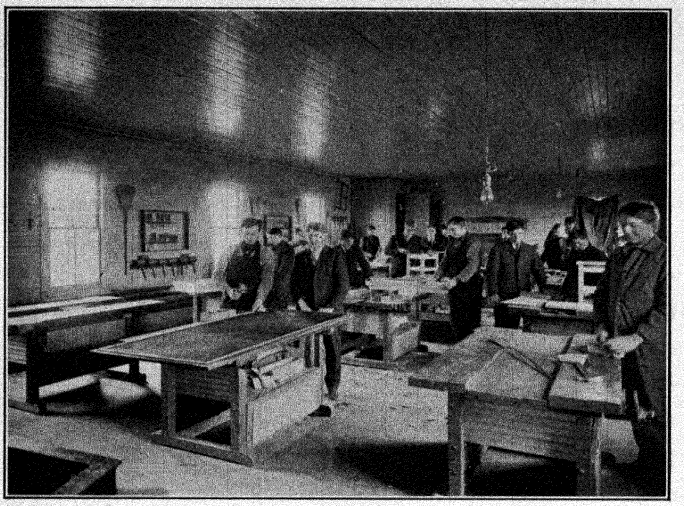
> The immediate outcome of that feminine mental type is woman's tact, æsthetic feeling, her instinctive insight, her enthusiasm, her sympathy, her natural wisdom and morality; but on the other side, also, her lack of clearness and logical consistency, her tendency to hasty generalization, her mixing of principles, her undervaluation of the abstract and of the absent, her lack of deliberation, her readiness to follow her emotions. Even these defects can beautify the private life, can make our social surroundings attractive, and soften and complete the strenuous, earnest, and consistent public activity of the man; but they do not give the power to meet these public duties without man's harder logic. If the whole national civilization should receive the feminine stamp, it would become powerless, and without decisive influence on the world's progress.

At the outset we showed that the reason why Europe has better schools and pays teachers better than we do in the United States lies (1) in higher professional requirements, and (2) in stronger popular appreciation of the teacher's services and calling. The reason why we do so poorly by our teachers is evidently our failure to appreciate these salient points.

Teaching must become a Profession. — Teaching must become a profession in the United States the same as law, medicine, and theology. Perhaps it may be considered such already, in theory. There certainly is a science of

teaching, since educational principles have long been formulated and classified. Teaching has created its own pedagogical literature. Likewise, provision has been made for its study as a science and an art. The lines are being drawn closer all the time. Teachers, like other professions, are organizing into associations for the purpose of protecting their interests and advancing their profession.

But if we are willing to consider teaching a profession theoretically, in actual practice it can scarcely be dignified with the name. We have some professional teachers, it is true, though, unfortunately, the vast majority are to all practical purposes untrained. Here is the mischief. Lawyers and physicians hedge themselves about with restrictions and laws which in effect exclude quackery and make-believe from their respective fields. Teachers have not been insistent enough in demanding higher standards of preparation; and certain it is that teaching will not become a profession in practice until it ceases to be a temporary makeshift and stepping-stone to something better. The standards must be raised. The individual teacher must get a stronger grasp on the professional subjects; he must study education in its historical setting and in relation to present social conditions. He must, in short, put himself abreast of the times; he must himself have, and be ready to give others, the broader knowledge essential in a democracy such as ours.



Manual training at the Dunn County School of Agriculture and Domestic Economy, Menomonie, Wisconsin



Sewing at the Dunn County School of Agriculture and Domestic Economy. This school was originated to provide a secondary education adapted to the needs of country boys and girls.

Some states, we are rejoiced to know, have already taken advanced ground in the matter of professional requirements of their teachers. Thus, in one state in the Middle West no one may teach in the public schools — city or rural — who has not had at least twenty weeks' professional training. In another state in the same section of the country the requirement is one year (thirty-six weeks) of professional work. The results have been very gratifying. The indifferent, unprogressive teachers have already dropped by the wayside and given place to professional successors. At first this caused a shortage of teachers; but the short supply and brisk demand have resulted in largely increased salaries and in new vitality being infused into school affairs in these states. Let other states do as well by their teachers, and let them do it speedily.

The Teacher's Social Recognition — on what it Depends. — It may seem almost trite to suggest a certain relationship between low salaries and inferior social recognition. And yet it is undeniable that with the average American *money is a measure of success.* It isn't that he cares for the money itself so much, but rather what it stands for. Judged by this criterion, the teacher's career needs the backing of largely increased salaries to give it a touch of respectability and social recognition. In a people so materialistic as the American, it is really questionable if scholarship for its own sake will attain the attitude of reverence with

which it is endowed in Europe, at any rate, for a long time to come. Meanwhile scholarship will continue to be measured by its market value — and what this shall be will depend greatly upon the teachers themselves.

Enlighten the Public. — The public is not altogether to blame for present conditions. The teachers themselves have hardly realized the shameful injustice worked the school children in a social system which will tolerate the expenditure of over two billion dollars annually for intoxicants and tobacco, while it gives all public education only three hundred million. The plain duty of the teacher is to inform himself of the facts, and then in no uncertain manner launch an " educational campaign " to enlighten his patrons and give them no peace till they realize the situation *and act.* No apologies are necessary, for the cause is the best in the world. The public needs such enlightenment; but let them once get awake to the realization of school needs and reforms will be sure to follow. Indeed, the many school improvements brought about in certain quarters lately have all resulted from persistent, organized agitation by determined teachers.

Occasionally one finds sections of the country where people are so lamentably unthinking and parsimonious in school expenditure that nothing short of *law* can make them open their pocketbooks. The state is vitally interested in the education of all its subjects. If, therefore, in a given community local pride or local intelligence is

dead, it becomes the plain duty of the state to take the initiative and compel the unthinking community to do their duty by obliging them to pay a certain minimum salary prescribed by law.

Enact Minimum Salary Laws. — Six states, to our knowledge, have lately placed such laws upon their statute books. The results have been all that the most optimistic could ask. Wherever the law is in operation the verdict is better salaries, better teachers. Indiana reports an increase of 36.2 per cent in salaries in three years since the law went into operation. The minimum salary law passed by Maryland in 1904 has had the effect to increase the salaries of 1500 teachers, ranging from 5 per cent to 30 per cent, and in the opinion of the state superintendent "has had a most salutary effect." In North Dakota the state legislature enacted a $45 minimum salary law in 1904, which "has done much to bring up the scale of wages." The state superintendent even urges that the rate be raised to $50 for second grade teachers. Ohio has increased her salaries from a monthly average of $35 to a minimum of $40. This means an annual increase in salary for elementary teachers of more than $1,000,000. Pennsylvania has not been able to go so far as Ohio. Her minimum is placed at $135 for a minimum of seven months. "The minimum salary law," says State Superintendent Shaeffer, "has increased salaries over the entire state." West Virginia, where salaries used to be proverbially low, has established a

minimum scale of $35, $30, and $25 for first, second, and third grade certificates respectively.

Encouraged by such reports as these, teachers' organizations in many states have begun systematic campaigns for better salaries. The immediate outlook for generally increased salaries is bright indeed.

Before closing the chapter we must say a word about the teacher's tenure of office. By this we do not mean the number of years spent in the service as a teacher — for we are agreed that the professional teacher makes teaching his life work — but we mean the length of time spent as teacher in the same community. The discussion relates to rural teachers only.

A Long Tenure for Rural Teachers. — It is a palpable fact that rural teachers seldom teach in the same district more than one or two terms. They are peripatetic by nature, almost; and like the journeyman carpenter they can never rest, but must ever so often pick up their kit and move on to new fields. Thinking people will see that if rural teachers are to exert a real influence in the community where they teach and become a blessing to the farm child and the farm home, this pernicious practice must end.

The tenure must become longer. When a district gets a good teacher it must pay that teacher living wages, and it should, if at all possible, enter upon a contract of two or

more years' duration. The ideal system would be for the teacher to make teaching in a given community his life work. Then he could become a power for good, and establish himself as the legitimate leader and director of educational and social interests for the whole country-side. Our country districts have no such inspirational heads now and are much the worse because of it.

In Germany and Denmark, by way of illustration, rural teachers often spend a lifetime in a single school. Several generations grow up under their instruction and go forth from the rooftree of their school to bless these school-masters and to teach their children in turn to revere them. They are paid enough to make a fair living and to be free from the many economic cares which are so prevalent in the profession on this side of the Atlantic. It is important for the ultimate solution of the rural school problem that its friends work with might and main to the end that rural school tenures be greatly lengthened.

CHAPTER VII

Rural School Buildings: Sanitation and Architecture

Spiritualization of Rural Life. — A new atmosphere of material and spiritual thrift is gradually settling upon our rural communities. Pioneer life with all its attendant hardships and trials has come and gone. The early period of settlement has been succeeded by a period of development and growth. Life in many rural communities is indeed becoming "spiritualized." This manifests itself in untold ways. Better and more commodious houses, great towering barns, well-kept lawns and close-trimmed hedgerows, flowers, shrubs and trees — all bespeak the growing love for the beautiful.

But in this march for better things, in this reaching out after the æsthetic and ennobling in life, the rural school has not kept abreast of the times. Unless it undergoes great changes in the near future it will surely cease to be an important agency in rural progress. So long as the settlers lived in log cabins and read at night by the light of a pine knot or dwelt on prairie and plain in houses built of sod and clay, and used the accumulation from the buffalo haunts for fuel, log houses and sod shanties did very well indeed for school purposes. They were in full harmony

with the environment. But now it is otherwise. Now our farm homes are copying the comforts and conveniences of their city neighbors, except in school matters only.

The Rural Schoolhouse of Song and Story. — In city and village school architecture has kept pace with the march of city life. Modern schoolhouses may be seen in every hamlet, while many cities boast veritable palaces for school purposes. In rural districts architecture is yet in its early stages. Well-equipped, modern buildings are beginning to appear in some sections of the country, we are rejoiced to know. But, everything considered, such evidences of progress are the exception rather than the rule. Communities comprising wealthy farmsteads which are supplied with everything that a twentieth-century civilization can offer in the way of convenience and luxury are yet largely content to get along with what they have — the "little red schoolhouse" of New England or the proverbial, rectangular box with entrance at one end and tumble-down chimney at the other, so familiar in the West. Time has dragged in rural districts since Whittier sang his immortal *In School Days:* —

> Still sits the schoolhouse by the road,
> A ragged beggar sunning;
> Around it still the sumachs grow,
> And blackberry vines are running.

Alas! it is with us yet, forlorn and unkempt. Weeds and brambles still thrive and twine in wild confusion outside,

except where many pattering feet have worn the ground to dust!

Is it not sad that communities which use excellent business sense in other matters refuse to see that the school buildings where the young are initiated into all that is good and beautiful and most worth living for in life must be in harmony with these teachings and not devoid of the very attributes which the teacher strives to make part of the child's life? Need any one be surprised that the poet sings of " feet that creep slow to school " when he contemplates the ugly, uninviting structure, wind-swept and forlorn, set in some fence corner, exposed to summer sun and winter blast, where the child must needs spend many hours and days and weeks for many years of his life? Verily, it is not surprising that many children have so little regard for the district school!

State Law to prescribe Rules for Construction of Sanitary Schoolhouses. — Perhaps the most important event in the district's history is the planning and building of the new schoolhouse. Many boards and school committees do not seem to realize the significance of this, so that quite commonly one finds even recent structures built without regard for the essential elements of lighting, heating, and sanitation. Financial limitations may sometimes be an excuse, though usually it is due to a lack of knowledge of the essentials in schoolhouse construction.

A case in point came to the writer's notice a short time ago. A schoolhouse was struck by lightning and burned to the ground — a good riddance indeed, as it was an old eyesore. The board immediately drew plans and specifications for a new building, filing them at the house of one of the members, where the bids were received. Investigation showed that the new building was to be erected on lines identical with the old. Not a single improvement of any sort was called for except that the new house was to be painted drab with white trimmings instead of all white as before! And this in a wealthy community whose taxpayers would have been glad to pay for a modern building. It was clearly a case of ignorance on the part of the board.

Every state should pass laws to put an end to such maladministration. Let them be to the effect that hereafter no school district shall be allowed to erect any new school building or remodel an old building without first submitting complete plans and specifications to some competent authority (say, state board of health together with an able architect appointed by the state superintendent) for approval. Some state boards of education have shown praiseworthy zeal in furnishing, in pamphlet form, a series of suggestive plans and specifications, varying in cost from a few hundred dollars to several thousand dollars, which embody all the latest improvements in school architecture. Placed in the hands of county superintendents and other super-

visors, such plans will do a world of good and lend new impetus to modern school construction.

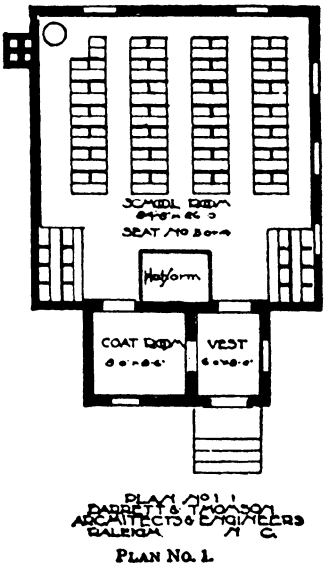
Choice of Site. — The first step is to choose a site. The essential thing to keep in mind is that the best to be found is none too good. The location should be as central as the contour of the country will permit, though it would be unwise to sacrifice other requisites, such as soil, sightliness, and the like, to the single item of central location. In any case the location should be sightly. The outlook should, if possible, be the most beautiful in the district, well removed from the disturbing influences of railroad tracks, mines, and manufacturing plants. A low site and poor drainage is not to be considered for a moment. Indeed, an avoidable cause of much sickness among school children is damp basements and foundations occasioned by just such sites. Neither should some bleak, wind-swept hill crest be selected. The ideal site would be a location high enough to command a good view and give it suitable drainage, and yet lying reasonably well sheltered. Trees as a background to the north and west would afford a suitable protection and at the same time give an excellent setting for the schoolhouse. The site should be porous and dry, and free from all putrefying substances. Then, finally, every school ground should have an inexhaustible supply of pure water, which, we shall see, must from now on play a part in rural school sanitation ever increasing in importance.



DESIGN No. 1.

FIG. 4. — Design and floor plan of a good inexpensive building used in North Carolina.

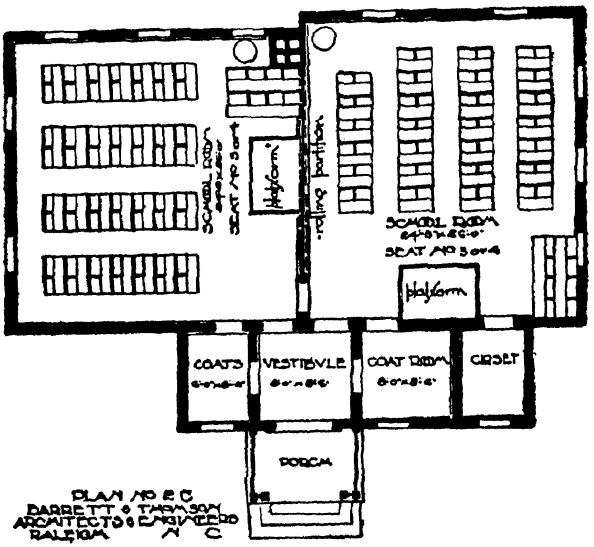
Arrangement of Floor Space. — The site being chosen, we may turn all our attention to the plan of construction. And here let us once more repeat, that no building committee can afford to dispense with the services of a competent architect. The interior arrangement is of paramount importance and must be the first to receive our consideration. The problem is how to get the greatest utility out



PLAN No. 1.



DESIGN No. 2—C.



PLAN No. 2—C.

FIG. 5.— Design and floor plan showing how No. 4 above may be converted into a two-room structure.

of the smallest space, without destroying the architectural beauty and harmony of the exterior. Take the main room of the one-room rural school building. The size will depend somewhat upon the number of pupils for which it is intended. It should provide at least 15 square feet of floor space for each pupil, and should not measure to exceed 32 feet in depth by 26 feet in breadth. Some authorities hold that no room should measure to exceed 30 feet the longest way by 28 feet in breadth, as they deem these measurements most satisfactory from the standpoints of hearing and seeing.

Library, Rest Room, and Cloak Rooms. — A model school cannot get along without a small library and reading room; and, to make it complete, should have a rest room for the teacher. The library may be fitted with a bay window, which may be utilized for plant culture, for the keeping of a school aquarium, etc. These rooms need not be large and may be added at no great extra outlay.

The old way of hanging wraps in the open halls is unsightly and unsanitary. Separate cloak rooms should be provided for the boys and girls. It is an excellent plan, wherever feasible to furnish separate, numbered lockers for this purpose, and one heated and well-ventilated locker to be used in common by all the children for drying damp wraps. The halls must be wide to provide against unnecessary crowding and should be located in such relation

to the schoolroom that the teacher can readily have oversight of them. Ceilings everywhere should be at least 13 feet high; the schoolroom proper should be high enough

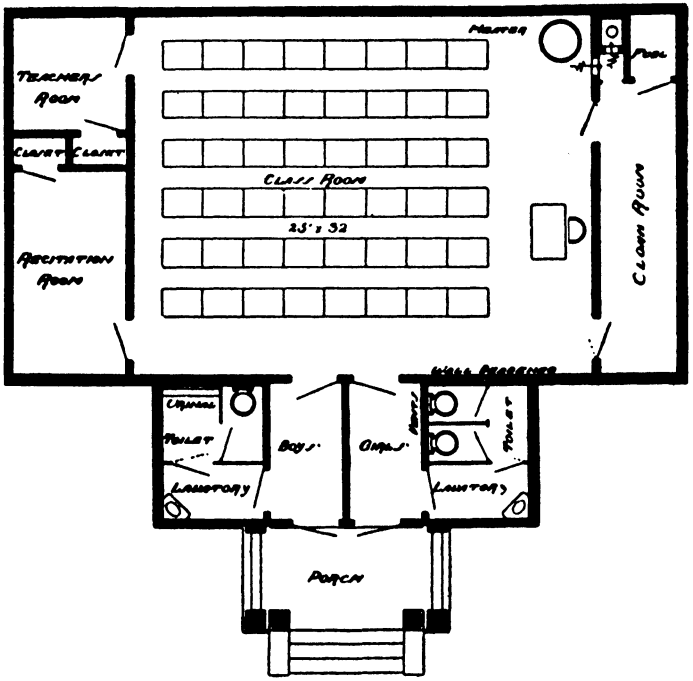
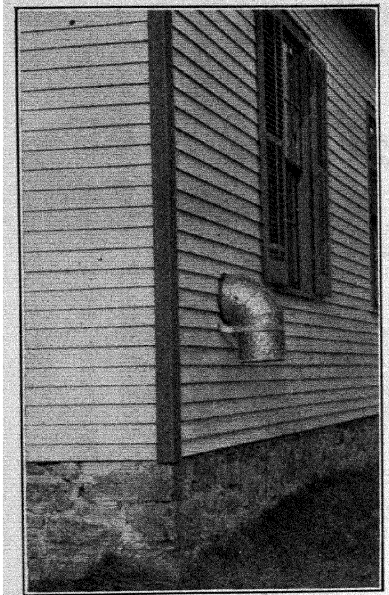


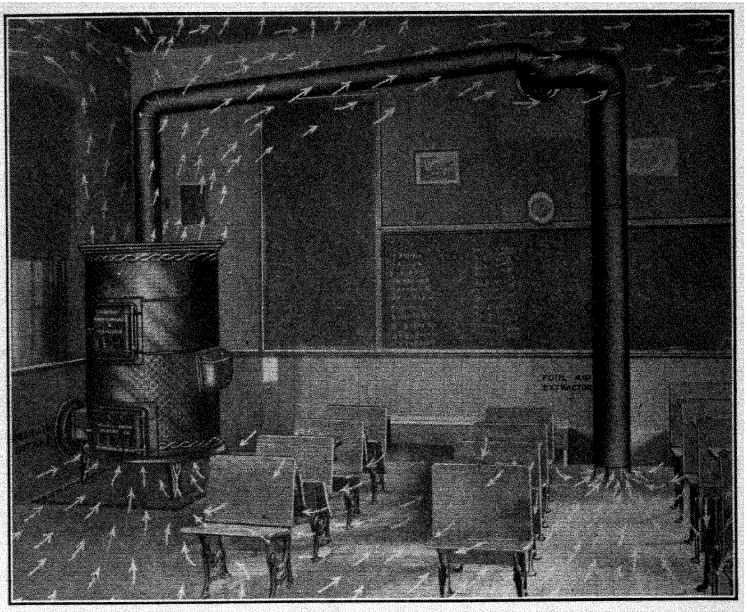
FIG. 6. — Floor plan of rural school in California. Recitation room can, if desired, be used as a library.

to allow each pupil a minimum of 250 cubic feet of air space.

Basement: its Uses. — A high basement should extend under the entire building. It should have ample glazing, be light and dry, and be cemented throughout. both floors



Exterior of rural schoolroom, showing Fresh Air Intake of stove in next cut. (Courtesy of Manual Smith Heating Co., Minneapolis.)



Interior of rural schoolroom, illustrating the "Smith System" of heating and ventilation. (Courtesy of Manual Smith Heating Co., Minneapolis.)

and walls. In case of heating by furnace a portion of the space must be walled up for furnace and fuel room. A part of the remaining space should be fitted with work-bench, etc., for shop purposes. Where the pressure tank system is used to supply lavatories and toilets with water, this tank must also be placed in the basement. Such a basement properly arranged can add immensely to the utility of the school building.

Proper Heating and Ventilation. — Considerable attention has been paid of late years to proper heating and ventilation. Public and private edifices are now quite generally constructed along hygienic lines, wherein careful consideration is given to pure, fresh, and well-heated air. Every school building nowadays should make provision for an adequate system for purifying the air, and heating the room with fresh air at an even temperature. This cannot be accomplished without calling artificial means to our assistance. The only way to ventilate is to induce fresh air somehow *to enter* and to induce the vitiated air *to leave* the room. The method of window ventilation is very good at recess or other intermissions, but is positively dangerous while the children are in their seats, and should be reduced to a minimum of practice.

There are only two satisfactory systems of ventilation, the expensive fan system for forcing air currents through the room by means of mechanical device, and the older gravity system. The former is too elaborate to be practic-

able for rural schools; so we must limit our attention to the latter. The principle on which the gravity system works is very simple; but, strange as it may seem, is yet frequently misunderstood. Many school boards are still erecting large buildings with huge, unheated ventilator shafts which are expected to carry off vitiated air against the gravity pressure on the cold-air column in the flue! Either the foul air must be carried into the basement and there purified — or, what is more practical, carried off through heated ventilator shafts.

Hot-air furnaces have been installed in some rural schools, particularly in the Northwestern states. This system is excellent, first, because it does away with a heating apparatus in the schoolroom altogether, since the furnace must be placed in the basement. Then it supplies the room with a constant current of warm, fresh air which is supplied to the heater through a fresh-air conduit from the outside and takes up the foul air through return registers in the floor.

However, for the average schoolhouse a jacket ventilating stove will answer the purpose very well. Such stoves have been on the market for a number of years and may be set up ready for use at an outlay of from $35 to $45. This is a great improvement on the old-fashioned stove, which, as all must know, is the greatest vitiating agent in the room in that it uses up enormous quantities of oxygen in the process of combustion, and has none of the

appliances for successful ventilation. Let it be abolished from the modern school.

Construction of the Ventilating Stove. — The ventilating stove as set up ready for use appears a great deal like a small hot-air furnace. It comprises a cast-iron stove, inclosed in a heavy sheet-iron jacket which fits the floor tightly and has a circle of holes at the top through which the heated air escapes into the room. The jacket communicates at the floor with a fresh-air conduit, extending underneath the floor to the outside of the basement wall, the opening being protected with a coarse screen. The working principle is simple. Fire in the stove heats the cast-iron surface, which communicates its heat to the air between it and the outer jacket. The heated air rises and passes into the room; and this naturally causes an influx of fresh air through the conduit, which in turn becomes heated, rises, and passes into the room. All this heated air rises towards the ceiling, expanding outward as it goes, and then it slowly settles towards the floor near the walls. A return current is created here by the stove draft, which helps to remove the vitiated air from the room.

An excellent way to supplement the insufficient stove draught is by a conduit leading to the heated chimney. Of this Dr. Shaw gives a good description in his *School Hygiene.* He says: —

> In the opposite side of the room from the stove a tin or galvanized-iron ventilating duct should be constructed, oblong in shape,

having its cross-section dimensions 12 × 6 inches. The open end of this duct should be within one foot of the floor. The flue should extend to the ceiling and run along the ceiling to the chimney. There should not be any curved angle in this duct but a curved bend where the upright section unites with that which runs along the ceiling. The ventilating duct should discharge into a large chimney flue, at least 14 × 20 inches of cross-section area. In the middle of this flue there should run a sheet-iron pipe of sufficient capacity to deliver the smoke and gases from the stove. The heat radiated from this pipe when there is a brisk fire in the stove will cause a strong draught in the flue and draw the air out of the schoolroom through the ventilating duct.

In districts where the school boards are reluctant about discarding the old stove for a new ventilating stove it is a good plan to improvise such an one by fitting a strong sheet-iron jacket and a fresh-air conduit to the old stove. (See Appendix B).

Importance of Correct Lighting. — Correct lighting is the most important feature in all school building construction. Many forms of ailments to which the present generation is heir and a great many other constitutional derangements can be traced directly to poor lighting. The glass surface should be massed on one side of the room only, and the seats arranged in such a manner that the light will come from the left and over the shoulder. The window sills should be set high enough to be above the level of the eyes of the largest pupils when seated. The frames should reach to within a few inches of the ceiling and be square, as the best light is obtained

from the upper part of the window. The total amount of glass surface should be about one fifth of the floor space of the room. If for any reason sufficient light cannot be furnished from the side, windows may be placed at the rear of the room. This, however, works a hardship on the teacher who is obliged to face the window much of the time, and should, if possible, be avoided.

Window curtains and opaque shades — preferably of light green color — should be used to mellow down the glaring light. The shades should be made double and be placed at the middle of the window so as to roll up and down.

Blackboards and Chalk Rails. — Blackboards should occupy all available wall space except on the lighted side. Pupils should never be obliged to stare at blackboards set between or at the sides of windows, as the direct light rays from out of doors have a tendency to make them squint-eyed and otherwise injure the eyesight. Slate is the most satisfactory writing surface in use, and is more economical in the long run than artificial boards, though the initial expense is more. The liquid slating commonly used has many objectionable features. Unless the plastered wall is exceptionally well finished, the board will be rough, it will wear out and become full of unsightly holes and cracks, or it will present a shiny surface, extremely hard on the eyes.

If the district does not care to go to the expense of pro-

curing slate, the Hyloplate and similar composition boards will answer almost as well. These have the advantage of coming in better lengths and being easy to apply. Then, too, the color — a soothing green — is highly recommended for its hygienic properties.

Blackboards as used in rural schools should be 30 inches from the floor and about 4 feet high. This will be ample to take care of the smallest as well as the largest pupils. The boards should be supplied with chalk rails $2\frac{1}{2}$ inches wide, to catch the dust and hold crayon and erasers.

New Sanitary Appliances. — There is no reason why rural schools should not have as sanitary toilets as are now found in well-equipped city schools. Perhaps no one question in school construction has presented so many troublesome phases as this. But that time should be past. Wherever it is possible to get a good supply of water from well or spring (and schoolhouses should never be located where the water supply is scanty), good indoor closets and lavatories may be constructed at a total outlay of about $350 (see plans of Kirksville, Mo.; school elsewhere in this book). Think what this will mean in rearing the generation now in school! in sparing them from contact with much of the indecency and viciousness occasioned by loathsome outbuildings! We cannot emphasize too strongly that the average rural school closet is a shame and a disgrace and should not be tolerated. Usually it is

unsightly and unscreened, a veritable abomination to beings of fine sensibilities. Common decency and good morals demand a thorough reform in this breeding place in first steps in crime.

Outhouses made Decent. — The following suggestions may not be amiss for districts which by force of circumstances must continue to use the outdoor closets indefinitely: Place the outbuildings at the rear of the schoolyard, and as far apart as possible. Build substantially and large. Place strong latticework screens on two sides of the building — on the front and inner side — to protect the privacy of entrance and exit. Plant hardy perennial vines against the lattice and train them so as to cover the entire structure. Mass a heavy growth of evergreens or shrubbery on a line halfway between the two outhouses, to separate the boys' half yard from the girls', thus affording all needed privacy.

Keep the inside of the closets scrupulously clean. Cover the walls with a coat of sand paint to prevent marking and scribbling. In a corner of the room place a box containing a mixture of earth and quicklime, to be used from time to time to cover and dry up the excreta in the vault. Provide the buildings with windows, set high, and ventilating flues which should extend several feet into the vault. Make the doors strong and fit them with catch and lock.

Build the vault of masonry, constructing it in such a

way that the accumulations may be removed without trouble.

Let the key remain in the teacher's possession, *who shall daily lock and unlock the doors, inspecting the buildings as he does so.*

Now, to revert to sanitary indoor toilets. These accessories of a twentieth-century civilization have been used a good many years in large places which have water pressure and sewerage. But the remotest rural school may now have as satisfactory a system of its own by using artificial pressure.

The Pressure Tank and Sanitary Plumbing. — Place a pneumatic pressure tank in the basement of the schoolhouse or in the ground near the well, and connect with the inside plumbing. The water may be pumped into the tank — using hand or wind power — with a force pump so ingeniously arranged that it pumps the water and applies the air pressure at one and the same time. The tank should measure about 200 gallons to a 30-pupil school, grading up and down according to requirement. Such systems are used in private dwellings and schoolhouses, and give the best of service.

The sewage is passed through a set of underground tanks and pipes and fully oxidized. Plans may be furnished by any up-to-date plumber. Such a sewerage system may be constructed at a very little cost and is infinitely more satisfactory than open drains and cesspools. The plant com-

plete, including toilets, lavatories, piping, tank with pump, and septic sewer have repeatedly been built for $350.

Schoolhouse Construction must combine Utility with Adornment. — So far we have dealt with interior arrangement, with the hygienic appliances demanded in this progressive age. A word only is necessary concerning schoolhouse exteriors. Utility must ever be the prime end to be sought; but utility attained without robbing the exterior of architectural harmony and beauty. The schoolhouse should be the most practically arranged, yet the most attractive structure in the community. It should bear the stamp of educational purpose on its exterior, and be an educational inspiration to the entire countryside. It must not be overly ornate, yet not too strikingly simple. Let it combine the practical with the graceful and ornate in such proportions as to present impressions of enduring service and simple beauty.

CHAPTER VIII

Indoor Furnishing and Art

The Old School *vs.* the New. — The old-time rural school with its large attendance and strong teacher had its faults, no doubt; though it was unquestionably the rallying point of all the common interests of the community. At the schoolhouse the countryside gathered for the lyceum or debating club; here they held their old-fashioned spelling-matches and singing-schools, and on Sundays went to "meeting," yet there was no æsthetic uplift of consequence to be gained from the place of holding these gatherings, at any rate from our modern point of view; for the school building was invariably crude and poorly constructed, the furniture was rough and home-made, the walls mud-plastered and bare. But these things harmonized with the pioneer life of the time; nobody expected anything better.

In our day, alas! the rural school has lost many of its old-time attractions. It is no longer a *large* school. Local ambitions and increasing rural population have conspired to multiply small districts till every farmer has a school-house near his own front yard. Then the cityward flow of rural population began. Little by little the many small schools grew smaller and of less vitality. The good teacher also turned his face to the city; the ambitious pupil had to

follow him or go untaught in the higher branches. If this moving to the city for higher education is to continue, the whole rural community as well as the school will become devitalized.

The country child is manifestly entitled to as thorough an education or as practical an education as the city child, and he is entitled to get it right in the country without going to the city for it. The ultimate solution of the whole matter lies in centralization and consolidation of schools. The time will be that a majority of country children can attend well-built, well-equipped graded schools in their own wholesome country environment. But this cannot be realized for a long time to come. Some places, indeed, may never realize it at all, because of unfortunate geographical location, poverty, and the like.

The Rural School must again become the Rallying Point of Country Interests. — Meanwhile, something must be done for the great army of boys and girls mentally and morally starving in rural districts, amidst the most unfortunate surroundings. The schoolhouse must once more become the rallying point of the community. We may never again see it the large school that it once was; but it can in a larger sense than of yore become the inspirational center from which shall flow influences, uplifting, blessing, and bettering all who may feel their touch.

We have already discussed the new architectural requirements in Chapter VII. The beauty, grace, and

dignity of the modern building must be such that people will point to it as *our* schoolhouse and emulate its architecture in the construction and arrangement of their own homes.

The grounds must be made attractive with plots of velvety grass, with trees, shrubs, and flowers. The whole should present an appropriate setting for the dignified structure placed in its midst. The interior must be in harmony with the exterior. It must be homelike, bright, cheerful, attractive. The walls should be tinted some soft shade, blending well with the woodwork and blackboards; pictures should adorn the walls and lend an artistic touch to the room; flowering plants should fill the ample bay window to add a sense of love for nature; while books and statuettes and plaster casts may be depended on to add a real scholastic touch to the atmosphere.

Such surroundings exert a marvelous influence over the children. They arouse in their hearts a love for the beautiful which will last as long as life lasts. The children who come from homes where culture and refinement are unknown will enter a new life in the school, a life which they will soon learn to love and crave. The children from homes abounding in modern comforts and conveniences will find the new school atmosphere homelike and congenial. All classes will be satisfied and will come to look upon the district school and its work as the noblest and best in human endeavor.

The dirty, smoke-begrimed schoolhouse, with its cracked and broken plaster, warped floor, rusty stove, and dirt-stained windows, can no longer have a place in modern country life, if we wish to reëstablish it as the rallying point in rural life, a place where we shall hope to save the country boy and girl for the farm and farm life.

Superintendent L. B. Evans on the Importance of Æsthetic Environment. — Let Superintendent Lawton B. Evans, of Georgia, emphasize this vital point. He says in the Report of the Committee of Twelve on Rural Schools: —

> If children are daily surrounded by those influences that elevate them, that make them clean and well ordered, that make them love flowers, and pictures, and proper decorations, they at last reach that degree of culture where nothing else will please them. When they grow up and have homes of their own, they must have them clean, neat, bright with pictures, and fringed with shade trees and flowers; for they have been brought up to be happy in no other environment. The true test of our civilization and culture is the kind of home we are content to live in, and the influences of our schools should help to form a disposition for those things that make home life happy and healthy. If the farmer's boy can be taught to love books when he is at school, he will have a library in his home when he becomes a man; if the farmer's girl can be taught decoration at school, she will want pictures and flowers and embroidery when she becomes a woman.

Let us now consider the schoolhouse interior in detail, after which we shall discuss *how* the fitting and furnishing may best be procured.

Walls and Woodwork. — The walls should be float-finished. A coarse-grained surface is less liable to crack than hard finish, and looks better when tinted. The color will depend upon the lighting of the room. A north exposure demands warm, soft tints in red, as cream, salmon, and terra-cotta, and in orange and yellow. A south exposure, on the contrary, takes colors which will absorb the sunlight and give a cooling effect. Shades in gray and green are the best. The ceilings should be tinted a lighter color than the walls. A picture molding should extend around the room about two feet below the ceiling. A drop ceiling of ivory-white carried down to this molding, with walls of olive-green, make a remarkably fine combination for a south exposure. If wall paper is used, it is well to avoid all florid designs; the plain ingrains are the most satisfactory.

The woodwork should be plain and free from dust-catching ornaments. It is an excellent idea to finish it in the natural grain if the wood is of good quality and matched for grain. Otherwise a paint harmonizing with the wall tints is to be preferred.

Furniture. — The pupils' desks should face the main entrance, most of the light coming from the left. Single desks are preferable, both for disciplinary and hygienic reasons. Adjustable seats and desks are desirable, though a trifle more expensive than the others. Both the desk and seat may be adjusted to the pupils' needs with remark-

able nicety. Non-adjustable desks must be graded according to the size of the pupils. The usual way is to arrange the seating by placing the largest seats in the rear of the room and then grading down to the smallest at the front. Some teachers now prefer to place the largest seats in a row next to the wall farthest from the windows and grading the rows down to the windows. This has the advantage that the teacher may keep the unruly big boy as well as the small one under immediate surveillance.

Necessary Equipment. — The teacher's desk should be a plain, well set-up piece of furniture, with drawers for record books, etc. The library should be a cozy room. Matting on the floor would add much to the appearance. The book shelves should have glass doors and may be built right in the wall; or be movable, if added after the construction of the building. The room should further have a polished reading table, at least one-half dozen straight-back chairs, a settee, and a couple of easy chairs — the latter for the use of visitors. The schoolroom and the library ought each to have an unabridged dictionary with stationary stand built against the wall. The further equipment should include a case of standard geographical maps, a set of physiological charts, reading and number charts, a globe and such other *necessary* apparatus as may be expressly recommended by the superintendent of schools.

We underscore the word "necessary" above because ex-

perience has taught that the school directors who show the most niggardly spirit in the expenditure of school money for such apparatus as is really needed are often the first to be caught in the toils by wily agents with expensive paraphernalia for sale — paraphernalia both useless and unnecessary in the rural schools.

Superintendent O. J. Kern on "Throwing away Good Coin of the Realm." — Superintendent O. J. Kern speaks right to the point in his admirable book *Among Country Schools*, in which he says: —

> Instead of spending $35 or $50 of the school funds for a wonderful chart portraying the whole scheme in the education of man from the cradle to the grave, why not use the same amount of money for paint? The chart stands neglected because the teacher cannot use it in the average school. A planetarium advertised for $35, to "clearly illustrate and practically solve the difficult problems relating to celestial sphere, ecliptic, equinoxes, apogee and declination, retrograde motion of the planets, etc.," may be a necessary piece of apparatus in the hands of a teacher who knows how to use it; but country schools are needing shades for the windows, a hardwood floor, paint for the walls, a towel rack, a water tank, a jacket around the stove and many other things, more than planetariums and geometrical blocks. And yet the school officers are throwing away good coin of the realm in such purchases of apparatus beyond the use of the average country school. Rather use the money to purchase lumber, paint, blackboards, and soap.

The progressive Illinois educator does not mean that schools may get along without working apparatus. Far from it! He begins the campaign at the beginning by

demanding water and soap and paint. Later he purposes to get as many of the teacher's *necessary* " tools " as the district can afford.

Unfortunate the school whose board members are unreasonably chary in expending school money for needed equipment! Let the teacher insist and persist; let the superintendent back him up. Between them they can, in the end, create a favorable sentiment in the community, and win the point. Some people may say desks and shelves and dictionaries are very good; but settees and easy-chairs in school! — this is going too far! No doubt, many have such thoughts. But, mind, the time is not far distant when even easy-chairs will be conceded a place in the well-appointed schoolhouse!

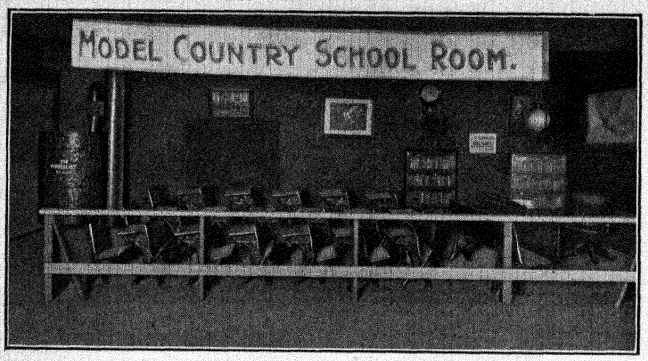
Choice of Pictures: Things to be Considered. — With the walls and woodwork finished off and the furniture provided, we are ready to consider the wall decorations. The teacher must use the greatest discrimination in the choice of pictures. Good taste and artistic skill employed in this important task will later be reflected in correct standards of life acquired in the school. To begin with, the walls should not be covered with picture cards and odds and ends. This gives the room a stuffy effect, and is out of place except in a cozy-corner or den at home. Loud-colored chromos, gaudy advertisements, and illuminated calendars of doubtful merit should be avoided. To permit such ornamentation is to train the children in the hap-

hazard, which is bound to bear fruit in gaudy, semibarbaric home decorations. The schoolroom should be cheery, but at the same time "restful in its color, decorations, and atmosphere."

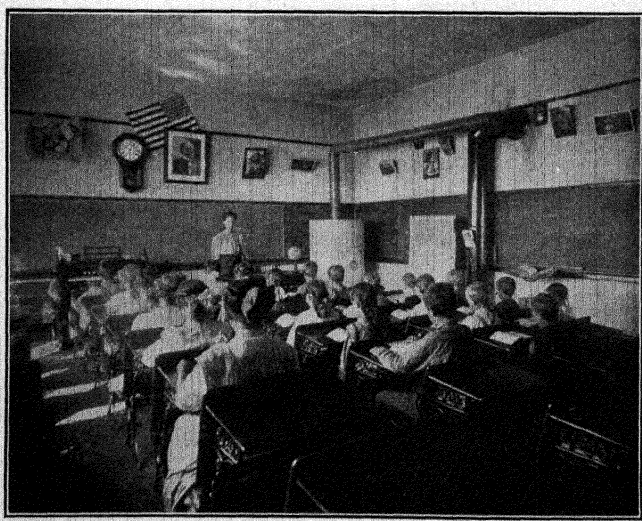
The number, size, and shape of the pictures will depend upon the size and arrangement of the schoolroom. In a room of, say, 28 feet by 30 feet, five or six good-sized pictures would be enough. By good size is meant large enough to be easily studied from the farthest corner of the room. The pictures should approximate 18 inches by 24 inches, unframed. It is a good idea to use plain hardwood frames; black or brown are very attractive. Suspend the pictures from the molding to avoid driving nails into the wall.

It is also essential to consider light and space in hanging pictures. For example, pictures of indistinct details will show off to best advantage in strong light, say, on the wall opposite the windows, where these are massed on one side. Hang horizontal pictures wherever the wall space is long and low, as, for instance, above the blackboards. For the same reason vertical pictures will look best in the narrow space at the sides of the windows or between them. The pictures for the library can be considerably smaller, and their hanging be governed by shape of wall space, arrangements of furniture, etc.

Every Picture selected should have Educative Value. — Every picture should be selected for real educative value.



Model country schoolroom shown at a recent Illinois State Fair. Note the Waterbury system of heating, — stove in extreme corner, — single seats, sectional bookcases, suspended globe, case of maps, fern neatly framed pictures, etc.



School District 25, Turner County, South Dakota. Excellent light, good heating apparatus, slate blackboard, single desks. The arrangement of pictures on the walls alone detracts from the otherwise satisfactory impression.

This may take the form of study of nature and animal life, as in Bonheur's Horse Fair, Adan's Summer Evening, or Douglas's Vikings; historical interest, as in Bicknell's Battle of Lexington, Boughton's Pilgrim Exiles, or Brözik's Columbus at the Court of Isabella; study of great men, as in Duplessis' Benjamin Franklin, Stuart's George Washington, or Trumbull's Alexander Hamilton; and genuine artistic worth, as in Hoffman's Head of Christ, Millet's The Angelus, or Raphael's Sistine Madonna.

We are fortunate to live at an age when copies of the great masters are easy to procure. Reproductions in prints, carbons, photogravures, and color prints from the originals in paintings, sculpture, and architecture are offered for sale at very reasonable prices by firms which make a specialty of supplying the needs of schools in these lines.

Plaster Casts. — Plaster casts add much to the attractiveness and scholastic atmosphere of the room. At least one good-sized cast should be found in every rural school; they are inexpensive, and the range of subjects is large, including busts of great men, American and foreign, and reproductions of the world's best sculpture. Never select a perfectly white cast; ivory and cream colors are better, as they are less liable to soil and show dust. Soiled casts, by the way, are readily renovated by giving them a coat of gold or bronze paint.

It is hoped that the following groups of casts and pictures

may be suggestive and aid the rural teacher in making a selection for the school. Any one group should be sufficient for the average rural school.

First Group.

Cast: Washington.

Pictures: The Boy Christ, Hoffman; Summer Evening, Adan; Battle of Lexington, Bicknell; Deer in the Forest, Bonheur; Cicero's Oration against Catiline, Maccari.

Second Group.

Cast: Samuel Adams.

Pictures: Sistine Madonna, Raphael; The Gleaners, Millet; Monarch of the Glen, Landseer; Washington crossing the Delaware, Leutze; Taking a Pilot, Seeley.

Third Group.

Cast: Webster.

Pictures: Primary School in Brittany, Geoffroy; An Old Monarch, Bonheur; Battle of Bunker Hill, Trumbull; Planting Potatoes, Millet; Pied Piper of Hamelin, Kaulbach.

Fourth Group.

Cast: Lincoln.

Pictures: Signing Declaration of Independence, Trumbull; Kabyle, Schreyer; Princes in the Tower, Millais; Meadow Pool, Pearce; Holy Family, Murillo.

The following pictures are very suggestive subjects for the library and reading room: —

Washington at Dorchester Heights, Stuart; Sir Galahad, Watts; Benjamin Franklin, Duplessis; Photogravures of Longfellow, Emerson, and Mann; The Parthenon, Athens; The Sphinx, Egypt; Shakespere's House, England; Stratford-on-Avon, England; The Reader, Hunt; Sir Walter Scott, Leslie; Victor Hugo, Bonnat.

Reliable dealers in photogravures, prints, engravings, etchings, casts, etc.: —

Pictures: The Perry Picture Co., A. W. Elson and Co., The Prang Educational Co., and Horace K. Turner Co. — all of Boston, Mass.

Casts: P. P. Caproni and Co., and Curtis and Cameron, both of Boston; and Berlin Photographic Co., New York City.

Now, *how* can we secure the desired schoolroom decorations? School directors may not care to spend district money for this purpose and, indeed, can hardly be expected to do so; therefore, we must resort to other means. Let us first see what other sections of our country are accomplishing in school decoration.

The School Improvement League of Maine. — This league was organized in 1898 and has a membership approximating 60,000 enthusiastic teachers, pupils, and patrons scattered throughout the state. The underlying motive of the organization "is the awakening of a controlling interest in the school on the part of its pupils and patrons." What remarkable success it has met with can best be seen from the state superintendent's report, which reads: —

The statement that the School Improvement League has done more for the betterment of the schools than any other agency during the past quarter of a century has been proven by so many instances that its correctness cannot longer be questioned.

It has rendered its greatest service by calling attention to present conditions, the necessity for changes and convincing the people

concerned that the work must be done by those living in the community in which the school is located. Concentrating the attention of the entire population of any section upon its school interests always results, not only in better schools, but also in showing the people that they must decide what shall be done and be responsible for its performance. This necessitates the devising of plans, the choice of possibilities, taste in selecting, and judgment in using. These efforts, in turn, result in intellectual training, moral nurture, and æsthetic culture.

In its few years of existence the league has improved the conditions of almost every school in the state by exerting an influence resulting in renovated and beautified interiors, better physical surroundings, and well-supplied rural school libraries. But, "even better than that," to quote further from the league report, "in an increasing sense of responsibility the pupils are manifesting in matters of prime importance to them, and in a stronger interest in the local school."

Other states, following the example set by Maine, are accomplishing praiseworthy results. Tens of thousands of dollars are expended annually now for rural school decorations. Only a few years back the movement was practically unknown; now cities and villages everywhere are doing much for art in the school, through local improvement associations, by conducting lyceum courses, and in other ways accumulating funds.

What can the Individual Teacher Do. — Now the question arises, what shall the individual rural school teacher

do to provide such decorations for her school? The answer will depend upon several things — upon whether she will have to work alone or in conjunction with other teachers of the county under the leadership of the superintendent. If she has to depend solely on herself, she must make use of every ounce of natural ingenuity to win out; if the superintendent places himself at the head of the art campaign, her work will be greatly simplified.

This is what one Kansas teacher has accomplished, single-handed and unaided by her superintendent. And what she has done others can do, or at least try to do.

Miss D. entered upon her duties as teacher of a certain small district in Atchison county, in September, 1906. She found the building in a fair state of repair, and scrupulously clean! This latter feature, which was as remarkable as it is unusual in rural schools, was readily traced to the wife of one of the directors, whose Dutch habits of love for soap and water forbade her to permit "teacher" to look upon a dirty schoolroom. The woodwork was painted a dingy gray, with walls calcimined a startling navy-blue! Groupings of picture cards, gaudy display cards illustrative of farm machinery and the benefits of stock-food, together with calendars almost without number, were sprinkled in a ludicrous fashion over this background. Amidst such grotesque surroundings the art campaign began.

What the Plucky Teacher can Accomplish. —The first step was to get the walls retinted. The board yielded to

the teacher's whim, as they no doubt considered it, after much persuasion on her part, and agreed to repaint the room. As a result, work began the very next Friday evening, and when the children returned to school Monday morning, there was the room beautiful and fresh with its walls a pearly gray and the woodwork a deeper shade of the same color. This much was accomplished the first week at an outlay of $13.50, and the way was opened to better things. Some may say she did not accomplish much; we could all have done as well. This is very true, we all *could* do as well if we only *would!* How many of us have really the temerity to insist on what we deem essential for best school work? How many of us inconvenience ourselves and really go out of our way to change present school evils? This much is certain, the teacher who has such initiative is the teacher to have; she will be sure of early preferment and rise in the educational world.

Art Programmes and Basket Suppers. — Miss D., as a next step, provided at her own expense small desk copies of the Perry pictures and devoted the daily opening exercises to talks on art, in this way seeking to create a love for the beautiful. It is well to state here that our teacher was no more of an artist than is the ordinary rural teacher; but she had a love for these things and was thoroughly versed in them, through reading such excellent books as Coffin's *How to Study Pictures*, Emery's *How to Enjoy Pictures*, etc. Soon she launched before her

pupils a plan for securing pictures for the bare walls, a plan which was enthusiastically received by all. It was agreed to concentrate all efforts on two pictures by way of beginning — Bonheur's Horse Fair and Millet's Angelus. A Bonheur-Millet programme was arranged for the evening of the third Friday in November. Printed invitations and programmes were sent to every patron and resident in the district. Moreover, a committee, headed by Miss D., waited on the housewives of the community, soliciting them to furnish a basket supper for two, the proceeds from which were to be used for school decorations. When the time set arrived the following programme was rendered to a crowded house: —

Song by the School	"O Come, Come Away"
Brief talk: "Our Aim"	Teacher
"Life and Works of Rosa Bonheur"	A girl
"History of the 'Horse Fair'"	A boy
Quartet — selected	"The Hardscrabbles"
"Life and Works of Jean François Millet"	A boy
"History of the 'Angelus'"	A girl
Vocal Solo: "The Vesper Bells"	Young woman from the county seat
Brief talk on "Schoolhouse Decoration"	County Superintendent

Auction of Baskets	
Supper	
Statement of Finances	
Song: "Good Night"	The School

The supper netted $37.40. Free-will offerings increased the total to $43.40. After paying the expense of printing

the programmes and invitations, there remained $41.90 to be expended for decorations. Here is a list of the purchases, including size and price:—

Bonheur's Horse Fair, Color Print, 18×22	$ 5.00
Bust of George Washington, Half Size	5.00
Abraham Lincoln, Brown Print, 18×22	4.00
Millet's Angelus, Brown Print, 22×32	7.00
Boughton's Pilgrims Going to Church, Color Print, 18×22	5.00
Henry Wadsworth Longfellow, Brown Print, 18×32	5.00
Frames for the above pictures	11.50
	$41.50

It is hard to overestimate the value of this one programme and social evening to the "Hardscrabble District"—in lasting results. The school atmosphere became suddenly changed. Clean walls, painted in restful tints, greeted the happy children; all day long the pictures on the wall spoke in no uncertain terms, looking down upon them from their frames, blessing and inspiring. The love for the beautiful in life thus implanted in the child breast will bear a bountiful harvest in its time. Children and parents alike are blessed in such a teacher.

Programmes of Similar Nature.—The school year affords numerous occasions for holding similar programmes. The teacher might plan a Harvest Home Social, decorating the room in seasonable products of the soil, as corn and cane. The best fruits from the school garden would add much to the appearance of the room as well as to the importance of

the occasion. After the programme a basket supper should follow. Thanksgiving Day affords opportunity to plan something elaborate. Then in many rural districts the Christmas holidays are unexcelled for enterprises of this kind. Of course it would mean that the teacher must forego some of her home pleasures; but think what it would mean to the community of toilers whose missionary that teacher is! It would be time well invested and certain to bear its reward.

What the County Superintendent can do for Art in Rural Schools. — The county superintendent can generally do more than any other person to plan a concerted movement to supply the schools with decorations. An excellent plan would be for him to organize all the schools of the county into groups, making, say, the township the unit of grouping. Then let the superintendent make arrangements with one of the many art firms having traveling exhibits for the loan of pictures. These should be exhibited for one or two days, at the largest and most centrally situated schoolhouse or hall in each township. Every teacher in the township, without exception, must have a part in the enterprise. The success or failure of the exhibit lies wholly in the energy and enthusiasm displayed by *all* the teachers. Let them vie with each other to see who can get the largest number of patrons and children to attend. The time might readily be planned in such a way as to avoid undue crowding at any one time. In

the country one can readily charge twenty-five cents admission for adults, with reasonable reduction on family tickets, and fifteen cents for children.

The superintendent ought to make himself personally responsible for the success of the exhibits by making the township rounds and giving, perhaps, an address on school decorations and their importance to education. By thus lending himself to the cause he could do more good and assure himself of a larger acquaintanceship among the public than in any other way.

The net proceeds from admissions and sales of pictures should be divided equally among the participating schools, and be expended for pictures and casts. The Horace K. Turner Company, Art Publishers and Importers of Boston; The Prang Educational Company of Chicago; The J. C. Witter Company, Fifth Ave., New York; and The Soule Art Company of Boston, are some of the many reliable firms which send out loan exhibits for educational purposes.

It can thus be seen that to supply our rural schools with art decorations is not an impossibility. A little enterprise, some persistent work, and a reasonable measure of grit will do wonders. Teachers may wage the campaign unaided or in conjunction with other teachers and the superintendent. Wherever the plans have been tried, results have abundantly justified the labor necessary for success.

Let teachers, superintendents, and friends of education

in our country districts everywhere lend a hand in the campaign. Let all do something to satisfy the rural child's craving for the beautiful and the uplifting in life which is the common inheritance of all mankind. Let us do it by making their schoolhouses attractive and homelike.

CHAPTER IX

Nature Study; School Grounds

Now that we have set the school building to rights it is time to consider the value of a corresponding outdoor environment — of school grounds and school gardens which shall make an appropriate setting for the dignified modern structure. We have already alluded to this subject whenever it became necessary to do so on account of its close relation to indoor art and similar branches of æsthetics. It remains now to point out more in detail how beautiful flowers, shrubs, and trees, how school gardens, lawns, and groves may be made instruments in saving the farm child from the allurements of city life and make him contented with life on the farm.

Our School Work too Formal and Bookish. — All our school work has been too formal and bookish. We have all along relied too much on text-books to the neglect of real living nature. Happily we are beginning to realize the importance of the love and study of nature, and are coming to see that from it have sprung love of art, science, and religion. Paradoxical as it may sound, the farm child has lived in the very heart of nature and yet remained a

stranger there. In the struggle to subdue forest and plain his father and grandfather before him had scant time for anything but to wring a living from the soil. Naturally enough he inherits certain "practical" traits which make him prone to judge nature by the commercial standard rather than to love it for its own sake. To change these misconceptions the new teacher must be able to take the child in its own little world and lead it along the pathway of life, directing its native adaptabilities, sentiments, and powers, and there develop in the child breast a sympathy with its environment and in the child mind an understanding of nature and nature's ways — then, once awakened to the surpassing beauties of rural environments, the American boy and girl will no longer be in danger of deserting the farm for the man-made glitter of the city.

Nature Study Defined. — We may find a solution for many of our present difficulties in school work in what is generally called *nature study*. This is not so much an attempt to add another subject to an already overcrowded curriculum. It is rather a new direction given to old subjects — a leaven infused into old forms — than anything else. It applies in great measure to the entire course of study, since it is possible to encourage the child to close and careful observation of nature through a properly directed lesson in English composition as readily almost as through lessons in geography and elementary science. Most satisfactory, perhaps, is the definition of Dr. Clifton F.

Hodge in his well-known book, *Nature Study and Life* He formulates it, as "learning those things in nature that are best worth knowing, to the end of doing those things that make life most worth living." In rural communities those things are manifestly *best worth knowing* which tend to make people there content with their lot; aye, more! which help them to realize that rural life is for Americans the normal life — the best life attainable in this greatest of agricultural nations!

How Nature Study is Valuable to the Rural Child. — The values of nature study to the rural child are many and far-reaching. Writers offer various methods of classification. While some make use of two divisions only, — æsthetic and scientific, — others go farther and give as many as five or more. For convenience we may classify these values as (1) economic, (2) æsthetic, (3) social — ethical, (4) religious, (5) educational.

Economic. — The economic is counted the first, though certainly not the highest, nature-study value. With increase in population farming must become intensive and scientific. In the past we have been wasteful and prodigal of our great resources; but we are learning new lessons in economy every day. Increasing cost of farm lands demands greater returns from the soil. To accomplish this we must study nature and learn from it how to provide against needless waste and insure increased productiveness.

We must begin at the beginning and study from the bottom up. As a nation Americans are not intimate with nature. Our school children have been kept busy at tasks little calculated to make them familiar with the common goods in nature or with its evil things. Children should know the value of pure air and pure water, the influence of sheltering forests and shade trees, the importance to life on the farm of beneficent birds, insects, and batrachian animals. They should, on the other hand, be familiar with the pests constantly menacing life everywhere, such as destructive insects, birds, and other animals, noxious weeds and multiform vegetable disease.

It appeals strongly to a farming community to have their children accomplish real, tangible results. The effect is to draw ever closer the ties which bind the schoolhouse and farm home through kindred interests. Out of such beginnings higher motives will eventually develop. At all events, the study of real nature opens possibilities for the farm child hitherto unknown. It is a grand thing to learn in school and on excursions with the teacher into the woods and over the hills the thousand and one things which make life worth living. The farmer will take a renewed interest in the school that can teach his children things of practical value for the farm. There are things for him to learn, too. It is doubtful whether the average farmer realizes the harm done by the unsightly weeds, fungus growths, and the like, to be seen about the premises;

or the value of birds and toads and beneficent insects in saving the orchard and field from ravage and devastation. Some day his children will come home from the new rural school — the modern complement of farm life — and *teach him.*

Æsthetic. — All mankind love the beautiful. It appeals to their sense of the perfect. The human mind receives an uplift in the harmony and symmetry coming through the unification of diverse elements, manifesting itself in outward contentment and happiness. As soon as a people has subdued primitive nature with which it has had to contend and has wrung from it a sustenance, it seeks to surround itself with the beautiful in nature, thereby satisfying an instinctive craving to get above the sordid in life. The pages of history furnish us untold illustration. The rock-ribbed tombs of Egypt bear silent witness to this love of the beautiful in a nation living 5000 years ago. Late excavations at Nippur tell the story of marvelous gardens and parks which 6000 years ago gladdened the hearts of the Euphrates dwellers. Nebuchadnezzar constructed the marvelous Hanging Gardens of Babylon to console his queen pining for the wild beauties of her native Median hills. Æsthetic culture, with us, will teach the country folk to love their native woods and prairies; it will make them content to dwell there and long for them when away.

To attain this end it is not enough to *talk* about the

wonders of nature or its sublime influence; we must *study and dig and plant.* At home and at school the small still voice of nature should be permitted to commune with us through beautiful flowers and waving grasses, sheltering shrubs and spreading trees. A forlorn, wind-swept school ground is more than we can realize the first cause to weary the boy and girl of country schools and country life. Teach them the surpassing beauty of rural environment on the school grounds and in the school gardens — teach them to dig and plant; as teacher, dig and plant side by side with them. Then the very Earth shall preach her sermons in their ears and make them strong in their love to dwell close to nature's heart.

Social and Ethical. — Properly directed, nature study may do much to teach children to respect the rights of others. The sooner a child learns that there are social and moral obligations which he is in duty bound to respect, the better it will be for that child. Every boy and girl is full of energy. The surplus will find a vent somehow, and be put to use, good or evil, as directed. If they are early led to love nature, they will learn to protect it. Such children will never vandalize nature by destroying planted trees or other useful flora. Birds and insects will be safe from their molestation; the insectivorous toads will no longer fear their clods and sticks. When grown up, they will wage relentless war against the many disease-breeding pests found in the fence corners, along the public

highway, or in the barn-yard, at the present time so little known and less heeded. Growth in respect for social and ethical law is sadly needed in our country, but communion with nature and nature's God may do much to ameliorate existing conditions.

Religious. — To love nature is to love nature's God. No human being can continue in adoration of living, teeming nature without feeling in his breast a growing adoration and love for Him who created all the wonders of earth, giving them to man to keep and hold dominion over. The race in its infancy sought the Creator through worship of natural phenomena. Even yet

> "To him who in the love of nature holds
> Communion with her visible forms, she speaks
> A various language; — "

The teacher's manifest opportunity is to take advantage of the "still voice" of nature to reach the inner recesses of the child soul to instil there a love for well-doing in looking after the happiness of God's created things, thereby attaining the child's happiness and for himself the Crown of Life.

Educational. — Finally, nature study has *per se* educational value of utmost importance. The naturalistic tendency in education has been the slow growth of centuries. Rousseau, as its first advocate, held "that the educational material should be the facts and phenomena of nature, that it should consist chiefly in an inquiry into

nature's laws, and should be through an intimate, fearless, and constant association with nature rather than man." Pestalozzi saw clearly that "nature develops all the forces of humanity by exercising them." "The exercise of man's faculties and talents, to be profitable, must follow the course laid down by nature for the education of humanity." The first fruits of the new century have been to realize much that was advocated by the early educational seers. The disproportion between the formal and the practical in teaching is still very great and presumably will remain so for a long time to come. But beginnings are made in many schools which will eventually end in a satisfactory equilibrium being struck.

Just what topics should be included in the nature-study course in rural schools and what left out will be determined by the essential and fundamental things in rural life. They will center largely about the useful and practical in the local environment — in a study of the trees and flowers on the school grounds or out by the roadside, of the robin and the wren building on the grounds in trees and bird houses, — these and similar topics may be studied with profit. Nature study will find concrete expression in planning, platting, and keeping school grounds, and in school-garden culture, and will eventually lead to studies in elementary agriculture.

Syllabus of Nature Study prepared by Committee of Industrial Education in Rural Communities. — It is not

the province of this book to present a complete working syllabus for nature-study classes; though, doubtless, rural teachers would be glad to have a brief outline of a suggestive nature on which to base their work. Nothing better has been published recently in this line than the outline printed in the appendix of the book. It is taken from the report of the Committee of Five, N.E.A., on Industrial Education in Schools for Rural Communities. The scheme covers the first five years in school, and is to be followed in years 6, 7, and 8 with a course in elementary agriculture. It will be clearly understood that this is not a complete working scheme, but, in the words of the committee, merely "an outline or framework which will serve to define nature-study work, and to suggest the kinds of subjects that may be profitably undertaken."

With a realization of the rural school's enlarged mission naturally follows a demand for greatly enlarged grounds. The school is no longer a place for the mere assigning and hearing of lessons — it needs an outdoor laboratory where children and teacher may labor side by side. A couple of acres may answer the purpose, but three or even four would be much better. The location must be sightly and well drained. It should, indeed, be the very best site to be secured in the community (see Chapter VII). About two thirds of the entire tract may be used for the main grounds, and what is left for the school garden.



Children at work in the school garden of the Sheridan School, Anna L. Force, Principal, Denver.



Irrigated rural school garden at Gilpin, Colorado. See elsewhere in this chapter for working plan of the garden.

Ideal School Grounds. — Such ideal grounds should present a vision pleasing to the eye — the schoolhouse set in the midst of a carpet of velvety green, broken here and there by flower beds, bright with beauty and color — beds of scarlet and yellow cannas, old-fashioned geraniums, and, in the fence corners, many-colored hollyhocks; winding walks and rustic seats; climbing vines on lattice and wall, and rustic baskets pendent from post and tripod; groups of evergreens and shade trees; at the rear separate playgrounds for the boys and girls; outbuildings — where these have to be outdoors — set well back in opposite corners near the school garden which occupies the extreme rear, and screened with vines and shrubs; all this, finally, inclosed with fence or living hedge.

Preparing the Soil. — The first step is to establish the proper grade; this done, the soil must be prepared. The schoolhouse should be set back at least one hundred feet from the front entrance to the grounds. In case the site is nearly on a dead level it is imperative that the foundation should be built high and the soil graded up to it, to give the proper drainage. The school garden would give best results if level or nearly so. The playground, especially if it contains a baseball diamond, must be entirely level. The ground where the building stands would be ideal if sloping gently forward and to the two sides. For satisfactory results it is necessary to plow the entire tract before planting. If virgin prairie, it must be "broke" and

"back-set" before the next step can be taken. It is essential, too, that the soil should be well prepared. Let it be graded and well harrowed, and then, by way of putting on the finishing touches, carefully raked.

Planning and Platting. — Now we are ready to plan and plat the ground. Some school officers may leave this important work altogether in the hands of the teacher and the children; but others will want a hand in for themselves. If our farmers could realize the transcendent importance of the planting, the entire countryside would turn out and help!

A carefully scaled plat should now be laid off on paper. It must be exact in detail and indicate by name or number the variety of trees and shrubs to be planted, and just where to plant, how to curve the walks, etc. This will assure system and harmony when the work is at length completed.

Walks and Drives. — Gracefully curving paths and drives are preferable to the stiff and lifeless straightway style. Otherwise, how they shall run, their width, etc., must be governed by the location of the schoolhouse, the size and shape of the grounds, and similar circumstances. If the grounds are very large, a winding drive may run to the building, whence it may continue to the rear of the grounds to the horse sheds, if such are used. Another way is to construct two drives, — both short, — one running to the side entrance of the building, making

a graceful curve around the flag-staff, running back out by the same track it entered; the other being a single approach to the fuel house and horse sheds. The drives should hardly be less than six feet wide. The main walk leading to the front entrance should be five feet wide; those leading to the well and outbuildings may be as narrow as three feet. All walks and drives should be graveled or covered with cinders. If stones are plentiful it would be well to add a coping or edging of rough stones. This would increase the picturesqueness of the grounds and at the same time protect the edges of the lawn.

Playgrounds. — If it is at all possible, three separate playgrounds should be provided. One for the older boys, where they may enjoy the sports so dear to the boyish heart — baseball, jumping, wrestling, and playing "catch." A turning pole and a couple of heavy climbing ropes would add materially to the boys' pleasure, not to mention their gain in muscular agility and straightened backs. The older girls might have their playground at one side of the house, insomuch as it will partake much of the nature of a lawn, inclosed by shrubs and trees. The smaller children do best if left to themselves. Their playground should lie between those of the larger boys and girls. Distinct rows of shrubs and trees should separate the playgrounds from each other.

Planting. — Great care must be used in planting trees and shrubs. Unless the teacher or some one of the school

officers is experienced in this work, it would be well to get a skilled horticulturist to do the first planting, when so much is at stake. Later the teacher should take charge of the work; his assistants should be chosen from the older boys and girls; the entire school should be permitted to give such assistance as they are able; and, whatever else they may do or not do, they should keep their eyes and ears open. While lack of space precludes a lengthy discussion of the actual planting process, we venture to give the following brief cultural directions, taken from L. C. Corbett's "The School Garden" (Farmers' Bulletin, No. 218):—

The beauty of a shade tree depends upon its normal and symmetrical growth. In order to insure this, before planting cut off the ends of all broken or mutilated roots; remove all side branches, save upon evergreens, so that a straight whip-like stalk alone remains. Dig holes at least 2 feet in diameter and 1 foot deep in good soil, and make them 4 feet across in poor soil. The sides of holes should be perpendicular and the bottom flat. Break up soil in the bottom of the hole to the depth of the length of a spade blade. Place 2 or 3 inches of fine top soil, free from sods or other decomposing organic matter, in the bottom of the hole. On top of this place the roots of the tree, spread them as evenly as possible over the bottom of the hole, and cover with 2 or 3 inches of fine top soil as before. Tramp firmly with the feet and fill the hole with good earth, leaving the surface loose and a little higher than the surface of the surrounding soil. When the work of planting is complete, the tree should stand about 2 inches deeper than it stood in the nursery.

In order to insure symmetry of growth, trees must be allowed un-

restricted area for development. At least 40 feet should be allowed between trees intended to occupy the ground permanently. Quick-growing nurse or temporary trees may be planted between the long-lived ones to produce immediate results, but these should be removed as soon as they interfere with the development of the permanent plantations.

Trees. — The best results in tree planting are usually secured by planting only such trees as are native to the particular section, since they are already inured to the climate, soil, and other conditions. Several varieties of elm, the hard and soft maples, ash, basswood, and box elder may be planted to good advantage. A few exotics might be sprinkled over the grounds for the sake of variety and ornament. The cut-leaf birch is very fine, as are also horse chestnuts and Norway maples. A few evergreens must not be left out. They are well beloved by all for their distinctive forms and many other characteristics. Certain varieties grow very large and are rather coarse in their foliage; these must not be planted too close to the building. The Norway spruce, the white pine, and the blue spruce are the best varieties for this purpose; they are noted for their beautiful form and deep green color, even in midwinter.

Hedges. — The grounds must be inclosed from the first by a substantial fence, supplied with all necessary turnstyles, and swinging gates for teams. In time a living hedge should supplant it. Nothing is more beautiful to the eye than well-kept school grounds surrounded by a

well-trimmed hedge of evergreens or deciduous growth. If the former is desired, arborvitæ, dwarf hemlock, and California privet are all excellent. The *Citrus trifoliata* is especially well adapted to the Southern states. For hedges of deciduous growth the most common species are the European thorn apple, the buckthorn, and the osage orange.

Shrubbery. — A great many good shrubs grow wild in the woods and by the roadside. When properly massed, they add materially to the beauty and utility of the grounds. Single specimens are beautiful in themselves, but their utility lies mainly in screening unsightly places, such as outdoor closets, filling fence corners with a mass of beauty, which are otherwise prone to become catch-alls for all kinds of trash. Massed against a high foundation, they relieve the hard angular lines between the building and the ground and give a most pleasing effect. Two or more bold groupings on the large front lawn would add surprisingly to its pictorial effect. The larger growing and coarser shrubs should constitute the body of the group, and be edged about with smaller specimens cultivated for their flowers or striking foliage. Some horticulturists have preferred to plant an irregular mass of trees and shrubs on the sides of the grounds away from the public highway, instead of the hedge fence. In the system of planting suggested in these pages such an arrangement would do nicely for one of the two sides opposite the road, — assuming that the

grounds lie at the intersection of two roads, — as it would give it the appearance of the broken edge of our native woods; but where there is a school garden to the rear of the main grounds a dense growth of trees and shrubs between these would be injurious both to the light and soil of the garden. So here, then, a single hedge fence will have to suffice. (See Appendix.)

Vines. — The chief use of vines on school premises should be to screen and cover unsightly outbuildings and sheds. Pillar decorations on the lawn are also attractive. If the school structure is frame, it is not advisable to cover it with a growth of vines as they are very hard on paint and weatherboarding. But a brick or stone building should by all means have its bare walls covered over with a softening mantle of ivy or woodbine. None but the most hardy vines should be used. Among the best of these are the rapid-growing Virginia creeper; the *Actinidia polygama* and the *Akebia quinata*, two excellent twiners recently introduced from Japan; and, finally, the many well-known varieties of clematis, honeysuckles, woodbine, ivy, and wistaria.

Flowers. — It is almost trite to say anything further on flowers. They are essential and give the crowning touch of beauty to the grounds. Endless varieties may be procured at the greenhouse, the florist's, or from the home gardens of the community. For early spring bedding such bulbous plants as tulips, hyacinths, and crocuses are

unequaled. If desirable, the same beds may be used later in the season for hardy annuals grown from seeds scattered among the blooming bulbs. A bed of cannas and caladiums will add somewhat of a semitropical touch. Violets and pansies thrive best when planted on the cool, shady side of the house. Finally, best of all are the hardy perennials — peonies, roses, lilies, and irises.

Before we close the discussion of grounds beautiful a word must be said in behalf of the small feathered guardians which spend such busy lives in an endeavor to destroy the insect pests preying on tree and flower, and of the harmless toad which does its work so well, silently hopping about destroying millions of insects and their larvæ.

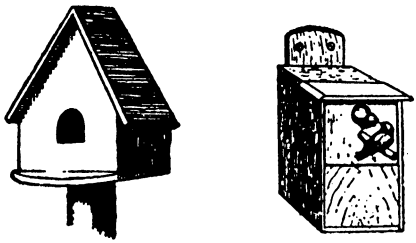


FIG. 6. — Such bird-boxes as the above are simple and every boy with some native ability can make them.

Birds and Bird Houses. — Children should be early taught that these animals are not only harmless, but that they are their friends; that without them insect pests would soon make fruit growing and agriculture a practical impossibility. They must learn to love their bird friends and protect them against their foes. Destroying eggs and young birds should be held up as a crime against nature.

Severe punishment ought to follow every infraction of the school rules governing the subject. Moreover, the teacher can in so many ways encourage the children to provide nesting places for the birds by trimming down crotches in the trees, arranging dense shrubberies, and by building bird houses out of boards and boxes.

It is really surprising how quick birds are to discern these small acts of kindness. Build a few bird houses in suitable places about the grounds, and in a few days wrens and bluebirds, chickadees and nuthatches will seek to become our tenants. Birds are cleanly and crave their daily bath — a large wooden bowl fastened at the end of a pole a few feet from the ground can be made to answer the double purpose of drinking fount and bathing pool. Crumbs from the dinner baskets will be very welcome, scattered near the bathing pool. A beautiful custom throughout northern Europe — and worthy of emulation among American school children — is to fasten sheaves of grain from poles on outbuildings or trees to feed the birds during winter or other seasons when there is a dearth of food.

Toads and Toad Aquaria. — It is estimated that the common toad is worth $19.88 each season alone for destroying cutworms (Kirkland's estimate, "The Common Toad," Bulletin No. 46, Hatch Experiment Station, Amherst, Massachusetts). Under such circumstances it is not surprising to hear that many large gardeners and horticulturists,

especially in Europe, raise their own supply of toads by means of artificial aquaria. Toads can be raised successfully on the average school grounds, and the children will be made the better and wiser for it. There is no danger of an overproduction, as the toads' enemies are many; besides, "its natural food supply, consisting wholly of insects, worms, slugs, and the like, would inevitably set a natural limit to its increase."

The following interesting description of such aquaria is quoted from Hodge's *Nature Study and Life* and may be tried with profit in all rural schools: —

> Encourage as many children as possible to provide little pools in their gardens, stock them well with water lilies, pickerel weed, cat-tails, iris, and other of our interesting aquatic plants and put in as many toads' eggs or tadpoles as the pool will support. For this purpose a water-tight box or tub may be set in the ground, or a more natural pool may be made by arranging large flat stones around a hole in the ground and plastering up the cracks between them with water-lime cement. The top of any such receptacle should be two or three inches below the surface, and the earth well packed around the edges to prevent rains from splashing out its occupants. If natural food be not abundant, its place may be supplied by bits of dog biscuit, fresh meat, fish, or even bread, but care should be taken to put in no more than is eaten clean or to remove uneaten pieces before they foul the water. In this way, without appreciable expense, any child can raise toads by thousands, until many of our most injurious insect pests become curiosities.

The two great obstacles most likely to be encountered in a movement to improve the school grounds are: (1) public

indifference and (2) untrained teachers. The latter obstacle will be obviated as soon as the rural teacher gets the agricultural training discussed elsewhere; meanwhile the solution of our difficulties may be sought in a campaign of education.

A Campaign of Education. — The county superintendent or, in the East, the town or town district supervisor is the

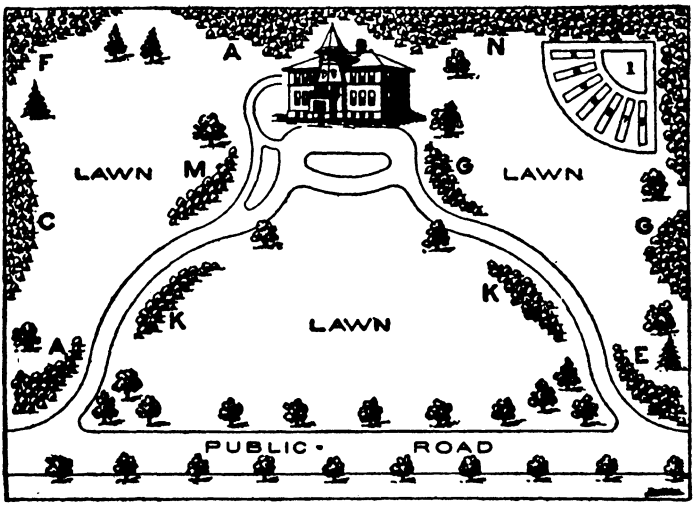


FIG. 7. — Plat of school grounds prepared by United States Department of Agriculture. Farmers' Bulletin, No. 218, gives complete planting directions. Send for it. It is free.

proper official to take hold of the matter. In the sections of the country where the movement has met with greatest success they have been at its head. As a first step the superintendent should make it a point to see that all his

teachers and officers of the district boards are supplied with the many excellent bulletins on school-ground improvement issued by the United States Department of Agriculture. The department will be glad to send the bulletins to such addresses as the superintendent may supply. The list found at the end of this chapter contains some very good titles. The following are especially good and should be placed in the hands of every teacher and school officer: "Tree Planting on Rural School Grounds" (Farmers' Bulletin, No. 134); "The School Garden" (Farmers' Bulletin, No. 218); "Annual Flowering Plants" (Farmers' Bulletin, No. 195); "The Lawn" (Farmers' Bulletin, No. 248); and "Beautifying the Home Grounds" (Farmers' Bulletin, No. 185).

The agitation once begun must be continued through circular letters, at the monthly meetings of teachers and school officers, and at special local meetings called by the superintendent to interest and organize the parents of the district. Only when the district adopts a policy of systematic planting as a result of such meetings may the end sought after be attained. Let a special day be set aside for the first planting when the first steps shall be taken to carry out a carefully arranged plan.

Arbor Day an Appropriate Time for Planting. — Arbor Day is an appropriate time to begin. Let it be made a gala day for the entire district, to be celebrated with speech and song and tree planting. It should

be celebrated thoughtfully; for it is high time that the children should know that the prodigal abuse of our

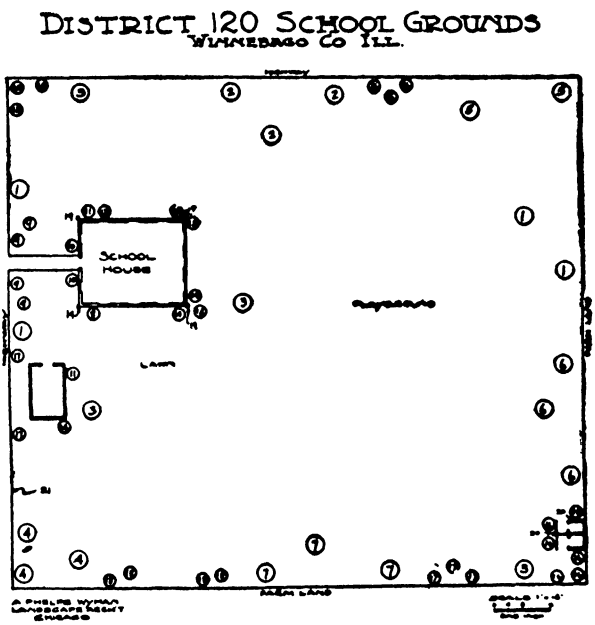


FIG. 8. — Planting plan of Shirley School, Cherry Valley Township, Winnebago County, Ill. Six trees were planted the first year; others will be set out gradually until the plan is completed. From O. J. Kern's Annual Report.

PLANTING PLAN

1 Elm
2 Sugar Maple
3 Linden
4 Catalpa
5 Ash
6 Sycamore
7 Hackberry
8 Spirea Van Houttei
9 Snowball
10 Japanese Barberry
11 Mock Orange
12 Dwarf Mock Orange
13 Weigela
14 Forsythia
15 Bush Honeysuckle
16 Cranberry Tree
17 Red Branched Dogwood
18 Common Elder
19 Woodbine
20 Bitter Sweet
21 Woodbine or Bitter Sweet at each fence post

national forests has left our country well-nigh denuded of its one-time splendid timber wealth, and that *knowing*,

they will early learn to do better than their fathers in the matter of conserving our forests by planting at home, on the school grounds, on the national forest reserve.

President Roosevelt's letter to the American school children is to the point: —

To the School Children of the United States:

Arbor Day (which means simply "Tree Day") is now observed in every state in our Union —and mainly in the schools. At various times from January to December, but chiefly in this month of April, you give a day or part of a day to special exercises and perhaps to actual tree planting, in recognition of the importance of trees to us as a nation, and of what they yield in adornment, comfort, and useful products to the communities in which you live.

It is well that you should celebrate your Arbor Day thoughtfully, for within your lifetime the nation's need of trees will become serious. We of an older generation can get along with what we have, though with growing hardship; but in your full manhood and womanhood you will want what nature once so bountifully supplied and man so thoughtlessly destroyed; and because of that want you will reproach us, not for what we have used, but for what we have wasted.

For the nation, as for the man or woman and the boy or girl, the road to success is the right use of what we have and the improvement of present opportunity. If you neglect to prepare yourselves now for the duties and responsibilities which will fall upon you later, if you do not learn the things which you will need to know when your school days are over, you will suffer the consequences. So any nation which in its youth lives only for the day, reaps without sowing, and consumes without husbanding, must expect the penalty of the prodigal, whose labor could with difficulty find him the bare means of life.

A people without children would face a hopeless future; a country

without trees is almost as hopeless; forests which are so used that they cannot renew themselves will soon vanish, and with them all their benefits. A true forest is not merely a storehouse full of wood, but, as it were, a factory of wood, and at the same time a reservoir of water. When you help to preserve our forests or to plant new ones, you are acting the part of good citizens. The value of forestry deserves, therefore, to be taught in the schools, which aim to make good citizens of you. If your Arbor Day exercises help you to realize what benefits each one of you receives from the forests, and how by your assistance these benefits may continue, they will serve a good end.

THEODORE ROOSEVELT.

THE WHITE HOUSE,
April 15, 1907.

A SELECTED LIST OF BOOKS DEALING WITH NATURE STUDY AND SCHOOL GROUNDS

1. BAILEY, L. H. Nature Study Idea. Third edition, revised. The Macmillan Company, New York, 1909. pp. 255.
2. COON, CHARLES L. Geography, Nature Study, and Agriculture in the Elementary Schools. State Superintendent Public Instruction, Raleigh, N.C., 1905. pp. 32.
3. CORBETT, L. C. The School Garden. Farmers' Bulletin, No. 218, Department of Agriculture, Washington, D.C., 1905. pp. 40.
4. Annual Flowering Plants. Farmers' Bulletin, No. 195, Department of Agriculture, Washington, D.C., 1904. pp. 48.
5. The Lawn. Farmers' Bulletin, No. 248, Department of Agriculture, Washington, D.C., 1906. pp. 20.
6. HALL, WILLIAM L. Tree Planting on Rural School Grounds. Farmers' Bulletin, No. 134, Department of Agriculture, Washington, D.C., 1907. pp. 32.
7. Hampton Nature Study Leaflets (especially No. 15), Hampton Press, Hampton, Va.

8. HODGE, C. G. Nature Study and Life. Ginn and Co., Boston, 1902. pp. 514.
9. JEWELL, J. R. Agricultural Education, including Nature Study and School Gardens. Bulletin, No. 2, Department of the Interior, Washington, D.C., 1907. pp. 148.
10. LOCKHEAD, WILLIAM. Outlines of Nature Studies. Bulletin, No. 142, Ontario Agricultural College, Guelph. pp. 48.
11. STEVENS, F. L. A Course of Nature Study for the Teacher. State Superintendent Public Instruction, Raleigh, N.C., 1905. pp. 32.
12. WETHAM, C. D. and W. C. D. Studies in Nature and Country Life. Cambridge, England, 1903. pp. 125.

CHAPTER X

School Gardens

Early School Gardens. — It is wrong to suppose that the school garden is a recent innovation. Several nations of antiquity maintained such gardens in which the sons of noblemen were taught first steps in horticulture. The Greeks held them in high esteem by reason of the æsthetic influence that they asserted. Plato the broad-browed taught his disciples in the famous Academic Garden near Athens; while the immortal Aristotle, in imitation of the master, taught the eager listeners under the shady oaks of the Lyceum Garden. Christian teachers of the Middle Ages gave garden culture a practical turn. In their monastery gardens they taught the ignorant peasants and their children practical horticulture and agriculture, so that they might once again settle down to the arts of peace and till the war-trampled fields of Europe. All the great educators from Comenius to Froebel have emphasized the importance of nature study and school gardens. Thus Comenius held that " a garden should be connected with every school, so that children at times can leisurely gaze on trees, flowers, and herbs, and be taught

to enjoy them." It is no wonder that this man's native country, Moravia, should demand by law that every school in the land maintain a garden! Froebel, who rejoiced in the teaching that "God's spirit lives in nature, bearing, shielding, unfolding," sought to impress upon his patrons that "children — of school age — should have gardens to cultivate. . . . If the boy cannot have a garden of his own, at least a few plants in box or pots should be his." The work of these innovators has borne a remarkable fruit, and to-day in consequence thousands of flourishing school gardens are in operation all over Europe.

The German States. — The German states have offered horticulture in their curriculum in some form for many years. In 1814 Schleswig-Holstein (then members of the Danish kingdom) paved the way by requiring rural schools to give instruction in fruit culture and vegetable growing. The village schools of Prussia introduced school gardens in 1819, and other states followed the example in the course of time. It is worthy of emphasis that in Germany, as, indeed, in most European countries, the school garden movement began in the rural districts and not in the cities as with us in the United States. About 1840 the larger German cities began to manifest an interest in school gardens. Berlin now maintains large gardens just outside the city limits, in which every child who applies may have a small plat of its own. Wagon loads of flowers, twigs, and leaves from these gardens are daily

furnished the nature-study classes throughout the capital. Other cities maintain similar gardens and large botanical gardens where the children may study a varied flora under expert horticulturists.

Austria. — Austria and Sweden should have credit for being the first to establish the garden movement on a national basis. The Austrian imperial school law of 1869 prescribes that "where practicable a garden and a place for agricultural experiment shall be established in every rural school." At the present time there are 20,000 school gardens in Austria-Hungary. It is said that in the large province of Styria every school has a well-kept garden. Thanks to the indefatigable efforts of Dr. Erasmus Schwab, Vienna can boast school gardens excelled by none in the whole world. Hungary has made gardening and elementary agriculture obligatory in all schools from the sixth to the fifteenth year.

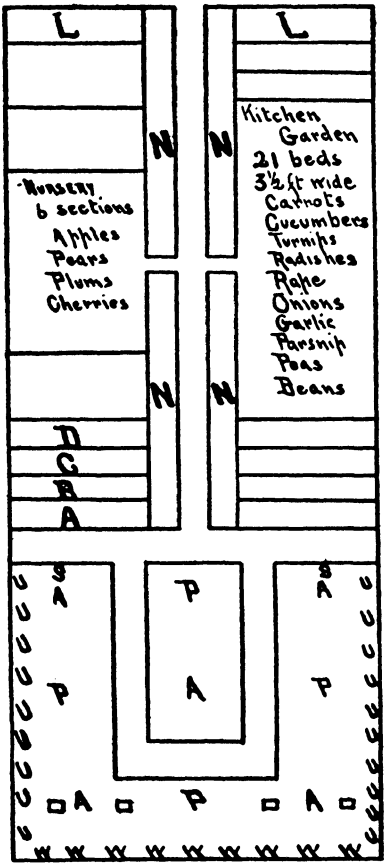
Sweden. — In Sweden the royal promulgation of October 15, 1869, required that at "every school a garden of from seventy to eighty square rods must be laid out." As a result, in 1894 there were 4670 flourishing school gardens in the kingdom; but, lately, sloyd and other forms of manual training have usurped this attention which was formerly bestowed upon garden culture, resulting in a considerable falling off in the number of gardens.

France. — The French government began the movement *right* by first training teachers to "carry to the ele-

mentary schools an exact knowledge of the soil, the means of improving it, the best methods of cultivation, the management of a farm garden," etc. This was in 1880. Now more than one hundred normal schools are preparing teachers to go into the rural districts to demonstrate the economic value of elementary agriculture. In the neighborhood of 45,000 French rural schools are at the present time equipped with school gardens; although some of these are not used for school demonstration, but were established solely to supplement the teacher's income.

Russia. — Russian school gardens originated immediately after Alexander II had emancipated his forty-six million serfs in 1861. Public gardens were established wherein the ignorant freedmen were taught to raise vegetables, to care for fruit trees, silkworms, and bees. After 1887 itinerant gardeners were sent out by the Crown, who instructed rural teachers in agriculture and organized many school gardens. In 1905 the school gardens numbered 8400, of which a considerable number were supplied with silkworm hatcheries and apiaries.

Other European Countries. — Switzerland makes garden culture obligatory for graduation from all normal schools. The government pursues successfully a plan of subsidizing gardens in connection with the elementary school, and offers prizes to both pupils and teachers for practical themes on garden culture. As a result, horticulture in the republic has received a remarkable impetus. Bohemia


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Kitchen Garden
21 beds
3½ ft wide
Carrots
Cucumbers
Turnips
Radishes
Rape
Onions
Garlic
Parsnip
Peas
Beans
Nursery
6 sections
Apples
Pears
Plums
Cherries
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thirty-nine and one half square rods. The government here, too, grants annual appropriations for the support of school gardens and offers prizes for excellence in horticultural study. Vegetable gardening has been reduced to a scientific system in this most densely populated of countries, which is scarcely equaled elsewhere — thanks to perfection in school gardening.

The British Empire. — England alone of prominent European nations has been slow to take advantage of the garden movement. It is fair to state, however, that marked progress has been shown since the adoption, in 1904, of a new course of study for all elementary schools, — a course in which nature study holds first place, — and grants are made to all schools maintaining school gardens. But strange as it appears under the circumstances, the British have been quick enough to see the value of school gardening in their colonial systems. Thus Jamaica, Ceylon, Natal, Tasmania, and the several states constituting the commonwealth of Australia have school gardens in some form or other, not to mention Canada, which can boast the most complete system of school gardens in the Western Hemisphere.

It may now be time to ask why we take space to enter into this somewhat lengthy portrayal of European school gardens. What is the purpose? What does it prove? In the first place it demonstrates that school gardening is nothing new, as thoughtful educators of all ages have

realized its value. Then it makes clear that school gardening is not a fad seized upon by any one class of educators and horticultural enthusiasts, but is rather international in its scope and is made use of — and very successfully, too — in many and varied ways.

Purposes of European School Gardens. — Sweden organized a system of school gardens at a time when Swedish agriculture was sadly in need of governmental inspiration, teaching the peasantry scientific methods in horticulture and elementary agriculture. Prussia and Bohemia made the gardens extremely utilitarian, striving to promote a better knowledge of pomology. The same is true of France, Belgium, and the Netherlands; the practical ends sought were to teach more profitable methods in the culture of vegetables, flowers, and fruit. Austria and, of late, Denmark and England, have laid emphasis on the purely educational value, the training of heart and hand, making the utilitarian of secondary importance. Hereto should be added that some countries, particularly France, Germany, and Denmark, have made use of school gardens as a special means to augment the teacher's income.

European Emigrant Farmers in Competition with Native Farmers. — The European peasants who come to our shores by hundreds of thousands have been trained from childhood in these schools. Their thrift and ability to surmount difficulties which have nonplussed and discour

aged the native American farmer go far to prove the value of early training in school gardening. The European farmer invariably outstrips the native because he has an almost innate (in-bred) gift for farming right. He knows how and when to fertilize the soil; how and when fall plowing should be done; how to look after the details and little things. It is indisputable that farmers from Germany, Denmark, Holland, Bohemia, and France have converted into thriving, well-built, and well-stocked farms, lands upon which the average American could not have subsisted. They are even now beginning to reclaim the deserted New England farmsteads, and will once more make them blossom as the rose. Nor should this success be attributed — as it so often is — to a lower scale of living on the part of the foreign-born farmer. The real secret of their success is thrift and knowledge of the essentials of scientific farming. Americans should take the lesson to heart, for in this respect Europeans can yet teach us important educational facts.

History of School Gardens in the United States. — Meanwhile, what are we accomplishing for the school garden in the United States? With us the school garden is not yet an integral part of the educational system, although some progress is being made through individual initiative. The cities were the first to take an interest in the work. The first school garden was established, in 1891, at the George Putnam School, Roxbury, Massachusetts, by Henry Lin-

coln Clapp, its master. "From 1891 to 1900 only wild flowers were cultivated here, but by the latter date Medford, Framingham, Hyannis, and other Massachusetts towns had made such a success of vegetable gardening in connection with school work that the Putnam School put in a kitchen garden with 84 beds."

Philanthropic organizations of different kinds have been back of this educational movement in the cities. In 1901 the Twentieth Century Club of Boston established a school garden at the English High School of that city; and the following year, the Massachusetts Civic League provided 350 small gardens for school children throughout the state. The Civic Improvement League of St. Louis, The Chicago Committee on Vacation Schools, The Home Gardening Association of Cleveland, and many organizations of a similar nature have accomplished much for school gardening and park construction in their respective cities. Probably some fifty of the larger cities in the United States are equipped with school gardens; among these may be mentioned Boston, St. Louis, Chicago, Washington, Worcester, Cleveland, New York City, Brookline (Massachusetts), Yonkers, Philadelphia, and Hampton (Virginia). Very few school gardens receive direct financial support from the local boards of education or may be considered as a part of the local educational system. Philadelphia, Cleveland, Rochester, and East Orange (New Jersey), are marked exceptions, as the board of education

in each of these cities has made school gardening a part of the educational system.

Practical Value of City School Gardening. — The following paragraph is from the pen of Superintendent O. J. Kern. It points out the value of school gardening in the city system and gives pertinent reasons why such schools are comparatively easier to maintain here than in rural districts: —

It would seem that the school garden in cities should, of course, be a very rational means of supplementing the study of books, to say nothing of its æsthetic value in beautifying grounds. Also, many of the conditions there make it much easier to have successful school gardens. The school year is longer, and there are trained teachers with better salaries, teachers who have a high appreciation of beauty and the value of nature study from nature. This sympathetic attitude is the result of their normal training, where, in a course covering two or three years, they are told how, in the most effective manner and with a minimum of "economic waste," they are to cultivate the child's "every incipient power." The city child does not come in contact with nature as does the country child; hence it is much easier to interest him. Also, there is a much more enlightened public sentiment in the cities, with their public libraries and art galleries. Public-spirited men and women give time and money to encourage the return to nature. Perhaps there is a greater need of this in the artificial life of cities. The school garden is not likely to suffer during dry summer vacations, for there are the janitor and the hydrant. And it is not surprising that such cities as Boston, Yonkers, Cleveland, Philadelphia, St. Louis, and others should achieve such great results when there are salaried expert supervisors who direct the work even in vacation time. And this work is of the highest educative value. Instead of cities building larger jails

and pointing with pride to such structures as the solution of the bad boy problem, let more money be spent in farm schools, where the boy can get away from the slum back to the brown earth. Garden work is better than "bummin'."

This is good, — garden work *is* better than "bummin'." What is more, there is an abundance of proof on record to demonstrate its *practical value in strictly school work.* James Ralph Jewell emphasizes this point in his excellent publication on "Agricultural Education," Bureau of Education, Bulletin No. 2, 1907), which he further substantiates with abundant quotations. He says in part: —

In the first place, in practically every school heard from directly they have given an interest to some scholars, probably to those of a predominantly motor type, to whom in the past the lessons in the books had meant little. A wholesome interest once aroused, the school work was more easily done. Were there no other advantage in this subject, it would be justified by this result in a country where we have few special schools for those a little slow or backward in their studies. But this is not all. Professor J. D. Hemenway, of Hartford, Connecticut, says: "It has been found that school gardening tends to inspire one to do better work in other branches. In Dayton, Ohio, where school gardens have been conducted for six or seven years, boys taking gardening make 30 per cent more rapid progress in their studies than those without gardens." The increased efficiency in other school work has been noted in Philadelphia, Cleveland, Hampton, and the Rice School in Boston. In the announcement of the department of children's gardens of the American Civic Association is the statement by Mr. Dick J. Crosby, of the office of Experiment Station, of Washington, that "experience has shown that devoting four or five hours a week, or even two hours a day, to nature study and gardening, if properly conducted, enables the

pupils to accomplish more in the remaining time than they formerly accomplished in the whole time spent in school."

Even more to the point is the testimony of Mr. George Iles in discussing the successful operation of school gardens in Canada. He writes: —

Uniform examinations for entrance to high schools are held throughout Ontario in July. In 1906 in Carleton county from schools without gardens 49 per cent of the candidates were successful; from five Macdonald schools, where all candidates had been school gardeners for three consecutive years, 71 per cent were admitted, mostly with high standing. As in all such education it was shown that when part of a school day is given to toil with the hands, at the bench, and out of doors, the book work at the desk takes on a fresh meaning, and inspires a new zest.

Social-ethical Value of City School Gardening. — Garden culture has worked quite a miracle in the lives of children living in the slum quarters of our cities. The influence of trees and flowers in a social-ethical way is very remarkable. There is an old saying that in Whitechapel — London's most vicious, squalid quarter — flowers cannot live and trees will not thrive. Or, to reverse the statement: crime cannot thrive where sweet nature smiles. So in our cities school gardens have been a potent influence at work for civic righteousness. As the school garden invades the slums vice and squalor recede before it. On this point we have the testimony of Director Martin of the Philadelphia Bureau of Health, who writes: —

In the slums of Philadelphia I have found that in the houses where there are flowers — a result of our school gardens — there is neat cleanliness, although all around is squalor.

And in regard to increased respect for property rights, to quote Mr. Jewell once more: —

In Philadelphia the residents of Weccanoe Square themselves hooted at the idea of property rights being respected, yet only one hoe was stolen. There was no other loss during the season, and the police records show that crime diminished materially in the neighborhood. "The children of the vicinity were taken off the streets, even the big boys, at that formative period of 12 to 16, when so many begin to go to the bad." The children began to ask for books on gardening; this led to the formation of quite a little circulating library by the teachers, and not a book or magazine disappeared.

Lack of space forbids further details on the value of city school gardens. But enough has already been said to determine its great importance as an educational agency in the city system.

The rest of this chapter must now be devoted to school gardens in rural districts.

Rural School Gardens. — It was mentioned elsewhere in this chapter that in Europe school gardens originated in connection with rural schools, chiefly for the practical end of making the peasants better farmers. Somehow, with us, the school garden has come to be the natural adjunct of the city school. There is a feeling that city children need the outdoor exercise and contact with nature which gardening affords much more than do country children; and

that the latter will learn gardening and the rudiments of agriculture at home, anyway, as well or better than they can be taught in school. This is all very well, but is it borne out by fact? Does the *average* farm child learn enough to keep up with the procession in this country of increasing land values? Farm lands are getting too valuable for cheap farming. Can the *average* farmer teach his boy the best there is? Let the answer come from communities which practice school gardening. Concrete illustration proves beyond a shadow of doubt that " where a boy has learned at school to mix his agriculture with brains " he is able as a man to raise more farm produce, acre for acre, than his father ever did before him. Mr. Jewell exclaims very pertinently: —

> How many a farmer boy, who will practice farming all his life, goes through his life in the school and at home without knowing how the roots of corn spread out, or how to cultivate the corn properly to insure the largest yield, except as he follows what he sees others do and without knowing a hundred things of the kind which science is waiting for him to learn and utilize? How many country boys have been given anything to think of as they hoe potatoes except that their city cousins are not blistering their hands so?

Canada could furnish many illustrations of what school gardens are actually accomplishing for the farmer. For instance, in 1903, after three years of work in seed selection and careful cultivation in plots of ground at home and in school, " the yield of wheat thus sown and reaped was 28 per cent heavier than that of three years before from

unselected seed; in oats the increase was 27 per cent, area for area."

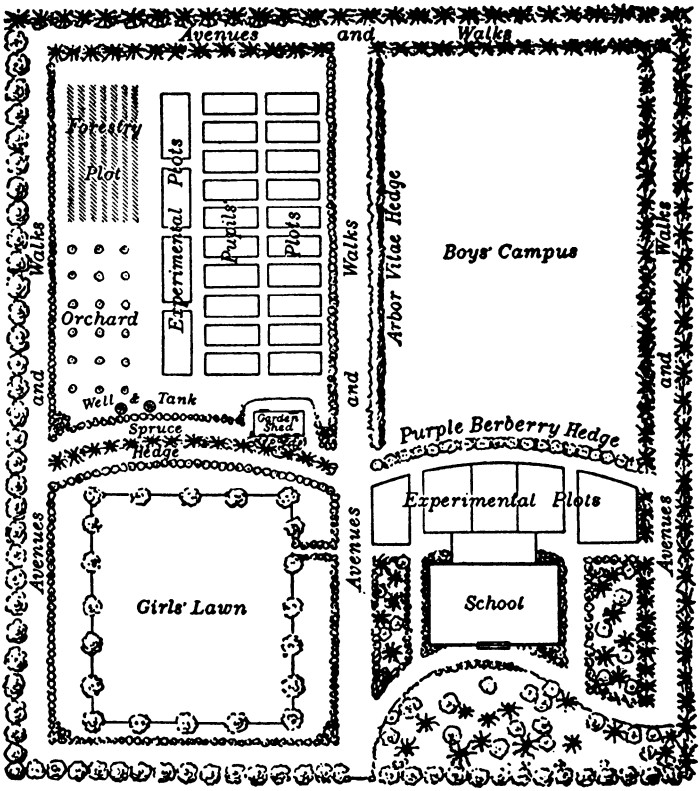
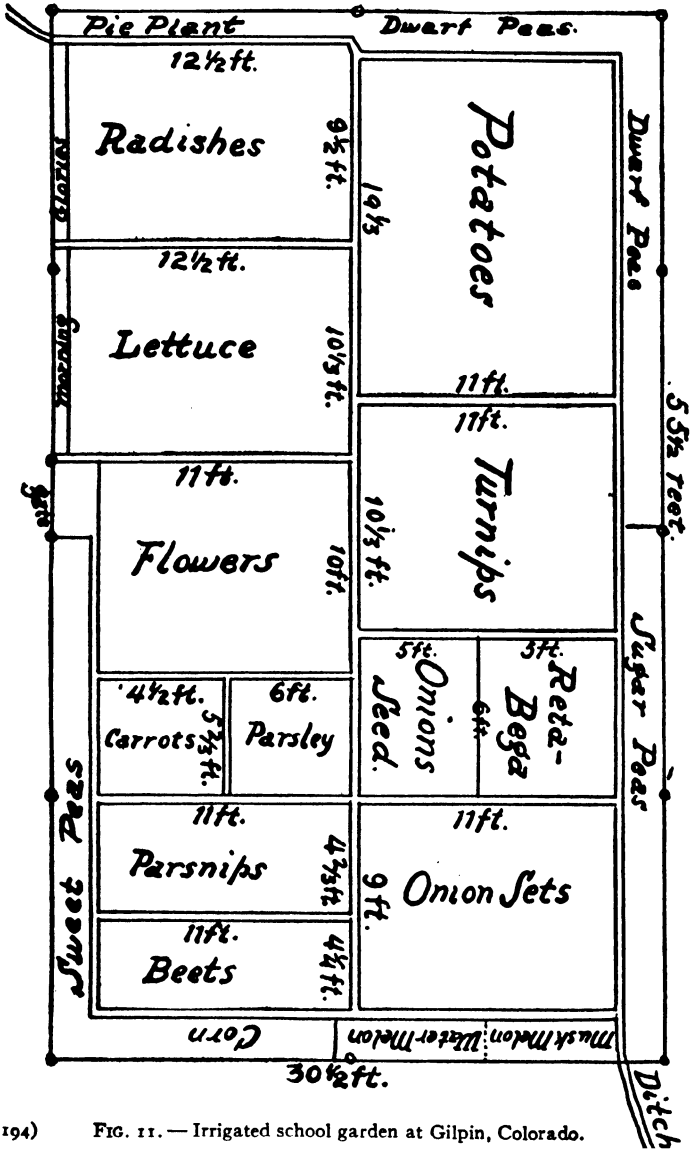


FIG. 10. — Plan of Macdonald consolidated school grounds and gardens, Bowesville, Ontario, Canada.

The province of Nova Scotia heads the list with 103 school gardens in 1905. Other Eastern provinces established 25 gardens, 5 in each province, with the coming of the



(194) FIG. 11. — Irrigated school garden at Gilpin, Colorado.

Macdonald movement. Even the Northwest territories have established flourishing gardens in many communities. In the United States some very excellent gardens are maintained as adjuncts of the same class of schools, although Superintendent Kern, of Winnebago county, Illinois, Superintendent Miller, of Keokuk county, Iowa, and many other enthusiastic workers whose aim is to better the conditions of the country child have demonstrated conclusively that very successful school gardens may also be maintained in connection with the small one-room school.

The United States Department of Agriculture places the number of gardens in operation in our country (1906) at 75,000. The Middle West, notably Illinois, Iowa, Minnesota, and Wisconsin, have the largest number of rural gardens. Many other states, among them Michigan, Indiana, Ohio, and Pennsylvania, have comprehensive systems of school gardens. Even Colorado, in the heart of the Rockies, supports hundreds of successful gardens.

Two Difficulties which must be Met. — Two difficulties must be met before school gardening can become an integral part of our educational system. They are: (1) general popular appreciation of their real value, and (2) trained teachers able to face and surmount any obstacles thrown in the way of their successful establishment.

Popular appreciation is already on the increase. Many state normal schools and state agricultural colleges have lent willing hands and are doing much through bulletins

and otherwise to call the farmers' attention to the importance of the school garden in the rural school system. Farmers' institutes in several states have placed their official indorsement upon the movement. Farmer boys' corn clubs and similar organizations (see Chapter XI) are all doing much to rouse public interest.

Training Teachers in Elementary Agriculture. — The secret of much of the immediate success and solidity attained by the school garden movement in Canada is easily explained. Its originators began in the right way by first training their teachers for the work to be accomplished. A number of provincial normal schools and Macdonald institutes are engaged in training teachers for the increasing number of schools making provision for nature study and school-garden experiments. The Macdonald Institute, associated with the Ontario Agricultural College at Guelph, has the finest equipment in the world for garden experiments and nature study. The school offers elective courses in these subjects free to all teachers. Four provincial governments have granted scholarships to this school, which have already enabled 200 teachers to take instruction in the elective subjects.

In the United States we are not so fortunately situated, since our millionaires have not yet come forward in imitation of Sir William Macdonald. In spite of this we are making a good beginning. Teachers who are already in the service have ample aids at their disposal for self-

instruction, if they choose to take advantage of them; and future teachers should have no difficulty to find a suitable institution where to receive their training. Several types of institutions which offer such training have been discussed in the chapter on "The Rural Teacher: His Training" and need not be repeated here. Dean L. H. Bailey classifies these institutions (Bureau of Education, Bulletin No. 1, 1908) under seven heads as follows: (1) state normal schools; (2) local normal schools; (3) high schools and training classes; (4) separate agricultural schools; (5) special detached foundations for industrial work; (6) education departments of colleges and universities and teachers' colleges; and (7) agricultural colleges.

Steps Preparatory to making the Garden. — Unless the teacher has taken instruction in the actual management of school gardens his success or failure will depend altogether on his own ingenuity in self-preparation. The first step would most likely be to read some good book or books on school gardens — dealing with their value, how to make them, course of instruction, etc. Then let him send to the Bureau of Education for a free list of bulletins on the subject, gleaning from them such suggestive materials as they may contain. It is an excellent idea to get into touch, through correspondence usually, with philanthropic organizations engaged in furthering this movement throughout our country; they would give valuable suggestions and might even furnish seeds and other

material help. State horticultural societies, state normal schools, and state agricultural colleges willingly send their bulletins, manuals, and courses of study. These will all be of value. Better still are excursions to school gardens already in operation; here the teacher may see with his own eyes what he has hitherto known in theory only. He should finally study the plan of some well-known school-garden system and adapt it to his own needs. H. D. Hemenway has published a book on "How to make School Gardens" (see suggestive list at end of chapter), which contains an outline plan of the Oakdale School, of Dedham, Massachusetts. R. H. Cowley, Inspector of Schools, has written instructively on the Macdonald School Gardens in the *Queen's Quarterly* for 1905. These school gardens are too complex for the ordinary one-room school, but are so full of hints which can be made use of that all teachers should read the articles. We quote below such portions of Cowley's outline plan of the school gardens and grounds of the Bowesville Consolidated School, of Bowesville, Ontario, as are deemed of especial value to beginners in school gardening: —

Bowesville, Ontario, School Gardens: General Plans. — While the plan of laying out the gardens varies according to soil, surface, and location, the outline of the Bowesville garden on page 193 suggests the general features that have been kept in view. These include a belt of ornamental native trees and shrubs surrounding the grounds; two walks, each about one hundred yards long, between rows of trees; a playground of about half an acre for the girls,

bordered with some light and graceful shade, such as cut-leaf birch; a small orchard, in which are grown a few varieties of the fruit trees most profitable to the district; a forest plot, in which the most important Canadian trees will be grown from seed and by transplanting; a plot for cultivating the wild herbs, vines, and shrubs of the district; space for individual plots and special experimental plots; and attractive approach to the school, including open lawn, large flowering plants, foliage, rockery, ornamental shrubs, etc.

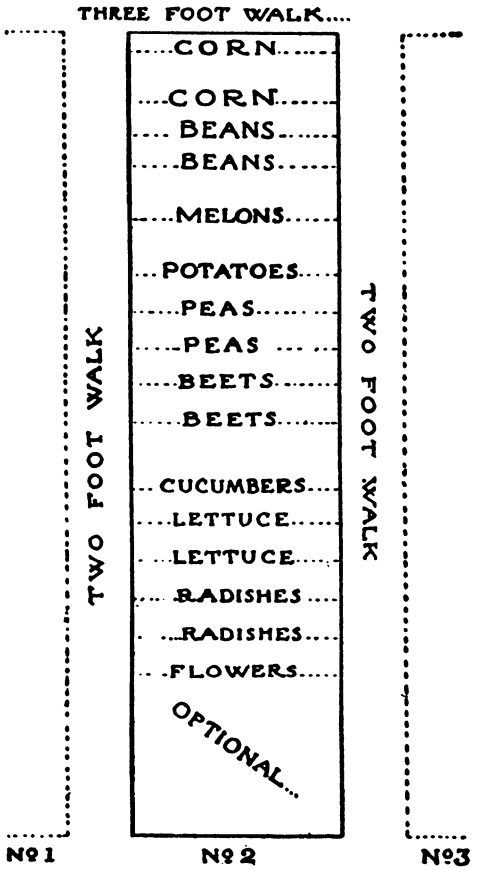


FIG. 12. — Planting plan of an individual school garden.

Dr. Robertson, the director of the Macdonald movement, lays great stress on "special experimental plots" wherein experiments of a highly instructive character are carried on, covering many simple

lessons in what he pleases to call the tripod of good farming: "(1) sowing selected seed on prepared soil; (2) protecting crops against insects and fungous diseases; (3) a rotation of crops adapted to the soil and to the markets."

In his report Mr. Cowley continues: —

Experimental Plots and Individual Plots. — The special experimental plots are, as a rule, larger than the individual plots. They are used for such purposes as the study of rotation of crops, values of fertilizers, effects of spraying, selection of seeds, merits of soils, productiveness and quality of different varieties of crops, and many other similar subjects. At one school a special study was made of corn, clover, tomatoes, and cabbage; at another beans, peas, beets, and potatoes occupied the experimental plots; at still another some extra attention was given to plots of pumpkins, squash, cabbage, and cauliflower. At all the gardens special plots will be devoted to small fruits, such as strawberries, raspberries, gooseberries, currants. The experimental plots vary in area from two hundred to two thousand square feet, but where the quantity of ground is restricted, the experiments may be successfully carried out on plots of much smaller average size.

A last quotation from Mr. Cowley's report sheds new light on the perplexing question of what to do with the school gardens during the summer vacation: —

The School Garden during Vacation. — There is no insurmountable difficulty or very serious problem in keeping the school garden decent during the long summer vacation. Even if the garden were to deteriorate from neglect during holidays, the fact would be of altogether minor consequence against school gardens, since a well-ordered pupil rather than a well-ordered garden is the supreme end of it all. If the pupils do not provide for their plots

during vacation, by all means let the weeds grow. The worst possible mistake in such a case would be to pay a janitor or some other person to take care of the plots for indifferent and unmindful pupils. At some school gardens in Carleton county last summer some pupils returned after vacation to weed-choked plots in which their flowers and vegetables compared very unfavorably with those of their more diligent companions. Their silent observation of this fact and their strenuous efforts to redeem their plots impressed upon them a lesson of moral and material value.

How to arrange the Garden. — The accompanying outline represents the author's personal ideas of a practical school garden and grounds. It is a garden connected with such a ground as described in the previous chapter. The garden occupies the rear one third of the entire area used for school purposes and is inclosed by living hedge or strong fence. To obviate any objection that may be raised to a hedge fence — which is known to draw much nourishment from the soil adjacent to it — fruit trees and such bush growths as raspberries and blackberries occupy the ground next to the hedge. The garden is furnished with a turnstile entrance from the school grounds and with a large gate on the side next to the road to admit the plow team, if such is used.

The size of the garden will depend upon the number of pupils, the size of the school ground area, and other local conditions. If the grounds are ample and the attendance small, the orchard and experimental plots may be proportionately increased. The outline plan contemplates an

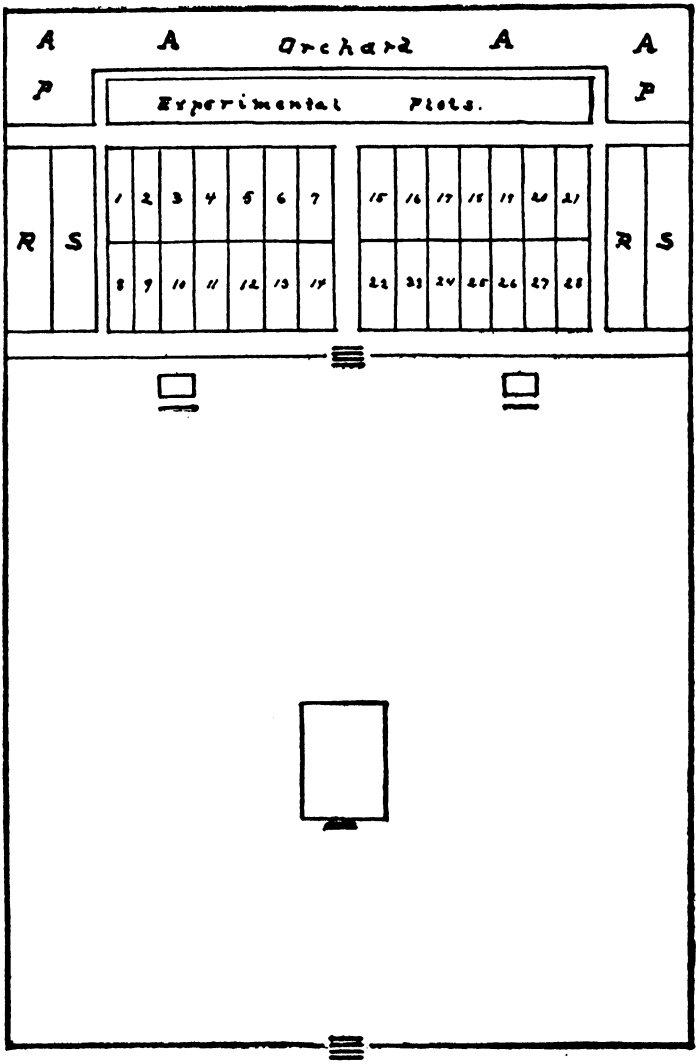


FIG. 13. — School garden occupying rear one third of entire grounds. Key: *A*, apple; *P*, plum; *R*, raspberry; *S*, strawberry; 1 to 14, girls' garden; 15 to 28, boys' garden.

orchard of apples, cherries, plums, etc., flanked on either side by berry patches. The experimental plot contains a patch devoted to the culture of seedlings where experiments are carried on in budding, grafting, etc. The other patches are used for experimentation in soils and fertilizers, seed selection, and rotation of crops. The main body of the garden is divided into as many individual plots as there are pupils, including one for the teacher who should not fail to work with the children.

The general management of the school garden must rest with the teacher, but the school board should be ready to advise him and furnish teams for plowing, hauling trees and shrubs from the woods, and in other ways lend their assistance. A committee composed of older boys and girls may be held responsible for the garden during vacation, or Mr. Cowley's suggestions set forth above may be followed.

A SELECTED LIST OF BOOKS DEALING WITH SCHOOL GARDENS

1. Annual Reports, Home Gardening Association, Cleveland, Ohio, 1903–1906.
2. BAILEY, L. H. On the Training of Persons to teach Agriculture in the Public Schools. Bulletin, No. 1, Department of the Interior; Bureau of Education, Washington, D.C., 1908. pp. 53.
3. BALDWIN, W. A. School Gardens and their Relation to Other School Work. American Civic Federation, 1905. pp. 15.
4. CORBETT, L. C. The School Garden. Farmers' Bulletin, No.

218, Department of Agriculture, Washington, D.C., 1905. pp. 40.

5. COWLEY, R. H. The Macdonald School Gardens. Queen's Quarterly (Kingston, Canada), 1905. pp. 390–419.
6. CROSBY, D. J. Bibliography on Nature Study, School Gardening, and Elementary Agriculture for Common Schools. Office of Experiment Stations, Circular No. 52, revised, Washington, D.C. pp. 4.
7. HEMENWAY, H. D. How to make School Gardens. Doubleday, Page and Co., New York, 1903. pp. 159.
8. Industrial Education in Schools for Rural Communities. Report Committee of Five, N.E.A., 1905. pp. 97.
9. JACKMAN, W. S. School Gardens. The Elementary Schoolteacher and Course of Study, Vol. 2. pp. 573–578.
10. JEWELL, J. R. Agricultural Education, Including Nature Study and School Gardens. Bulletin, No. 2, Department of the Interior; Bureau of Education, Washington, D.C., 1907. pp. 148.
11. KERN, O. J. Among Country Schools (specially chapter on school gardens). Ginn and Co., Boston, 1906. pp. 366.
12. School Gardens. Office of Experiment Stations, Bulletin, No. 160, Washington, D.C., 1905. pp. 47.

CHAPTER XI

Elementary Agriculture and Industrial Clubs

Nature study and school gardens have proved the open sesame in the relation of school life to community life. They, as much as anything else, have been instrumental in getting educators to recognize the essential relation of head, heart, and hand. Now it remains for elementary agriculture — so far as the rural schools are concerned — to make complete this growing understanding of oneness in aim between school and home.

Agriculture the Dominant Interest in the Rural Community. — Educational systems are made for man, and not man for educational systems; and what these systems shall embrace must necessarily be governed by the dominant interest of the community. Manual training has successfully fought its way to a prominent place in the city curriculum because a large proportion of our urban population sees in it a vital interest for their children, in offering them first-step preparation in their life work, giving them a wholesome respect for it. In farm communities, where a majority of rural children are bound to remain all their life and there work out their destiny, the

most vital interest is undeniably *agriculture.* Give to rural education an increasing agricultural trend, and we shall soon be in a fair way to solve the rural school problem.

Heretofore the rural schools have drawn their inspiration from the city schools. Thence came their teachers and ideals, their curricula and text-books. Thitherward lay all their aspirations and strivings, to the belittlement of farm life and all that to it belonged. Let, then, the rural school of to-day face its pupils toward the township and county high schools with their agricultural instruction, the eventual aim being to prepare them for entrance to the agricultural college or immediately for the practical tasks of the farm.

Objections to this Agricultural Trend not Insuperable. — Naturally enough such an innovation — we might almost have said revolution — has its opponents who find it visionary and impractical. They argue that such schemes of educating for the farm have been tried in other countries and failed; that the rural curriculum is crowded with essentials as it is; and that, moreover, we lack teachers properly equipped to cope with the difficulties of the situation. Such objections, while in part well taken, are not insuperable; and, if all the facts were told, *have been* successfully surmounted in many instances both abroad and in sections of our own country.

Elementary Agriculture in European Schools. — The European countries which have taken a lead in nature study

and school gardens have, generally speaking, continued this work in a more advanced form under the name of elementary agriculture. That such innovations have not always been successful proves nothing. The causes of failure are easily pointed out and may in future be avoided. The lack of trained teachers is, as before stated, the chief cause of failure; but this is already being remedied by offering, and indeed very often making obligatory, agricultural courses in the state normal schools, and other training schools for teachers. Past failures can only point the way to eventual success.

France. — France has offered optional courses in agriculture in its primary schools ever since 1879. The French farm boy begins with object lessons at seven years of age, and at nine takes up the "first ideas" of agriculture. Thereafter he continues *gradatim* study of the hygiene of man and animals, of vegetable physiology, and plant chemistry. In short, he pursues a rational course "requiring the exercise of the intellectual faculties as well as labor with the hands." The girls learn domestic economy, hygiene, and horticulture, and get such training as shall make them adepts in dairying, garden culture, and poultry raising. This training has already had a marked influence upon this great agricultural nation — so striking indeed has it been that to deny its efficiency would be absurd.

Belgium and Holland. — But France does not stand alone in this field. Belgium has within the last fifteen

years developed a system of agricultural education unexcelled anywhere. Agricultural theory and practice are taught as a part of the regular rural school curriculum. To meet the demand for efficient teachers all the state normal schools in the kingdom offer courses in agriculture. The government has been remarkably successful in meeting local needs and solving local problems. For practical application of agricultural teaching Belgium stands, perhaps, first among European nations.

In Holland the work is given a marked nature-study trend; however, it includes enough of things agricultural to permit graduates from the rural schools to enter secondary agricultural schools.

Denmark. — Denmark illustrates in a striking way what elementary agriculture in the rural school can do for a people. As a result of the disastrous war with Prussia and Austria, in 1864, the small kingdom lost two of its most prosperous provinces. Danish hopes of political prominence were thenceforth blasted; but with a zeal born of despair the people set to work to make amends for lost territory by developing to the utmost what was left. Wonders have been wrought. Swamps have been drained, and sandy heaths planted and redeemed. Agriculture and horticulture have become scientific and intensive. Danish farm products — butter, cheese, fruit, vegetables, and meats — receive the top prices in the world markets on account of unequaled quality. And this story begins in

the rural schools. Elementary agriculture, under various names, is taught in every rural district. Here the young Danes get their love for the soil, and thus inspired, continue their higher agricultural education in the several kinds of *Landboskoler* (agricultural schools).

Other Countries. — Other European countries, as Germany, Austria, and Switzerland, teach elementary agriculture chiefly in separate schools established for this purpose, and therefore need not be mentioned in our discussion. Norway, Sweden, and Finland offer practical courses in a number of elementary schools; Servia and Portugal, too, are accomplishing tangible results. Even Japan is alive to the possibilities to come from practical study of agriculture. This progressive nation has already over 500 schools for the teaching of agriculture.

The British Empire. — The United Kingdom has been just as backward in the matter of introducing agriculture into the schools of the islands as she was about nature study and school gardens. Prior to the adoption of the New Code of 1904 nothing worth the mention was accomplished. Under the new provisions the outlook is decidedly brighter.

But England has pursued a wiser policy with her colonies. In the British West Indies, for instance, elementary agriculture is taught in the lower schools, the system being similar to that used in the French rural schools. The Straits Settlements, Ceylon, Malta, etc.,

make use of agricultural primers in the schools. South Africa and the Australian commonwealth are making remarkable progress. In the latter Victoria offers nature-study courses of a decidedly agricultural trend; South Australia teaches agriculture as a "specific study in the country schools"; and agricultural bulletins are published in all the colonies free (save postage) to all who care for them.

The United States. — In turning to our own hemisphere and the United States it is really unnecessary to repeat what Canada is doing in elementary agriculture. Enough has already been said under the head of school gardens. Let it suffice here that the example set by the Canadian government and the Macdonald movement in their unprecedented success in bettering and increasing the yield of farm crops and dairy products, through first lessons in the rural schools, should be emulated and imitated in our own country; for we as a nation have not yet accomplished much "so far as *formal* agricultural instruction in rural schools is concerned."

Yet Mr. Jewell — in his treatise on "Agricultural Education" — sees cause for much encouragement in what has already been done. He points out "that such an agricultural innovation in our school system must necessarily work its way slowly, since with us it is not put in practice the country over by the government, as is the case in Europe." It is well to remember also

that agitation, at least in the rural schools, is of very recent origin; it began in earnest not more than eight or ten years ago! And it is not putting facts too strongly to say that no one problem of an educational nature now before the public interested in the welfare of our rural population receives more consideration than does this very agricultural education.

Rapid Spread of Movement — North and South. — The great Middle West and Northwest were first in the field, and they, therefore, carry off the palm for real accomplishment, though the Southern states do not lag far behind. In one respect the South takes the lead — *i.e.* in making agricultural instruction in rural schools obligatory under law. Seven states — Alabama, Georgia, Louisiana, Mississippi, North Carolina, South Carolina, and Texas — have such requirements. Other states elsewhere having similar laws are Maine, Maryland, South Dakota, and Wisconsin. But most promising is the emphasis being laid on preparation to teach agriculture. Alabama, Georgia, Mississippi, Missouri, Nebraska, New York, North Carolina, South Dakota, Virginia, and Wisconsin, before granting certificates to teach, require teachers to pass an examination in agriculture. More than sixty state normal schools throughout the country offer preparation for such examinations. Numerous county training schools and county training classes, and special normal and agricultural high schools, as shown in the

chapter on "The Rural Teacher: His Training," are preparing a host of teachers for local needs. Georgia has just organized eleven such agricultural high schools, one for each congressional district, the sole aim of which shall be to prepare agriculturally trained teachers for rural schools. (See Appendix.)

Interest of the Agricultural Colleges in the Movement. — The agricultural colleges are taking a marked interest in the introduction of agriculture into our public schools. The interest, which, of course, is very natural in schools of this class, is on the rapid increase. Just how comprehensive it is can best be realized by a study of the following succinct outline from the pen of Professor E. E. Balcomb, Department of Agriculture and Physical Science, Weatherford, Oklahoma. (See N. E. A. Report, 1907, pp. 1069–1075): —

New Hampshire is coöperating with the state superintendent; introducing agriculture into the common and secondary schools.

Kansas, Pennsylvania, Florida, and New Mexico are lecturing to create a sentiment for it; Kansas has an assistant to the director detailed to this work.

President Scott, of Oklahoma, urges consolidation of schools as the best means of popularizing agriculture.

Massachusetts and Iowa have just elected men for organizing and directing and inspiring superintendents, principals, and teachers.

Colorado is planning to get a bill two years hence requiring elementary agriculture for public schools and more advanced for high schools. Five county high schools have courses.

Maryland is trying to come into close contact with the country school boards and teachers, and is seeking to obtain appropriations for introducing agriculture into high schools.

President Bryan, of Washington, desires to see agriculture permeate common schools, not separate agricultural high schools, but agriculture in all the high schools.

Indiana is interesting the state board in agriculture for the public schools.

New Jersey is coöperating with the state board in planning a curriculum for agricultural courses in high schools and also in the establishment of summer courses for teachers.

Illinois has been developing and planning courses in agriculture for secondary school work and for the country schools. Professor Bartow: "I believe agriculture in public schools will be supplemented and supervised by agricultural colleges through supervisors who visit the schools."

Maine helps with gardens in some sections. She has a man engaged for next year who will spend his time helping teachers in their schools.

Montana is coöperating in establishing courses in high schools. Two have such courses, and others are investigating.

Ohio is giving her attention to the public school work. She has a superintendent of agriculture in elementary grades. One fifth of the high schools are giving it in science courses.

In Missouri Professor Waters says, "We consider the introduction of agriculture in the primary and secondary schools the most important extension work in agriculture that can be undertaken. To reach the country school we are arranging to hold a series of one-day meetings in every school of several counties, demonstrating and lecturing to pupils, teachers, and patrons."

California encourages agriculture in the schools. She has influenced the establishment of a secondary school of agriculture.

New York, as early as 1902, was actively engaged in several lines of activity, all bearing directly on agricultural education.

It may now be time to raise the question: Just *what* work in agriculture may the small rural school reasonably be expected to teach?

What may reasonably be expected of the One-room School. — The Committee on Industrial Education in Schools for Rural Communities, in its report to the N. E. A., comes to the conclusion —

> That in existing one-room district schools a limited amount of nature study and work in the elements of agriculture, and hand work for both boys and girls may be undertaken; that in view of the quality of the teaching force available for these schools, the immaturity of the greater number of the pupils, the crowded condition of the programme, and the lack of adequate supervision, but little can be expected in the way of industrial education in this class of schools; but where enthusiastic teachers qualified for the work and pupils of sufficient maturity are brought together in the same school, something worth while may be accomplished, and that the effort for such accomplishment should certainly be made.

And further, on page 25: —

> It is evident that before this phase of industrial education can be made a success in the one-room district schools, several things must be accomplished: there must be a body of teachers with special training for this work; second, pupils must remain longer in school; third, there must be a kind of work undertaken which shall be adapted to local conditions and limited to the capacity of pupils who are to take it; this involves a wise determination of what should be undertaken in any locality, both as to the scope and method.

Some Objections Answered. — The committee report is now three years old. Since 1905 many facilities have

been added which will provide the necessary trained teachers. This should dispose of the first objection.

As to the second point, the way to make the pupils remain longer in school is to offer them a course of study "which," to use the committee's own words, "appeals to his own interests or to the interests of those with whom he is concerned." This nature study and elementary agriculture will do if properly taught. A careful study of statistics shows "that the introduction of agriculture into the rural schools of France and Belgium has caused parents to keep their children in school from one to three years longer." And why should not the same results obtain in our country? As to the third objection; this would, it seems to me, hold good in any kind of a school, large or small. The character and scope of the work must necessarily be within the range of the pupil's powers, or failure will follow.

The objections seem thus in great measure to take care of themselves.

In Appendix C is outlined the committee's scheme for nature-study work, covering the first five years in school. Thenceforward the work must be in the nature of elementary agriculture, much as suggested by the same committee, page 45: —

> After the explicit nature study ceases with the fifth grade, the pupil in the rural school may then be taken through the elements of agriculture in the sixth, seventh, and eighth grades. The work

in these three grades should really be nature study, but agricultural subjects are the means. Some will prefer to call it nature study rather than agriculture. Its purpose is not so much to teach definite science as to bring the pupil into relation with the objects and affairs that are concerned with the agriculture of his region. When the pupil has completed his nature study in the fifth grade, he should have a good knowledge of the physiography of his region, and of the common animals and plants. He will then be able to carry his inquiries into the more specific field of the agricultural practice and operations. When he has completed his eighth year, he should have a well-developed sympathy with agricultural affairs, and he should have a broad, general view of them. Entering the high school, he will then be able to take up some of the subjects in their distinctly scientific phases. (See Appendix.)

What is actually accomplished in One-room Schools. — But are these things actually accomplished in the one-room school? Assuredly. Concrete examples are not wanting. Very many of the 75,000 or more school gardens in the United States are maintained in connection with one-room schools, a majority of which do some study along agricultural lines. They are found in every part of the country, from the Atlantic to the crest of the Rockies, and beyond to the Pacific. In Las Animas county, Colorado, there are, according to latest reports, one hundred and fifty school gardens, many being used as a basis for agricultural study. Throughout the entire Middle West and sections of the South the small schools have taken hold of the work, thanks to the Kerns and Millers, the Portses and Fitches who labor so zealously to better rural conditions.

Space forbids any lengthy details here. Yet we cannot forego the pleasure of bringing an illustration from New York State. It is quoted by Dean Bailey in his pamphlet on "Training for Teachers in Agriculture." The teacher in question is H. H. Lyon. Says Mr. Bailey: —

The teacher has been successful in interesting his pupils in various experiments and tests that have relation to farming. He gives all the pupils nature-study work, including the younger ones. Suggestions are had from books, from the state syllabus, and perhaps quite as frequently from something that happens for the time to be interesting the school or the community. He is introducing practical local problems into the arithmetic work. He suggests that if ten or twenty-five schools could work together in arithmetic, geography, and other subjects, thereby making it worth while for examination questions to be asked on these new lines of work, the results would be very marked. (For problems made use of by Mr. Lyon see Appendix.)

Susie Miller, an Indiana Rural School Pupil, on Agriculture. — Here is a letter written by a pupil in the eighth grade of the Center School, Taylor township, Howard county, Indiana. It shows the children at work and their interest in the new subject: —

We started our laboratory the second week of school. We have never taken part in this work before. Our schoolroom seems more like home with our laboratory. It is in the northwest corner of the room and consists of flowers and vegetables.

We have several kinds of soil. They are: clay, humus, an organic matter, the sandy, the rich garden soil and stable garden soil, and the mulched clay. The mulch was gotten from an old fence row.

The girls brought several kinds of flowers: verbenas, geraniums, cactus, scarlet sage, and many others. There are a number of vegetable plants; such as, mango, radish, corn, tomato, wheat, and beans.

We take each plant separately as we perform our experiments. Some of our experiments are as follows: we planted a grain of wheat and saw that the roots started first, then the sprout and both grew together. The same was discovered with corn and beans. Then we put a sweet potato in a glass and filled it about two thirds full of water so it would sprout and raise new plants. There was also a sweet potato put in the ground and sprouted.

Some one was requested to get a radish from a garden that was just ready to go to seed. When we set it out, the radish was hard and full of food for the stalk, but as it grew it became pithy, for the stalk had used all this food during its growth. The teacher then asked another pupil to get a blackberry sprout. He cut the top of it off and set it out. It immediately took new root and is now thriving in its new soil. The experiment is one for the formation of new shoots or buds.

One of the pupils tried an electrical experiment by bringing a tomato plant in contact with an electrical current. It was applied to the root and one branch of the plant. The application of electricity to a plant inspires new life in the plant and causes a more vigorous growth.

Our work has only begun, and we hope to get greater results from it. It is a very interesting and profitable study.

We have quoted New York and Indiana; now for a leap to a district school in southeastern Nebraska. This instance of informal work in agriculture and domestic science is quoted from E. C. Bishop's paper on *Agricultural Education without Equipment* (N. E. A. Report, 1907): —

District No. 29, Pawnee County, Nebraska. — District No. 29, the Lower West Branch School, is a rural school in Pawnee county eight miles southwest of Pawnee City. From twenty to twenty-five pupils are enrolled, and a class of from one to four pupils graduate from the eighth grade each year. The school building is the ordinary box-car form, but kept in good repair. The school children collected stones and made borders for flower beds in front and at one side of the building. They also trained vines over the outbuildings and maintained a small experimental garden. At intermission periods the teachers and pupils talked over plans by which they might learn to cook and to sew, to make various articles, and to cultivate certain plants. Recipes were sought and distributed, each girl learned to make bread and other common articles of diet, to can fruit, to sew, and to cultivate flowers and vegetables. The boys took interest in corn and potato-growing and other lines that especially appealed to the individual. At the county corn contests and at the state contests this school is always represented by creditable exhibits in the various lines of work and by delegates sent by the school to attend the meeting. The teacher, Miss Lulu Wolford, was re-employed each year at an advanced salary. Her school ranks among the very best in the county and in the state in the quality of work done in the regular branches. The community has been much benefited in the interest taken by the young people in the work of the home. The school has been much benefited by the interest awakened among the patrons of the school.

Working Aids: Books, Bulletins, etc. — The teacher should not fail in his work for want of books and other aids on agriculture. He may have the ability and ingenuity to adapt his course to local needs, as does Mr. Lyon. If he is less self-reliant, he can find ample assistance in the many really practical text-books on the subject (see suggestive list at end of chapter). Then the states making

the study of agriculture in the schools obligatory, as well as others not yet making it a requirement, publish more or less complete working outlines to be used by pupils and

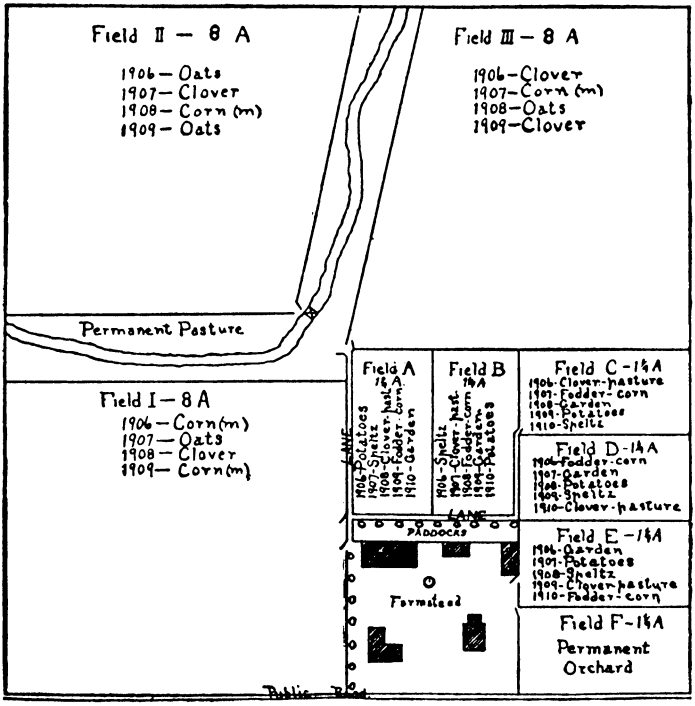


FIG. 14. — A forty acre farm. The drawing illustrates specific rotation of crops. The scientific application of rotation to crops has begun to play an important rôle in modern farming. (After Minnesota School Agriculture.)

teachers. New York, Illinois, Indiana, Minnesota, Nebraska and many other states prepare such courses.

In many schools where school gardening and agricultural experimentation could not be pursued for sufficient reasons,

teachers and county superintendents have encouraged home gardening and experimentation with field crops. Superintendent Laura Fitch, of Lucas county, Iowa, has long been an ardent advocate of this plan for drawing the farm home closer to the school. Her efforts have been crowned with success. Hundreds of rural school children have been encouraged to make home gardens in connection with their school work. In fact, it has made them *more* interested in their school work than ever before. These home gardens have the advantage of getting good care during the vacation months. In the fall of the year a three days' school fair is held at the county seat, at which time the garden products are exhibited and judged by representatives from the state college at Ames. Lectures are also given of especial interest to the girls and their mothers on household economy, horticulture, floriculture, and kindred themes.

Origin of Boys' and Girls' Industrial Clubs. — The above is one of the many ways in which boys' agricultural clubs and girls' household economy clubs have come into existence. In Macoupin county, Illinois, the clubs originated in quite another way. Interest in the annual farmers' institute had been lagging. The farmers somehow took no real interest in the organization. At this juncture its president introduced a happy innovation: —

> He advertised that he would send free to any farmer boy who applied as much of the finest seed corn procurable in the state as

a one-cent stamp would carry; the boys to exhibit their product at the annual meeting of the farmers' institute and receive small prizes for the best corn raised. Five hundred boys responded. When the time for the meeting came, the farmers were told they might stay away if they cared to. This meeting was for the boys, who were there by scores with their corn. It was judged by an expert from the state agricultural college and pronounced as "fine a display of corn as he ever had seen." But the farmers themselves were there, too, — over 500 of them, — and the problem had been solved.

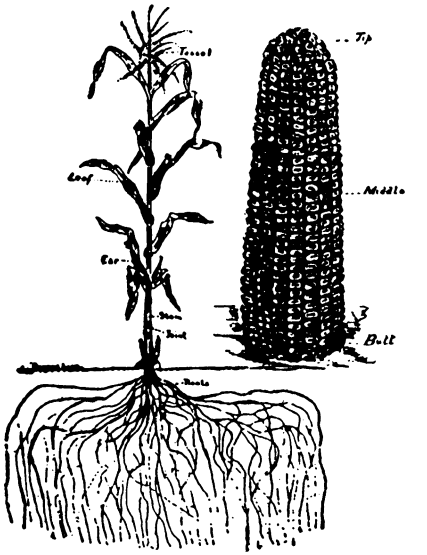


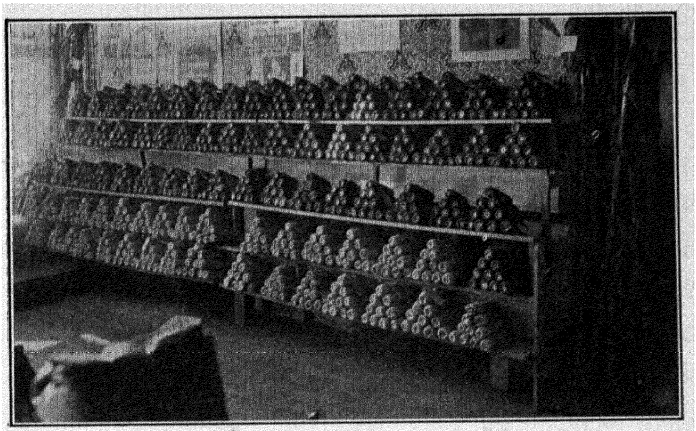
FIG. 15. — The corn plant. The drawing illustrates proper rooting. (After Minnesota School Agriculture.)

This was in 1901. Superintendents and others organized similar clubs. The schools took up the scientific study of corn; school gardens and experimental plots multiplied, and before long the movement had spread to other states.

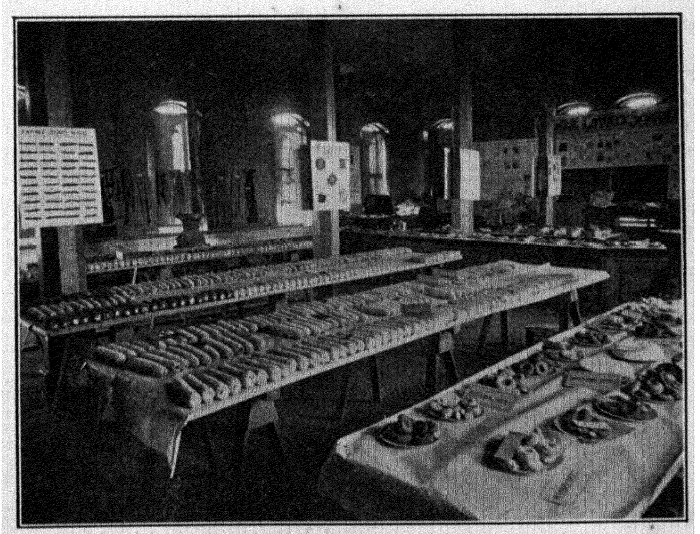
Influence of Such Organizations upon Education. — No expedient made use of in recent years by educators, in their efforts to solve the farm problem, has met with so universal approval as has the industrial club. It appeals to the average farmer's self-interest. He is

quick to recognize its value by tangible results. Likely enough, he may experience defeat in the corn contest at the hands of his own sons, whose corn commands $2 per bushel, while his own brings the customary 75 cents. But then it gives a certain satisfaction to be defeated by one's own offspring! Such farmers will become the stanch supporters of the new schools, and "pull" for a better coöperation between farm and school. The influence of the industrial clubs on the education of the farm youth can hardly be overestimated. They are rearing the nation a new generation of scientific farmers. "The boys," according to Mr. Dick J. Crosby, of the United States Department of Agriculture, "have learned to observe more closely the crops and things affecting the crops; they have met and learned to solve some of the problems in the improvement of crops; they have learned to keep simple accounts, to read good literature, and to know the sources of agricultural literature; their views have broadened by contact with others and by visiting institutions of learning, and finally the power of taking the initiative has in many cases been strongly developed in them."

This educational influence has spread from Minnesota to Texas, from Pennsylvania to Colorado. State and local boards of education, state universities and other institutions, and individual superintendents vie with each other in fostering the movement.



An average corn exhibit at the annual contest of the Hamilton County, Indiana, Boys' Corn Club. (Courtesy of Superintendent J. F. Haines.)



Sectional view of Pawnee County, Nebraska, corn growing and cooking contest, 1908. (Courtesy of State Superintendent E. C. Bishop.)

General Plan of Boys' Corn Clubs illustrated in the Hamilton County, Indiana, Club. — Indiana has a well-developed system of agricultural education in the schools. Its county superintendents report a well-sustained interest in local corn clubs and educational excursions, the latter forming an excellent means of acquaintanceship between the rural schools and higher agricultural institutions. State Superintendent Fassett A. Cotton's annual report for 1906 contains many striking details of what boys' corn clubs and girls' industrial clubs are accomplishing in twenty counties of that state. The report is profusely illustrated and highly interesting.

There is much similarity in the plan pursued in the management of such corn clubs. They hold one or possibly two meetings a year, — the spring seed distribution and the winter scoring and prize contest, — and very generally an annual excursion to the state agricultural college or state university. As readers are no doubt interested in *just how* the clubs do their work, we reproduce at this point a portion of the report of the Hamilton County Boys' Corn Club, as it appears in Superintendent Cotton's report: —

Object. — The Hamilton County Boys' Corn Club is not a theory. It has been worked out from the very beginning. Its object is and has been to teach the boys to know good corn and to raise good corn by actually handling, judging, and producing it; and that the object is being accomplished can be proven by a cloud of witnesses, — at least 250 boys and perhaps an equal number of men who are the

parents and friends of these boys. The watchword of the club is, "grow corn."

Meetings. — This club has been organized three years. There is no machinery about the organization. Each boy who becomes a member signs his name to the list of members, takes two ears of corn, plants about 400 hills, cultivates the corn during the summer, at the proper time selects ten ears and enters them in the contest for a premium. Two meetings are held each year — one in April, when the seed is distributed, and one in December, when the premiums are awarded. We have had good speakers and corn experts at each of these meetings. The boys have been thoroughly instructed in the selection and testing of the seed, in the preparation of the seed bed, in the cultivation of the corn plant, and in the selection of ears of corn for exhibition. Many of these boys who have been members from the beginning are becoming expert in their knowledge of corn. They are able to score an ear pretty accurately. Quite a number of them are more expert than their fathers in the selection of show corn.

"Corn Boys" in Scoring Contests. — At a stock show in this county an implement firm offered $10 for the best ten ears of corn brought to the room where it was exhibited. A number of the farmers brought in their ten ears to compete for the premium. I visited this exhibition with one of the "corn boys." We looked at the packages, and then I asked him for his opinion. He immediately said that there was but one package of good corn there, meaning there was but one package of good show corn. When the corn was scored, this package selected by the boy took the prize. A comparison of the samples submitted by the farmers and those submitted by the boys showed that the men had selected their largest ears with little regard to perfection or conforming to the type of variety of corn represented, while the boys had in mind a typical ear and selected ears as nearly like this model as they could find. It was a difference in training, that was all. Some of these farmers know corn so well that they can be taught nothing more about it.

Name of scorer.....Date.....Place.....

Sample No..... Table.....

		1	2	3	4	5	6	7	8	9	0
1. Trueness to type or breed characteristics.....	10										
2. Shape of ear.....	10										
3. Purity of color— *a*. Grain.....	5										
b. Cob.....	5										
4. Vitality or seed condition	10										
5. Tips.....	5										
6. Butts.....	5										
7. Kernels, *a*. uniformity of	10										
b. Shape of.....	5										
8. Length of ear.....	10										
9. Circumference of ear....	5										
10. Space—*a*. Furrows between rows...	5										
b. Space between kernels at cob.....	5										
11. Proportion of corn to cob	10										
Total.....	100										

REASONS FOR CUTS

FIG. 16.—An official corn score card.

"Corn Boy" *vs.* Farmer. — At first many were very skeptical about the success of the club. What did the county superintendent know about corn? But most of that feeling has been overcome. The county superintendent did not give the instruction; that was given by corn experts. Not long since a farmer entered a contest in which his son, a "corn boy," was also a contestant. When the corn was judged, the son received the prize, having beaten the father many points. This same father was skeptical when the club was organized, but now admits that his son knows more about corn than he does.

The year the club was organized it had a membership of 93. Of this number 53 entered the contest. The second year the number had increased to 150, and 102 entered the contest. This year there are 250 members, and at least 200 will be contestants.

Good Seed Corn. —Last year the corn brought in by the boys was sold for seed, and the proceeds divided equally among the boys who did not receive premiums. The prize package of ten ears of yellow corn was sold for $2, and many of the packages were sold for $1 each. None of the corn was sold for less than $2 per bushel. It had all been carefully selected and cared for, and it made excellent seed.

This year each boy who enters the contest will be given a ticket to a corn lunch. This lunch will consist of the following: —

MENU

Corn Relish
Hot Corn Tamale, *à la Homana*
Corned Beef
"Snowflake" Hot Corn Bread, with "Goldmine" Butter
Cream of Corn, *en Surprise*
Molded Corn Glacé
Pop-corn Bonbons, *ad Libitum*
Inspiration of Corn

Excursions to Purdue University. — The club has taken two excursions to Purdue. These excursions have been great treats, not only to the boys but to their sisters and parents. The L. E. & W. R. R. Co. has been very obliging, and both trips have been pleasant. At Lafayette we were met by members of the faculty of the agricultural department, who conducted us to the university and showed us every attention. We picnicked on the campus, went through the college buildings, were shown the creamery, soil laboratory, visited the crop experiments, barns, stock and stock pavilion, were bountifully supplied with apples to eat, and had our pictures taken. Everything was explained in detail, and all questions answered. At one o'clock a meeting was held in Fowler Hall, where the following programme was given: —

Music — Pipe Organ	Miss Eva L. Linn
Address of Welcome	Professor W. C. Latta
Response	J. F. Haines
Experiment Station Work	G. I. Christie

At four o'clock almost the entire party went on special cars to visit the Soldiers' Home, Tecumseh's Trail, and Battle Ground.

Teaching the Fathers Scientific Farming. — The influence of the club has permeated all parts of the county. Farmers are paying more attention to the selection of seed corn than ever before; they are cultivating their crops with more care; they know more about corn, and in many instances the boy knows more about it than the father, and the father is proud of it. It is a pleasure to visit the homes of the boys who are members of the club. With what pride they take you to their patch of corn, and explain how they have cared for it. They know all the causes of their success or failure. They do not figure awhile and then look at the back of the book for the answer. And the father and mother may be pardoned for saying, with a glad look in their eyes, "Willie has some fine corn." One day I visited Paul Sumner, who has twice taken the premium for the best yellow corn. He took me over a portion of his father's fine farm.

He knew about the stock, the breeds of cattle and hogs, the rotation of crops, the yield per acre of wheat and corn.

At last he took me to his plat of 400 hills of corn that he had raised for the corn club. It was his best effort, and well he might be proud to produce such corn. He has since accurately measured the ground and gathered and weighed the corn. He is in the eighth grade at school. He gave this measure and weight to his teacher, who gave them to the class as a practical problem. It was found that an acre of such corn would produce 100 bushels.

In several states the organization of industrial clubs owes its origin to a state-wide movement, initiated by the state department of education or the department of agriculture in the state university.

State-wide Boys' and Girls' Associations in Nebraska. — State Superintendent E. C. Bishop, while he held the office of deputy superintendent in his state, undertook the gigantic task of organizing the school children of Nebraska into associations for industrial advancement at home and in school. The organization has met with splendid success, as may be gathered from the fact that now, after an existence of only five years, the association includes clubs for girls as well as for boys, and its work has been extended through subsidiary organizations to every part of the state.

The University of Nebraska coöperates in this important work through the department of Farmers' Institutes; it issues valuable illustrated bulletins for the use of club members and furnishes speakers for the state and local meetings. In Nebraska, as in Illinois, the Farmers'

Institute and the State Board of Agriculture are important factors in the success of the movement.

Organization and Growth. — The first corn club was organized at Lincoln in the spring of 1905 with a membership of five hundred boys. The first state corn contest was held at the capital, December 14–16, 1905. The results were so gratifying that "corn-cooking" was added, and five hundred girls immediately formed an auxiliary for that purpose. By 1906 the scope of the two associations — Nebraska Boys' Agricultural Association and Nebraska Girls' Domestic Science Association — had become materially enlarged and included "corn, wheat, potato, and sugar-beet growing, corn cooking, other branches of cooking, fruit preserving, flower culture, hand sewing, and manual training, with work in country clubs in other lines of agriculture, domestic science, and manual training."

Local organizations are provided for by the state organizations. These are the county and the school-district organizations. The degree of growth and efficiency of the mother state organization very materially depends on the virility and efficient management of these local units. The county superintendent in the county and the teacher in the school district is *ex-officio* manager in his respective unit. The best local exhibits are gathered for the annual state meetings, at which prizes and other awards are made.

The total membership of Nebraska clubs is now (1909) increased to over 20,000 boys and girls active in the work through the county and state organizations. During the year forty-four county contests were held, each being in session from one day to one week. The attendance has varied from a few hundred to two thousand at each point during any one day. A new feature this year is short one-week courses in agriculture for the boys and domestic science for the girls. Each school district in the county is exhibited to two delegates — one boy and one girl — to these short-course meetings.

State Superintendent E. C. Bishop on the Object of the Organization. — Mr. Bishop strikes the keynote of the purpose for which all such organizations are formed, when he says: —

The object of our organization is to provide suggestion and direction rather than instruction. The boy who carefully cultivates and studies the growth of a patch of corn, sugar beets, potatoes, wheat, or other plants will gain a new interest and a better appreciation of the value of careful thought applied in the study and the adaptation of seed selection, soil fertility, and the intelligent culture of plants. Further, he will become interested in the best methods of marketing, and of the use of these plants as food for man and animal. This will direct him to study, to discussion, and to investigation, leading to a knowledge of systematic feeding and caring for live stock, to a study of animal adaptation and needs, and to a careful consideration of the financial problems involved. This is education.

The girl who learns by actual experience to successfully cultivate one flower, one vegetable, or any plant in which she becomes

interested; who learns to bake a loaf of bread, to prepare an edible dish for the table, to can a jar of fruit, to make an apron for the use of herself or a member of the family, to neatly darn or patch a garment; if she seeks to know and to perform these simple yet important duties the best way; if she combines with her work, cheerfulness, careful thought, and intelligent study, — she will erelong become expert in home duties, and will become such a student of nature, of the home and of the foundation of social life, that she will be led to a proper growth and development, into the student, the business woman, the home maker, and the home keeper, — the highest of all womanly callings.

Annual Industrial Contest for Minnesota Boys and Girls. — The University of Minnesota issues a manual (see list at end of chapter) for the use of rural schools. The 1907 issue of the book contains this interesting list of topics: the seed, wheat, oats, barley, corn, crop rotation, and field management; suggestions for practical exercises; cooking contest; sewing contest; fruit contest; vegetable contest. The book is used as a text for teachers and pupils. Besides furnishing the necessary subject-matter in elementary agriculture it gives definite rules for score cards and judging, and thus becomes the mouthpiece of "The Farmers' Club," under whose auspices the annual industrial contest for Minnesota boys and girls is held.

The work is similar to that of the Nebraska associations described above. It is especially successful in organizing local county clubs. The contests are held in December, at St. Paul. Last year the Minneapolis Chamber of Commerce offered $1000 for prizes on wheat,

oats, and corn. The Business League of St. Paul gave $200 to the winners in the cooking and sewing contest. Liberal prizes were also given in the other contests.

This Chapter addressed to Teachers of One-room Schools. — This chapter has been written especially for the teacher of the one-room rural school. It includes but little that a teacher of average ability, energy, and zeal cannot accomplish in such schools. We may all be willing, perhaps, to concede that ideal conditions for agriculture teaching will never be attained in the one-room school, but we certainly cannot afford to postpone this subject till consolidation of schools shall overtake us. Consolidation may not reach our section for a quarter century yet. Meanwhile, we must do what we can, albeit in a small way, to utilize this school in the educational evolution now sweeping rural communities.

The teacher has every reason to feel encouraged in the knowledge that the little informal work now being done for the small school in nature study and in beautifying of premises, in digging and planting in the experimental patch that the work to encourage the boys to study and to raise corn and vegetables; that the work to teach the girls the rudiments of home economics, sewing, etc., — that all these are as effective in creating a love for the soil and life on the farm, for industrial efficiency and rural organization and development as many of the more dignified methods used in larger and better equipped schools.

A SELECTED LIST OF BOOKS DEALING WITH ELEMENTARY AGRICULTURE AND INDUSTRIAL CLUBS

1. BAILEY, L. H. Principles of Agriculture. The Macmillan Co., New York. $1.25.
2. BESSEY, C. E. *et al.* New Elementary Agriculture (for rural schools). University Publishing Co., Lincoln. $0.75.
3. CARRINGTON, W. T. Elements of Agriculture. Jefferson City, Mo., 1904. pp. 36.
4. Course of Study and Syllabus for Elementary Schools. New York State Education Department, Albany, N.Y., 1906.
5. CROSBY, D. H. Agriculture in Negro Schools. 1903 report, Office of Experiment Stations. pp. 719 *et seq.*
6. ——. Boys' Agricultural Clubs. Year-book, Department of Agriculture, 1904, Washington, D.C. pp. 489–496.
7. DAVIS, C. W. Rural School Agriculture. Orange Judd Co. New York, 1907. pp. 263. $1.
8. ELLIS, A. CASWELL. The Teaching of Agriculture in the Public Schools. Bulletin of the University of Texas, No. 85, December 15, 1906.
9. ILES, GEORGE. Dr. Robertson's Work in the Training of Canadian Farmers. Review of Reviews, November, 1907. pp. 576–584.
10. Illinois Course of Study. C. M. Parker, Taylorville, Ill. pp. 208.
11. Nebraska Corn Book. E. C. Bishop, Lincoln, Neb. pp. 78.
12. JEWELL, F. R. Agricultural Education (especially chapter on elementary agriculture). U. S. Education Bureau, Bulletin No. 2, 1907. pp. 140.
13. Report, 1905, Illinois Farmers' Institute, Springfield, Ill., 1905, pp. 462.
14. ROOSEVELT, THEODORE. The Man who works with his Hands. An address, Lansing, Mich., May 31, 1907. Department of Agriculture, Washington, D.C., Circular No. 24. pp. 14.

15. Rural School Agriculture. The University of Minnesota. Department of Agriculture, Bulletin No. 2 (revised). St. Anthony Park, Minn., 1907. pp. 116.
16. VOORHEES, E. B. First Principles of Agriculture. Silver, Burdett and Co., Chicago. $0.75.
17. WINSLOW, I. O. Principles of Agriculture for Common Schools. American Book Co., Chicago. $0.60.

The following Farmers' Bulletins and many others on kindred subjects may be obtained by writing to the Secretary of Agriculture, Washington, D.C.: —

No. 35. Potato Culture.
No. 39. Onion Culture.
No. 91. Potato Diseases and their Treatment.
No. 113. The Apple and how to grow It.
No. 148. Celery Culture.
No. 154. The Home Fruit Garden.
No. 156. The Home Vineyard.
No. 161. Suggestions to Fruit Growers.
No. 171. Control of the Codling Moth.
No. 181. Pruning.
No. 183. Meat on the Farm.
No. 199. Corn Growing.
No. 229. The Production of Good Seed Corn.

CHAPTER XII

Manual Training in One-room Schools

Manual Training Defined. — The term *manual training*, as we shall use it in this chapter, applies to all constructive handwork in the schools. It includes the work of both boys and girls — of the boys with the use of tools on wood, iron, leather, etc.; of the girls in acquiring a knowledge of the underlying principles essential in household economy and management. Not uncommonly nowadays, however, the term is expanded to embrace vastly more than the work of the *hand muscles*. Broadly speaking, it may be made to include all of those exercises of the human body "by which is secured the coördination of brain, nerve, and muscle, thus producing muscular control and accuracy of the senses." Nature study, school gardening, and elementary agriculture would very naturally come under this category, since they all have the coördination of values set forth above. But these have been considered elsewhere and need no repetition here. It is, then, in the restricted sense of handwork for boys and girls that we shall use the term.

Its Early History. — Manual training has been recognized as a legitimate part of school work for just half a century. We hear of it first in Finland, where one Uno

Cygnæus organized a complete system of manual training for the elementary schools in 1858. Eight years later it became compulsory in some form in all normal training schools, and *for boys in all rural schools.*

But it is to Sweden, after all, that we must look for the greatest contributions to the early development of systematic manual training. The kingdom in 1872 faced the same difficulties in its rural communities that we of the United States are experiencing to-day; viz. the concentration of rural population in the large cities. To counteract this evil and at the same time to reëstablish the one-time popular home industries now on a rapid decline, the government determined to establish Sloyd schools throughout rural communities. The schools were intended, as the word *Sloyd* signifies, to make their pupils *handy, adept, skillful,* and were naturally of a decided economic bent, preparing the youth for the various trades. The real educational aspects of manual training did not come until later when the movement had rounded into form. A complete course of tool work for boys was formulated and by 1877 extended to the entire system of folk schools, or public schools. Sloyd is now taught in fully 2000 schools in the kingdom. The famous Sloyd Seminariun at Nääs, established in 1874, has been the backbone of the Swedish system, and at the same time has been of inestimable importance in shaping the work in other countries.

France has made manual training obligatory in all its primary schools. Handwork instruction is given in all elementary grades. The various parts of the German Empire, Switzerland, Holland, Belgium, Russia, and the British Isles are pretty thoroughly alive to the great advantages to be derived from manual training and are all offering the work in some form or other.

Manual Training in the United States. — In European countries the introduction and spread of manual training has been confined to the elementary schools. But with us the movement began, literally speaking, at the top of the educational system and thence spread downward. It is generally conceded that the excellent European manual training exhibits at the Centennial Exposition in Philadelphia, in 1876, gave direction to the manual training idea in the United States. The Ethical Culture Society of New York established the Workingman's School in 1878, an institution wherein manual training formed the vital part of instruction. The first distinctive manual training school in our country was, however, founded at St. Louis, in 1880, through the efforts of Dr. Calvin A. Woodward. The St. Louis Manual Training School was successful from the outset, which led to the establishment of similar schools in other large cities: Chicago, Baltimore, Eau Claire, Toledo, Philadelphia, Cleveland, Cincinnati, Denver, and Omaha. These schools all sprang up between 1880 and 1886. From that time to the present

the growth has been remarkably rapid in all schools aside from the rural. The report of the United States commissioner of education for 1907 contains the following table of cities of 4000 population and over in which manual training was given in the years indicated:—

State or Territory.	1890	1894	1896	1898	1900	1901	1902	1903	1904	1905	1906	1907
United States . . .	37	95	121	146	169	232	270	322	411	420	510	644
North Atlantic Division .	23	52	72	80	94	112	125	129	158	156	175	217
South Atlantic Division .	3	3	6	5	10	16	22	28	36	29	22	34
South Central Division .	1	2	2	5	3	12	12	19	26	31	42	52
North Central Division .	10	30	31	45	48	73	89	119	161	174	236	293
Western Division . . .	—	8	10	11	14	19	22	27	30	30	35	48

The table speaks a volume for the remarkable growth of the system. In 1890 only 37 cities of the class given in the table maintained manual training schools; in 1905, 420 cities; and in 1907, 644, which last was a gain of 134 over the preceding year. This demonstrates pretty clearly that people in the cities are determined to give their children a practical preparation for industrial pursuits.

Growth of Manual Training Ideas. — Educational theorists have been reluctant to own that all human knowledge is not contained in printed books. There is a general dread in their camp that the *practical* in education, which children may live and experience and make immediately applicable to their own lives, has a tendency to lower educational standards, to cheapen and debase accepted

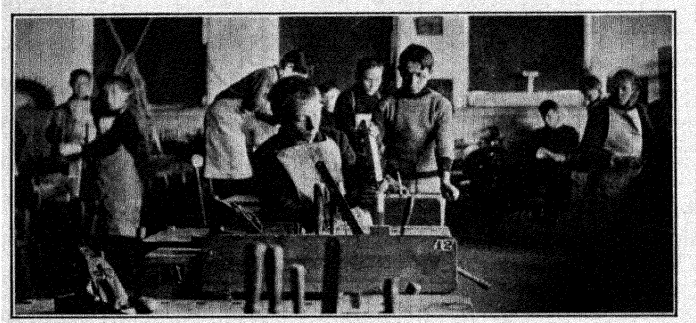
courses. Be this as it may, just now there is with us in the cities a rapidly increasing demand for industrial efficiency which nothing short of thoroughgoing manual training courses can satisfy. In rural districts the *demand* is not so marked because people there hardly yet understand their own *needs*. Once they become awake to what manual training can do for the farm, they will do what the Swedes did — *introduce it into every rural school in the land.*

Philosophy of Manual Training. — The philosophy underlying the movement is "simple, forcible, and sound," as Dr. G. Stanley Hall puts it, "in that it lessens the interval between thinking and doing; helps to give control, dexterity, and skill an industrial trend to taste; interests many not successful in ordinary school; tends to an appreciation of good, honest work; imparts new zest for some studies; adds somewhat to the average length of the school period; gives a sense of capacity and effectiveness, and is a useful preparation for a number of vocations."

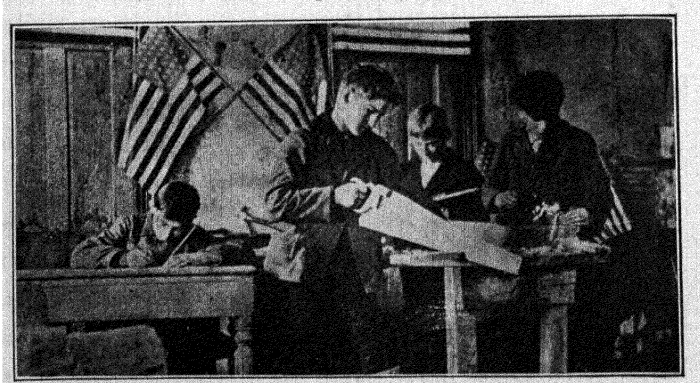
The psychological relation between manual activity and mental growth is very marked. Training in muscular activity has a powerful influence on intellectual growth. No physical manipulations can be accomplished without mind concentration, and mind concentration is essential in the thinking process and hence to mind development. There can be no really skilled artisan without strong



Girls at work in Domestic Economy rooms, Macdonald Consolidated School, Guelph, Canada.



Boys in Manual Training department, Macdonald Consolidated School, Guelph, Canada.



Manual training in a small rural school, Edgar County, Illinois.

mentality. On the other hand, weak mentality has never yet produced skilled dexterity.

We make bold to claim that there can be no *real* education without the proper coördination of mind, heart, and hand. The world is full of individuals who have spent years in mastery of "the printed page," but who are strangers to the simplest forms of manual exercise. Such people lack much that is essentially practical in education. Brought face to face with real life they are helpless, lack initiative and executive ability. A knowledge of manual training would have brought them much more of real life by filling the yawning gap between the theoretical and the practical; thereby, in the end, safeguarding the nation's social life.

Aims of Manual Training in Rural Communities. — In our rural communities manual training must stand for two things: (1) adaptation of manual or muscular energy to the end that farm pursuits may become more skilled and scientific; (2) recognition of the beautiful as well as the practical in material creation, to the end that farm life may become more attractive and more beautiful, and better worth living.

Many is the young man who has left the farm because life there seemed to him but one monotonous round of manual labor, devoid, yes, stripped, of every incentive to mental growth. It is an undeniable truism that the average American farm youth has never learned the dis-

tinction between manual *labor* and manual *training.* Says Calvin Milton Woodward in the *Outlook* of December 16, 1905, speaking of his experience on the farm:—

I learned to use correctly the hoe, the shovel, the plow, the scythe, the cradle, and the ax; but I never learned the proper use of bench tools, nor had we a machine tool of any kind till the mowing machine and the reaper came. I knew nothing of drawing, nothing of the mechanic arts, properly so called. Nineteen twentieths of my time was spent simply in hard labor, which had no education beyond an incidental and imperfect knowledge of crops and soils and the market. Manual training would have been of great value, and a few lessons would have saved me much time and money.

Or we may take the verdict of Professor L. D. Harvey, of Menomonie, Wisconsin, himself once a farm boy, but now an educator of national reputation. He exclaims:

I left the farm, and I left it because I did not like it. Why? Well, it was not because of the hard work. There was enough of that! It began while the stars were yet shining in the morning, and it did not end till they shone again at night. I know what long days and hard work mean. But that was not why I left the farm. I left it because hard work was all there was on the farm. Because there was not at that time, so many years ago, the thousand and one things that are available to the farmer to-day, and some of which are sealed books to him because he has not had the training which makes it possible for him to realize what is in them. I left because none of these things were there then.

There had then already been much improvement in farm conditions. But many of the things which are available remain closed secrets for want of training. To disclose the contents of these sealed books is our task. Let

the farm youth once become skilled and scientific in farm pursuits, and all that is deadening and sordid in farm life will disappear before the new-born *interest* sprung from a union of head and hand!

Combination of Art and Manual Training. — Then as to the beautiful in material creation. We have spoken of the correlation of brain and hand. But we need more. The commercial spirit is so strong in us that the artistic phase is but little associated with the material. The practical takes precedence over the beautiful, as is so well illustrated in the grotesque and often monstrous structures reared in our large cities, and in lack of taste in the construction and arrangement of our farm homes, in planning and planting the grounds, etc. The schools must come to the rescue here, also. They must teach our rural population how art, the essence of the æsthetic and spiritual world, may be combined with manual training, the essence of the practical and constructive.

An ardent advocate of this coördination of art and manual training in rural schools is Professor Elbert H. Eastmond, Instructor in Industrial Arts, Brigham Young University, Provo, Utah. A recent paper of his on this subject (Rational Art and Manual Training in Rural Schools, N. E. A., Los Angeles, 1907) contains so many admirable suggestions for the teacher that the author has secured his permission to make use of such portions as may seem of most direct benefit:—

Suggestive Course for Rural Schools. — I am of the opinion that an impetus in art work is helpful to the introduction of art and manual training correlation or constructive art expression. The emphasis of this conceptive generating subject need not be felt by any others than the supervisors, teachers, and general school management. Art study is very possible under a teacher who knows his business. It is a subject that will report the activities of a child in a manner that is gratifying to most parents.

Useful, practical exercises possess educational value. I believe that a manual training product that has industrial benefit for boy or girl should have three factors in organization: first, the thing should be suggestive by the call of utility; secondly, it should have geometric basis; thirdly, it should be beautiful as to proportion and consistency of purpose. To beautify does not mean to decorate in this instance; it means to use art principles and agencies to the extent only that the product is brought into harmony with the idea of its being, and becomes pleasing to refined taste because of the ornamentation or finish. The art of a product of work should be in the work expressed, in the form and in the individuality of the skill displayed. All art, especially as a medium of culture in rural schools and public schools anywhere, is simply creative expression, and soul expression. Drawing is the delineative part of the division of expression that deals with materials and mediums in a graphic manner.

First in art work, I recommend clay as a medium for general representation and creative expression, especially in the primary grades. This medium is possible of supply in all localities and inexpensive. Most clays are self-disinfecting. With careful thought and method this medium can be easily supplied and be successfully handled in classes. This medium may be used again and again. Just at this point, allow me to suggest that care should be taken as to the destruction of products before the little makers. Many times teachers unconsciously bring discouragement to the child, and suggest negative habits by destroying the work in the child's presence.

Following clay lessons, subjective and representative work in paper cutting should be given. Then the continuation of delineation is presented by the child working with some large medium, applied with brush perhaps — mass expression. As soon as you feel that the child is prepared and anxious, introduce color.

It is not necessary that children have a medium in their hands for all art lessons. Color and beauty may be talked of to the child, and an enjoyment reached. The appreciation of the world beautiful and the world beautified is the greatest aim in the art education of children. (For suggestive outline of work see Appendix.)

Kinds of Work Possible of Introduction. — Art and manual training in the rural school are established educationally that it may aid in the all-round development of true, clean individuality in each boy and girl. It should not be introduced with utilization aims to any great extent in the elementary school. For the sake of emphasis, I repeat that all problems should have three general requisites: consistency as to use, geometric basis, and an element of beauty.

N. E. A. Committee on Industrial Education in Rural Communities. — The N. E. A. Committee on Industrial Education in Rural Communities makes the following general statements concerning the lines of handwork which may be undertaken in rural schools, with all reasonable allowance depending on character of the particular school, its location, environment, equipment, etc.: —

DOMESTIC ART, ECONOMY, AND SCIENCE

General Statement. — Within this field the scope of the work may embrace the acquiring of a knowledge of scientific principles and truths essential as a basis for the proper organization and administration of the activities of the household upon a scientific basis; of a

knowledge of the facts non-scientific in character, but necessary for the proper exercise of activities within the household upon an economic basis; practice in the application and use of this knowledge.

MANUAL TRAINING

General Statement. — In the field of manual training considered apart from the work in domestic art, economy, and science, the following ends are sought: the training of physical, intellectual, and moral activities through the use of tools and materials and their uses, as shall enable the boy to do very many things in line of construction and repair work necessary upon the farm which would otherwise have to be done by hired labor at considerable expense.

The One-room School and Manual Training. — The general statements above are intended particularly for the graded or semigraded consolidated schools. In these larger institutions alone does the committee hold out hopes for a final solution of the hand-craft problem. It does not believe that much can be accomplished in the one-room schools. The well-equipped teachers here, it argues, are too few and facilities for such work altogether too limited. At the same time the committee does concede that some manual training work may be done even in these schools. It says in part:—

The school carpentry should keep in view the tools, the boy will most probably have at home, and may well be directed to the making of articles which can be put to some immediate use at home or in the school.

If in the school there are a number of large boys, the carpentry may well expand within a year or two, so as to take in the enter-

prise of building a small shop on the grounds and fitting it up for working purposes. Under specially favorable circumstances it will not be difficult to extend it to the making of plans for the construction of farm buildings of the simpler sort.

With the right kind of a teacher exercises may be given in the sewing of leather and in the splicing of ropes, finding practical application in the mending of harness, making of halters, etc., as the necessities of the farm may require.

Some practical lessons in painting and glazing may be given, and opportunities are not lacking for applying the knowledge thus gained on the school or farm buildings.

In domestic art, with teachers properly trained (and they may perhaps secure training in some lines of this work more readily than in the fields of industrial education, especially in sewing), something might be done in almost every country school with the girls, provided wisdom is used in the way the work is organized and carried on.

When we know that to these concessions can be added the testimony of many successful rural teachers who *are actually teaching manual training and domestic art* in this class of schools and who *are getting good results*, the case does not look so bad after all. Perhaps it is only fair to add that conditions have changed materially for the better since the committee (1905) wrote its report. The writer thus has before him at this time the records of several scores of one-room schools which have added the work, and whose teachers would not go back to the old system if they could.

The Great Mistake of Waiting for Consolidation. — We make a great mistake if we neglect the means which are

at hand for rural school improvement, while waiting for consolidation. Granted that this is the panacea for all the ills to which our rural schools are subject, it may nevertheless be a long, long time before consolidation reaches our particular section of the country. It will come slowly, very slowly, perhaps: and meanwhile shall we neglect to do what we can to ameliorate conditions? Let us remember that the consolidated schools are very few in number when compared with the whole number of rural schools. For each such school there are hundreds of small schools where manual training is not attempted for want of proper encouragement. If our educational associations and their investigating committees would be as eager to make the most of the opportunities at hand, as they are in anticipating ideal conditions, much of the embarrassment under which we now have to labor could be eliminated.

Case of District No. 4, Monroe Township, Howard County, Indiana. — The writer has in his possession a picture of a one-room school in Indiana where they did not wait for ideal conditions. In it appears Mr. Ord Fortner, the teacher, instructing his boys in bench work. He began without any equipment whatsoever. Yet he is accomplishing vastly more for his boys than are many highly paid manual training teachers in elaborately equipped buildings. He teaches them to be resourceful, to get along with little and make the most of what they have at their disposal. He writes: —

I began with the boys making their own bench. After that we made the shelf you see in the window. We are at present working on a little spice cabinet. I do all the laying off for them until they become accustomed to the use of the tools. Later I am going to have them make one by themselves. The work I have planned for the winter will be along the same line as I have described. The boys are much pleased with the work and take much interest in it.

Mr. Fortner's case, we rejoice to say, is not an isolated one. Many others have done equally well; for instance, Miss Lulu Wolford, in District No. 29, Pawnee county, Nebraska, quoted in the chapter on agricultural education. We read: —

At intermission periods the teacher and pupils talked over plans by which they might learn to cook and to sew, to make various articles, and to cultivate certain plants. Recipes were sought and distributed, each girl experimenting in her own home. Results were reported at their little informal meetings, and when desired, samples were submitted. In this way the girls learned to make bread and other common articles of diet, to can fruit, to sew, and to cultivate flowers and vegetables.

Results from such Informal Work. — The work in these schools is necessarily in a high degree informal. It is adapted to the needs of the individual pupils and takes up the neglected work of the home, thus broadening the children, leading them to a keener appreciation of home life and home interests. It may be truly said that every boy who is having actual experience in building a "spice cabinet," in planing a perfect edge, in making a tight joint, is doing more to draw home and school into closer

relations than is the boy plugging away at the best arranged course conceivable in the three R's. And this without any disrespect for the three R's, which are very excellent in their place. Just as true is it that the girl who from consultation with teacher and experimentation at home learns to prepare a new dish, to bake a loaf of good bread, to make her own sunbonnet and apron, who learns something about home sanitation and home emergencies which her mother does not know — such a girl is doing every whit as much, if not more, for rural uplift than is the girl who has clung to the traditional course of study.

How to Begin. — Just what line of manual work the teacher should begin with will depend on local conditions, as well as on the teacher's sex and preparation. A man teacher can do more for the boys than can a woman teacher. With the girls the reverse is true. Very much of the work outlined above, from the pen of Professor Eastmond, can be done equally well by both. The teacher may be without experience in such work. Good and well. Let him send for some of the books suggested in the list at the end of this chapter, and have him study them industriously. Begin with *art work* or the simplest forms of *mechanism*. Let him study, and practice what he studies, first at home and, when well mastered, at school.

If the teacher is the first to introduce such work in a particular school, he will of course have to begin with bare hands, for of equipment there is none. The first

steps which now have to be faced are the most difficult and most discouraging. But once they are taken, the battle is half won. The teacher may have to wring tools from a school board of doubting Thomases; or may have to build his own work bench, as above; or he may have to construct the very shop in which the work is carried on!

How to win: a Case to the Point. — Ex-state Superintendent Bayliss, of Illinois, tells a story of how an aggressive young man won a glorious victory for rural uplift and for self at the one-room school of Cottage Hill, near Springfield, Illinois. The teacher was determined to introduce manual training. The schoolroom was too small to permit of use for this purpose. But there would be ample space *under* the building if excavated! The teacher and older boys with their own hands actually removed the earth in the basement next the furnace and here planned their manual training room. And what came out of these heroics? A tumble-down, poorly supported school in a short time gave way to a modern building. Interest in education grew apace. The teacher was retained for six years, at an annually increased salary. In conversation with Mr. Bayliss he modestly says:—

When I came into this district six years ago, the schoolhouse had nothing in it and was falling to pieces. After the new house was built the school grew, and I just couldn't keep those little fellows studying books all day, and so had to do something to keep them busy. The older children just naturally "got busy" because they wanted to.

In Conclusion. — The sum and substance of our plea is that we *all* do what we can for the one-room school *now*, while waiting for improved conditions. Let us remember that rural communities in our country support several hundred one-room schools for every consolidated school, so that it is easy to see that the smaller school must continue for many years to come as the rallying place for a majority of our farm youth. Unless we use all the ingenuity and energy with which we are blessed, the small district school must continue to languish. Unless we "be up and doing," there can be little hope of speedily realizing the splendid rural uplift for which all good Americans are hoping.

A SELECTED LIST OF BOOKS, PAMPHLETS, AND SPECIAL ARTICLES ON MANUAL TRAINING

1. Advanced Knife Work. B. F. Johnson and Co., Richmond, Va.
2. KERN. Among Country Schools (especially chapter on manual training). Ginn and Co., 1905.
3. HANUS. Beginnings of Industrial Education. Houghton, Mifflin Co., Boston, 1908.
4. KELLOGG. Busy Work. E. L. Kellogg, New York City.
5. TRYBON. Cardboard Construction. Bradley and Co., Chicago.
6. WHITE. How to make Baskets. Doubleday, Page and Co., New York City.
7. Industrial Education in Schools for Rural Communities. Report of Committee, N.E.A., 1905. (Send 10 cents to secretary, Winona, Minn.)

8. WEAVER. Paper and Scissors in the Schoolroom. Thomas Charles and Co., Chicago.
9. Proceedings of the N.E.A. for 1907, as follows: —
Industrial Work in Rural Schools in New England, New Jersey, Pennsylvania, and New York.
Manual Training in Rural Schools, and Rational Art.
10. HAPGOOD. School Needlework. Ginn and Co., Chicago.
11. Suggestions and Exercises for Manual Training. State Superintendent, Lansing, Mich.
12. GILMAN AND WILLIAMS. Seat Work and Industrial Occupations. The Macmillan Company, New York City, 1908.
13. PARKS. Educational Wood-working for Home and School. The Macmillan Company, New York City, 1908.

CHAPTER XIII

The Library and Rural Communities

General Statement: Intimate Relation of School to Reading. — Libraries and well-planned reading courses play an ever widening rôle in systematic education. There was a time when a library was looked on as a mere repository for books to be handed down to succeeding generations. Books were stored to be kept, not to be read. But now it is different. This is the day of the open shelf, the circulating library, and the many other modern accessories of the important movement to educate by encouraging all — in school and out of it — to read the best in literature. Education does not end with the school career. It continues as long as life lasts. The school's main function is to start the child aright; to aid the youth to think independently; to inculcate in him a love for learning and reading extending far beyond the covers of text-books, supplementing and broadening the general notions contained in the books.

President Eliot once said that "the uplifting of the democratic masses depends on the implanting at school of a taste for good reading." Good books act as a leaven, quickening the rank and file of the nation to utmost activity and attainment; and mind that word *good*, for an evil

book will do more harm to the individual and, if read by many, to the community and country at large than can be counteracted by the most potent influence working for the good. To implant a taste for good reading is one of the teacher's most important duties.

The True Teacher sees Education in its Entirety. — The child comes to school for the first time with heart and mind open and receptive to the strange new things in store for him. Hitherto his education has been limited to observation of simple phenomena falling within the narrow horizon of the home circle, and to occasional peeps into the mysterious realm of the printed page. Hereafter the teacher is the arbiter of his future. On the teacher will depend in great measure whether the child grows in mental power and love for the new world upon which he has entered, or narrows down in spirit, embittered against this enslavery of books, which, he thinks, is keeping him from the free life of the out-of-doors! A true teacher is able to see education in its entirety. He knows and acknowledges that the schoolroom is only a small part of life. In the maturity of his own mind he knows that the narrow covers of the text-book cannot teach the boy and girl all that they require for life. The solution of life's problems is not found in books. It must come from personal observation, from individual reasoning and reflection. But to attain these ends, the teacher must foster a love for good reading, which alone forms an avenue

of escape from the too narrow schoolroom processes to the world of real living things. Such reading may be counted on to furnish the power to discern between what is good and what is bad in this world.

Text-books are Mere Compendiums of Facts and General Notions. — Text-books, be they ever so good, are little more than mere compendiums of facts and outlines of fundamental principles. So vast and varied is the mass of information along any one line of human endeavor as to be beyond the possibilities of a single book. It is impossible to compress within the covers of a single book all the material necessary to give the student a sufficiently broad grasp of any one subject. Thus, for instance, our text-books on geography contain only just enough materials bearing on the physical, social, and industrial characteristics of given lands and peoples to furnish a leading thread, and, perhaps, to create a taste for more. The real broadening facts intended to create lasting mental pictures of the phenomena outlined in the texts must come from well-chosen parallel readings. That is to say, every school must have access to a well-equipped library, and must have a teacher who loves and knows books and who has some knowledge of library economy, if the best educational results are to be attained.

What the Library will do for the Child. — The library can no longer be considered as separate and distinct from the school. It must indeed be looked upon as an integral

part of the school system. Some educators even go so far as to assert that the library is the most important part of the whole school. Let this be as it may, the fact remains that its value as an educational factor is hard to overrate. The following is a brief summary of what it will do for the child: it is certain to inspire him to extend his search for knowledge far beyond the narrow confines of the four walls of the school; it becomes a life process with him, to be pursued throughout life; it adds new life and breadth to the school, bringing it into touch with real, throbbing humanity; it broadens the child's outlook, since he is now no longer dependent on the one-man authority of the one teacher or the one text-book writer; it strengthens his judgment, making him resourceful and an independent thinker; finally, it becomes the fountain from which spring his highest ideals of life, leading him on to the noblest in human endeavor.

Early History of the Library. — To bring the sanest and best literature within reach of all the people is no small undertaking. Such a movement requires liberal moneyed aid, expert guidance, and, in a measure, public control. The library did not become a factor in the educational system of our country before the middle of the nineteenth century, when its permanent existence was assured through public taxation. New York State enacted a law authorizing direct taxes for "school libraries" in 1834, and followed up this act, in 1838, with provisions for annual state ap-

propriations to such libraries, which continue even to the present day. Twenty-one other states have since followed the example of the Empire state and placed like tax laws on their statute books.

School Libraries. — The term school libraries is in reality a misnomer; for the libraries were not limited to school use nor even chosen with reference to school needs. They were in fact open to the free use of all the people. They answered the needs of both public and school, being administered through the school merely for convenience. Such libraries became widely distributed and worked much good in their day. But in time they either outgrew the bounds of school administration or the moneys voted were diverted from their intended uses to illegal ends. This brought about much confusion. About this time some communities began to establish libraries through private munificence. This resulted in a general separation of the school library and the public library. Town libraries were officially recognized in New Hampshire under the Act of 1849. Since then thirty-seven states, all told, have passed permissive laws providing for the establishment and maintenance of public libraries.

Library Advantages at the Disposal of the City Child. — This growth of school and public libraries in our cities and villages in recent years has been a marked triumph for the cause of education. Most remarkable, perhaps, is the rapidly increasing intimacy and coöperation between

the school and the public library. Thus splendidly equipped reference sections and lending sections are open to the school children of urban places, extending to them every assistance in supplementing the work of the more limited school library. The best of the periodicals and magazines are at their disposal. Separate rooms are set aside for the younger children. Oftentimes lectures are given for adults and older children, while the little ones have their "story hour." Such wonderful privileges, which now, in the main, belong to the city children, must soon be offered our rural boys and girls as well.

A distinct advance in the library movement has come about through the establishment in twenty-seven states of state library boards or commissions. The first of these boards was the Massachusetts Free Public Library Commission, established in 1890. Since then similar boards have come into existence in every section of the country. Their activities involve every phase of library administration and economy. What is of especial interest, their work reaches out beyond the cities to the rural school and farm fireside. Frequently the library boards make gifts of books and money to needy communities. They aid in creating new libraries, send out traveling libraries, make loans of pictures and lantern slides, and in other ways encourage good reading. This usefulness is summarized by the New York State Education Department in the following outline: —

Direct Aid:

Gifts of books or money from state.

In some cases to new libraries only; in other cases yearly grants on basis of circulation or approval of books purchased.

Traveling Libraries:

General libraries in either fixed or flexible collections.

Special libraries, German, agricultural, etc.

Study club libraries.

Books for the blind.

Other Loans:

Pictures.

Lanterns.

Slides.

Instruction:

Library schools.

Summer courses.

Institutes.

Book Selection:

Distribution of printed lists, both general and special.

Inspection of buying lists sent in for approval.

Publications:

Best book lists.

Traveling library catalogues.

Bibliographies on current questions, etc.

Library news and commission information.

Handbooks, bulletins, and information on library economy.

Reference Work:

Study club lists and questions.

Legislative reference.

Building Plans:

Reference collection of floor plans and photographs of library buildings.

Clearing House for Exchanges and Duplicates:

Visiting and Organizing:

Library inspector, visitor, organizer.
Educating public sentiment in desire for library privileges.
Aid in creating new libraries.
Registration of libraries.
Compulsory reports to commission.
Encouraging traveling library work.

The Library and the Rural School. — Now, if the library is, as maintained, one of our greatest educational influences, it must be helped to flourish *everywhere*. Rural communities, the homes of more than one half of our population, must come in for their share in the library uplift. Reasonable progress has been made already in this respect in some states; in others it is wholly ignored. Nowhere are conditions altogether satisfactory. Even New York State, which boasts "that there is probably no large system of schools in the world so well provided with ready reference libraries as our New York system," reports that "while in the cities each inhabitant has two books, in the country each has less than one."

The several sources through which good literature is disseminated in rural districts are: (1) rural school libraries, (2) young people's reading circles, and (3) traveling libraries.

Rural School Libraries. — It is self-evident that every rural district should own a carefully selected library. If farmers take no interest in reading or read only the light

novels instead of works on agriculture and farm economy, it is naturally enough because they have not been otherwise trained. They peruse the light stuff because in reading, as with everything else in this world, the attack is easiest along the lines of least resistance. Let the teacher create in the boys and girls a taste for that good, whole-

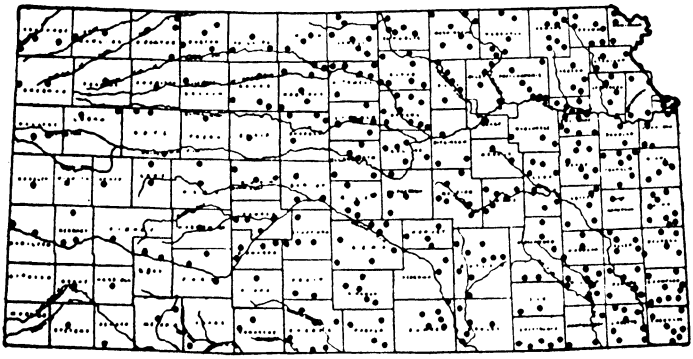


FIG. 17.— Map showing 448 library stations in Kansas. At the present time (1909) the number of stations has increased to 550.

some literature which ennobles the heart and engages the hands, and he will soon have the countryside weaned of its bad reading habits.

Many states have permissive laws on their statute books providing for the establishment of such libraries and their maintenance through direct taxation. Other states, again, have enacted what we may call conditional laws — laws which provide for public assistance conditioned on the raising of a given sum by private

subscription in the district desiring the library. Neither system is very satisfactory in actual practice. Unless a district is wide-awake to the importance of the library, a permissive or conditional law is not likely to do much good. In order to awaken the first interest it is often necessary to have recourse to compulsion. In Kansas we have had a permissive law for some time. A certain small tax levy may be made for the establishment and support of such school libraries. Yet, so unsatisfactory are the results from the law that the Kansas Educational Commission is now (1909) urging the state legislature to make the law compulsory. The commission would have that a small levy shall be made from year to year until each library holds at least fifty volumes.

The Nebraska library law is to the point and could well serve as a model for other states. It reads:—

> The school board of *every public school district* is required to set aside annually from the general funds of the school district the sum of ten cents for every pupil enumerated in the district at the last annual school census, which amount shall be annually invested in books other than regular text-books, which books shall be suitable for the school library. By vote of the school board of any district in which a free public library is maintained and to the support of which at least $300 is expended annually, this law is inoperative.

Wisconsin, Iowa, and several other states have laws equally binding, and as a result they boast good libraries of well-chosen books in practically every rural district. Wisconsin has an aggregate of more than 1,000,000 books

in such libraries, purchased by a tax of ten cents per capita. Iowa has 11,000 school libraries, representing 900,000 books. The state superintendent's report for the year ending June 30, 1906, gives the books purchased that year as 67,386, at a cost of $39,394.24.

What Some States are Accomplishing. — Minnesota makes the annual purchase of library books one of the conditions for receiving the special state aid which is doing so much for Minnesota schools. The large annual appropriation has lately been entirely unequal to the demands made upon it, reports the state superintendent, who further declares that —

> The benefits accruing from the possession of these small rural and civic libraries have been so palpable that it seems safe to say already library acquisition is making its appeal to the thrifty mind not simply as so much material gain for the present, but as an inestimably valuable mental and moral investment for the future. The remotest and most unsettled counties of the state have been penetrated by an interest in the movement and are responding to an unexpected and gratifying extent.

Missouri enacted a library law in 1900 which provides that not *less* than five cents per child enumerated shall be expended annually for library purposes. At the time the law went into effect the value of all school libraries in the state was about $118,000, and these were located mainly in cities and towns. Six years later fully one half million dollars had been expended for library books, and chiefly in rural districts!

New York is another state which devotes a large annual appropriation from the school fund to the support of district school libraries. So rapid has been the increase of such libraries since the revolutionary library act of 1892 went into effect that libraries are now established in 86 per cent of the school districts in the state. In 1906 the large sum of $251,936.10 was expended for books and other equipment. The total number of books then on the shelves aggregated 2,499,328 volumes, divided among 9173 school districts outside of the cities in the following manner: 3390 had less than 50 books; 2945 had between 50 and 100 books; 1696 had between 100 and 200 books; 611 had between 200 and 500 books; 287 had between 500 and 1000 books; and 244 had more than 1000 books.

These are illustrations of states wherein the laws are to all practical purposes compulsory. Indeed, Minnesota is the only state in the list which has the conditional element in its law, but even this is of a decidedly compelling nature. Without a doubt states of this class have the best and largest libraries of any in the country.

States working under Conditional Library Laws. — Maryland, North Carolina, and South Carolina are a few of the states working under conditional laws. These, while less satisfactory than compulsory laws honestly enforced, are vastly better than no laws at all. All three of the states here mentioned report satisfactory progress.

The law is practically the same in all of them. The

Maryland code may be taken as an illustration of all. It reads: —

> For the further encouragement of education, district school libraries ought to be established in each schoolhouse district, under the care of the teacher as librarian. For this purpose the sum of $10 per annum is ordered to be paid by the Board of County School Commissioners out of the State School Fund to any schoolhouse district as library money, as long as the people of the district raise the same amount annually. The books must be selected by the Board of District School Trustees and teacher from a list to be approved by the County School Board.

Nineteen counties in Maryland report 849 school libraries containing 90,215 volumes and 14 teachers' libraries with 2698 volumes. In one year after the passage of the act in North Carolina 355 libraries were established in 78 of the 96 counties of the state. State Superintendent O. B. Martin, of South Carolina, declares that within two and one half years after the enactment of the law in his state "nearly eight hundred libraries have been established in places where none had existed before."

States having no Library Provisions. — The fact that a state has no legal provisions for library maintenance fortunately should not prevent it from fostering such libraries. Several states which are in this category are accomplishing really praiseworthy results. In West Virginia, for instance, a state which is obliged to depend for results solely on the voluntary efforts of teachers, pupils, and patrons, the interest in the movement is so well sustained "as to war-

rant the hope," says State Superintendent Thomas C. Miller, " that within a very few years a good library can be reported in every school in the state."

The superintendent's biennial report contains some very interesting material on *just how* funds are raised for these libraries. We repeat below such paragraphs as are of particular interest to the one-room school-teacher who is looking for ways and means to secure books for his own library: —

Library Day in West Virginia. — Teachers and pupils have taken up the library idea with enthusiasm, and through their efforts many new libraries have been established and many others enlarged. To aid in this work the state superintendent has designated the first Friday in December as Library Day, for the observance of which a programme is prepared and distributed each year by the department. This is in the shape of a neatly printed pamphlet containing literary material and suggestions for the observance of the day, and directions for the selection and purchase of books suitable for the various grades of a country school. The lists of books given in this programme are not suggested exclusively but as a type of books best adapted to the needs of a small graded school.

Library Day is generally observed by the schools throughout the state. It is customary to charge an admission fee to the exercises held on this occasion and to solicit contributions to the library fund. As much as $100 has been realized from a single entertainment of this kind. In some instances boards of education have lent their assistance to this work, either by contributing to the library fund or by providing neat and substantial cases for the care of books accumulated. This is not often done, however, as boards are not specifically authorized by law to appropriate money from school funds for this purpose. For the most part the suc-

cess of the library movement has been due to the efforts of the teachers and pupils themselves.

Here follows one of the simple Library Day programmes suggested by Mr. Miller: —

1. Singing — "Coronation."
2. Responsive Scripture Reading.
3. Introductory Remarks — Principal or Teacher.
4. Song: "Greeting Song" — School or Class.
5. Recitation — "The Barefoot Boy."
6. Recitation — "God will sprinkle Sunshine."
7. Solo — "The Bridge."
8. Roll Call — Each Pupil to give a Quotation.
9. Recitation — "A Good Motto."
10. Reading — "Bacon's Essay on Reading."
11. Singing — "Battle Hymn of the Republic."
12. Essay — "The Value of Books."
13. Special Address on Books and Libraries.
14. Donation of Books and collecting Money.
15. Closing Exercises.

And here are the concrete results: in 1904 books reported 49,966 volumes; in 1905 increased to 74,092 volumes; and in 1906 increased to 126,503 volumes. Since then very large increase.

The Winnebago County Twentieth-century Forward Library Movement. — County Superintendent O. J. Kern, of Winnebago county, Illinois, has clearly demonstrated what may be accomplished by individuals in a state which has no state school library law or where these are ambitious to increase and improve the contents of such libraries as they may already have. Illinois is one of the states without a

school library law. Mr. Kern was anxious to improve conditions in his county,—56 districts out of 118 were without libraries,—and accordingly inaugurated what he calls the Twentieth-century Forward Library Movement. Teachers, pupils, parents, and county superintendent coöperated to such good effect that between 1899 and 1905 almost 9000 volumes were added to the local district libraries. During the five years between 1901 and 1905 socials held by teachers and pupils throughout the county netted the neat sum of $4207.90, some part of which was used for books, while the balance was expended for sundry school paraphernalia and equipment.

Almost any teacher who is ambitious to increase his school library can arrange for a social and programme by means of which to net many dollars for the library fund.

First Young People's Reading Circle. — The Young People's Reading Circle, now so rapidly gaining recognition as an important adjunct to school education, was first suggested by the success of the Teachers' Reading Circle. The latter had already for some years made possible a more general culture and broader knowledge to teachers of limited opportunity. It occurred to educators that similar circles organized for children hampered by the same lack of opportunity might be the means of doing for them precisely what was being accomplished for the teachers.

The first circle was organized in Indiana in 1887. It has done a world of good for the children living in rural districts and villages where opportunities for reading good books are few. The plan, which has since then been adopted by other states south and west, is briefly this: the circle was supervised by a board of directors composed of able educators. This board decided, first of all, the relation the work of the circle should sustain to the work of the school. It was clearly recognized that it must not become an additional burden on teachers and pupils. Its purpose, then, should be to supply at the greatest saving in expense the best books adapted to the needs of children of varying ages. Clean, wholesome books of the best authors only were placed on the annual lists. The subjects were of wide range, answering the natural demands from the fairy story, through stories of adventure and heroic deeds, to history and *belles-lettres*. The books were procured in a number of ways. Sometimes the money was taken from public funds, though more often it was raised through the enterprise of teachers, pupils, and patrons. *In every instance these books were added to some school library already in existence, or they became the nucleus of a new library.*

The circle has been of almost inestimable value to Indiana. Almost every school in city, village, township, and county has some of the books. In 1906 the Young People's Reading Circle in the state numbered 25,086

members, with almost 8000 libraries containing 861,292 volumes. During the year 91,968 volumes were added to the libraries.

Some states limit their work to outlining profitable courses of reading and to making arrangements for supplying the books to the circles at lowest prices. Even where the state makes no provision for *how* to secure the books this work of arranging for the supply of best books at lowest rates is in itself of great consequence, having been the means of organizing many good small libraries in rural districts.

The Place of the Traveling Library. — The last of the several agencies for the dissemination of good literature to be discussed in these pages is the traveling library. Perhaps no other phase of library extension has been its equal in stimulating the public everywhere to greater interest in books. Its history from the very inception has been one of uninterrupted growth. Its purpose has been accomplished wherever it has received fair trial. And this is in truth in many places, for not alone has it been adopted as a regular form of library work in almost every state in the Union, but it is penetrating the remotest corners of states where hitherto library privileges were practically unknown.

The objects for which the traveling library was called into existence are briefly stated by the Ohio state librarian thus: (1) to furnish good literature to the public; (2) to

strengthen small libraries; (3) to create an interest in the establishment of new libraries.

To furnish Good Literature. — The first object — to furnish good literature to the public — is being admirably well done. No classes are neglected. The city and country alike reap the benefits offered. The books, neatly boxed, find their way to all kinds of organizations seeking self-improvement, such as women's clubs, granges and farmers' alliances, workingmen's clubs, Sunday-school classes, and, in some states, even penal and charitable institutions.

To strengthen Small Libraries. — A great many libraries, both circulating and school, find the traveling library a great convenience and aid. In towns and villages where library support is meager it is no small thing to be able to fall back on the boxes of books which come regularly, dispensing new, wholesome reading at every trip. The work of small rural school libraries is enhanced in a similar manner. This can be illustrated in no better way than by giving the experience of the schools in Springfield township, Clark county, Ohio, as told by Professor A. B. Graham, who says in part: —

In 1900 the Board of Education of Springfield township, Clark county, became interested in libraries. Fifteen dollars for each of its twelve schools were appropriated. But no book publisher's prepared list was purchased. Only after several weeks spent in examining different books was the list completed.

As soon as they were placed in the schools, parents as well as

children became readers of the district school library. Each grade from the second to the eighth inclusive had something adapted to it. It was immediately found that books in simple, dignified language for the upper grades were always welcome in the homes. When the teacher, the children, and the patrons become interested in libraries, there is a demand for more well-written books. In the case mentioned the Board of Education had spent all, and more than the law at the time permitted. No more could be spent that school year.

The board decided to apply to the state traveling library for a box of books for each subdistrict. The express charges both ways were willingly paid. Each box contained from thirty to forty well-selected books. There was something for the youngest at school who could read well, and something for the oldest at home. Quite as many of them were used in the homes as in the schools. When the year had closed, all were pleased with the new libraries. Everybody said, "Let another appropriation be made next year." The second appropriation was made, and the new books were soon in the schools. Calls were made also for the traveling library boxes. This time a special request was made that each box should contain two or three books on agricultural subjects. The boxes were retained for nearly the entire year. Many were changed from one school to another.

Each year the township has been able to use about four hundred volumes in addition to what had been purchased by the Board of Education. A habit of reading the best literature was being acquired by both parent and pupil. It has been observed that in examinations or in ordinary conversation the children of these schools give evidence of the fact that the books have been used to a good purpose.

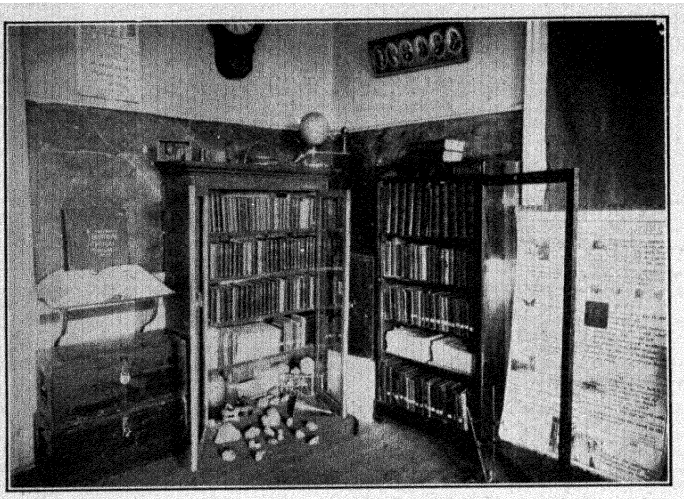
The third object of the traveling library — to create an interest in the establishment of new libraries — is so self-evident as to need no discussion here. Once let the

taste for good reading get a hold upon the people of a community, and they will in all likelihood not rest before a permanent library is established.

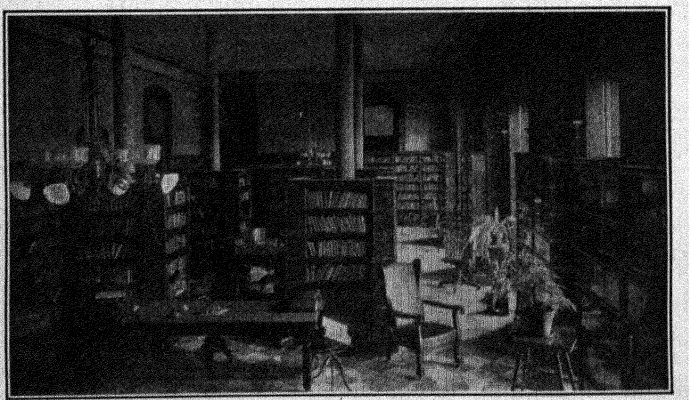
Rapid Spread of the Traveling Library. — New York sent out a few libraries as an experiment in 1892. Now the state has a collection of 85,000 books available for this purpose. The libraries are sent out in fixed groups of 25, 50, and 100 volumes to grown people and of 25 volumes for children. The experimental stage has long ago been passed, and the movement in this state is entering upon the high tide of success.

According to the year-book for 1907, issued by the League of Library Commissions, "Ohio leads all states of the Union in the number of traveling libraries issued annually and the communities reached by this method of book distribution. For the year ending November 15, 1906, it distributed libraries as follows: to women's clubs, 187; to schools, 526; to granges, 110; to independent study clubs, 126; to religious organizations, 94; to libraries, 27; to men's clubs, 26.

Progress by States — gleaned from Reports of 1907. — New Jersey is circulating an increasingly large number of traveling libraries. As an expression of its appreciation of this library influence a farmers' grange up-state passed a resolution that the "traveling library law has worked the more for the pleasure, culture, and welfare of the farming district than any law passed in years."



One of the Dover Township schools, Union County, Ohio. J. B. Barker, Superintendent of these schools, has for some time been using traveling libraries from the Ohio State Library.



Headquarters at Topeka from which many hundred traveling libraries are annually sent to every county in Kansas.

Indiana reports that "the traveling library system operated by the commission shows a remarkable growth in

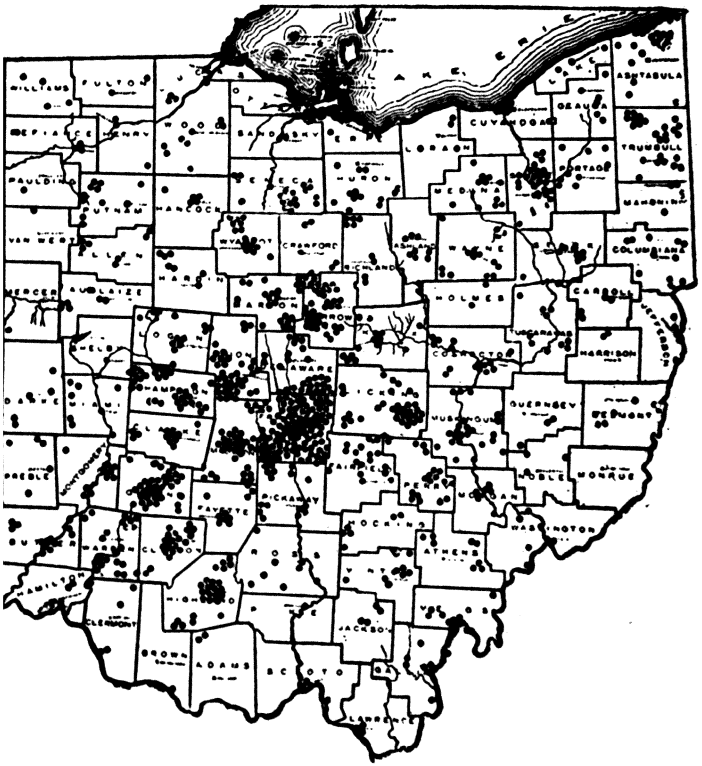


FIG. 18. — The above map was prepared by the Ohio State Library Commission. The dots indicate points to which 1,027 free traveling libraries (36,000 volumes) were sent in 1905. In 1908, the number of libraries issued was 1,031, aggregating 44,005 volumes.

circulation. In 1901, 80 libraries were circulated from his system; in 1904, the number had grown to 258;

during the last two years, 1132 traveling libraries were distributed."

Nebraska states that " a system of traveling libraries has been inaugurated, consisting now of 106 libraries, which last year reached 177 different communities and had a total circulation of 32,780 volumes."

From far and near good reports are flowing in. But the above will suffice to give an idea of the general spread of the movement. Indeed, I might add that at the time of this writing I have before me on my table reports of progress from states touching two oceans, Canada and the Gulf!

Rural Teachers should understand Library Economy. — It is evident from what we have said above that every rural teacher should have some training in library economy. A great variety of schools now offer such courses. Colleges, normal schools, and state library associations are all interested in lending their assistance. In some sections enterprising superintendents include library instruction in the work of their summer institutes. All teachers of to-day should be familiar with the Dewey system of library classification, whether their particular school library permits of its use or not. They should be familiar with and appreciate the value of the wonderful store of information to be gleaned from the pages of the dictionary and the encyclopedia. Finally, teachers should know something about the use of Poole's Index, the Annual Library Index,

or similar library helps, without which the value of much of the indispensable literature ever appearing in the periodicals must be lost.

A Summary. — By way of summary: every rural school should have a working library. If it is not secured under provisions of state law, obligatory, conditional, or permissive, the teacher, together with the board and patrons, must somehow provide the ways and means. The teachers of this age must not alone know *how* to read; they must know *what* to read. They must have a large acquaintanceship with the best books and be lovers of these books. Then they must be able to transmit this knowledge and love to the children intrusted to their care, in order that these ennobling influences may have their share in making the farm home a place of happiness and contentment.

FIRST ONE HUNDRED BOOKS FOR THE CHILDREN'S LIBRARY

(Prepared by Clara W. Hunt, Brooklyn Public Library)

Poetry

Wheeler. Mother Goose's Melodies. Houghton.
Stevenson. Child's Garden of Verses. Rand, McNally.
Ingpen. One Thousand Poems for Children. Jacobs.
Wiggin and Smith. Golden Numbers. McClure.
Repplier. Book of Famous Verse. Houghton.

Bible Stories

Bible for Children. Century.
Moulton. Bible Stories: Old Testament. Macmillan.

MOULTON. Bible Stories: New Testament. Macmillan.
HODGES. When the King Came. Houghton.
GILLIE. The Story of Stories. Black.
TAPPAN. The Christ Story. Houghton.

MYTHS, FAIRY TALES, ETC.

KINGSLEY. The Heroes; or, Greek Fairy Tales. Macmillan.
HAWTHORNE. Wonder-book. Houghton.
——. Tanglewood Tales. Houghton.
LAMB. Adventures of Ulysses.
BROWN. In the Days of Giants. Houghton.
BALDWIN. Story of Siegfried. Scribner.
SCUDDER. Children's Book. Houghton.
ÆSOP. Fables selected by Jacobs. Macmillan.
Arabian Nights, ed. by Lang. Longmans.
GRIMM. Fairy Tales. Macmillan.
HARRIS. Uncle Remus: his Songs and his Sayings. Appleton.
ANDERSEN. Fairy Tales.
DODGSON. Alice's Adventures in Wonderland. Macmillan.
KIPLING. Jungle Book. Century.
MACDONALD. At the Back of the North Wind. Burt.
RUSKIN. King of the Golden River. Macmillan.
THACKERAY. The Rose and the Ring. Heath.

STORIES FOR THE YOUNGER CHILDREN

DODGE. Baby Days. Century.
HALE. Peterkin Papers. Houghton.
HOPKINS. The Sandman, his Farm Stories. Page.
JACKSON. Nelly's Silver Mine. Little.
RANKIN. Dandelion Cottage. Holt.
SHERWOOD. Fairchild Family. Stokes.
SMITH. Jolly Good Times. Little.
SPYRI. Heidi. Ginn.
WHITE. When Molly was Six. Houghton.

Some Literary Classics adapted to Children

Bunyan. Pilgrim's Progress, illustrated by Rhead. Century.

Cervantes-Saavedra. Don Quixote of the Mancha, retold by Parry. Lane.

Chaucer. Tales of the Canterbury Pilgrims, retold by Darton. Stokes.

Defoe. Robinson Crusoe, illustrated by Rhead. Russell.

Froissart. Boys' Froissart — Lanier. Scribner. Stories from Froissart — Newbolt. Macmillan.

Malory. Boys' King Arthur — Lanier. Scribner.

Pyle. Story of King Arthur. Scribner.

——. Merry Adventures of Robin Hood. Scribner.

Shakespeare. Tales from Shakespeare — Lamb. Dutton.

Shakespeare Story Book — Macleod. Gardner, Darton and Co.

Spenser. Stories from the Faerie Queene — Macleod. Gardner, Darton and Co.

Swift. Gulliver's Travels. Cranford ed. Macmillan.

Stories for Girls

Alcott. Little Women. Little.

Brown. Two College Girls. Houghton.

Ewing. Six to Sixteen. Little.

Jewett. Betty Leicester. Houghton.

Keary. A York and a Lancaster Rose. Macmillan.

Smith. Jolly Good Times Stories. 6 vols. Little.

Shaw. Castle Blair. Heath.

Taggart. Little Gray House. McClure.

Vaile. The Orcutt Girls. Wilde.

——. Sue Orcutt. Wilde.

Wiggin. Rebecca of Sunnybrook Farm. Houghton.

Stories for Boys

Aldrich. Story of a Bad Boy. Houghton.

Brooks. Boy Emigrants. Scribner.

BULLEN. Frank Brown, Sea Apprentice. Dutton.
EGGLESTON. Hoosier Schoolboy. Scribner.
HUGHES. Tom Brown's School Days. Cranford ed. Macmillan
HUNTINGTON. His Majesty's Sloop *Diamond Rock*. Houghton.
KING. Cadet Days. Harper.
MORRISON. Chilhowee Boys. Crowell.
PENDLETON. King Tom and the Runaways. Appleton.
PYLE. Men of Iron. Harper.
STEVENSON. Treasure Island. Scribner.
WILLIAMS. Adventures of a Freshman. Scribner.

STORIES FOR BOYS AND GIRLS

CLEMENS. The Prince and the Pauper. Harper.
DIX. Merrylips. Macmillan.
DODGE. Hans Brinker. New Amsterdam ed. Scribner.
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SEAWELL. Little Jarvis. Appleton.
WYSS. Swiss Family Robinson. Dutton.

SCIENCE, NATURE BOOKS

CLODD. Childhood of the World. Kegan Paul, etc.
KINGSLEY. Madam How and Lady Why. Macmillan.
BEARD. Curious Homes and their Tenants. Appleton.
CRAGIN. Our Insect Friends and Foes; how to collect, preserve, and study Them. Putnam.
PATTERSON. The Spinner Family. McClurg.
WOOD. A Natural History for Young People. Dutton.

MISCELLANEOUS INFORMATION

BEARD. Jack of All Trades. Scribner.
——. Indoor and Outdoor Handicraft. Scribner.
DUNCAN. Mary's Garden and how it Grew. Century.
GOOD. Magical Experiments. McKay.

HILL. Fighting a Fire. Century.
INGERSOLL. Book of the Ocean. Century.
WHEELER. Woodworking for Beginners. Putnam.

HISTORY

YONGE. Book of Golden Deeds. Macmillan.
GRIFFIS. Brave Little Holland. Houghton.
LARNED. History of England. Houghton.
DOLE. The Young Citizen. Heath.
COFFIN. Boys of '76. Harper.
——. Building the Nation. Harper.

TRAVEL

HALE. Family Flight through France, Germany, Norway, and Switzerland. Lothrop.
LUMMIS. Some Strange Corners of our Country. Century.
MILLER. Little People of Asia. Dunton.
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CHAPTER XIV

Hygiene and Physical Education

Modern Conception of Education emphasizes Care of the Human Body. — The marked tendency in our day to broaden the conception of education is well illustrated in the emphasis now being laid on the care of the human body. Enlightened mankind no longer holds to the fallacies of the early ascetics that the body is a thing of evil, which should be subjected to harsh discipline of all desires and affections in order that the mind and soul might thus be set free to attend upon the higher interests of life. Nobody any longer doubts the truth of the old classic phrase, *mens sana in corpore sano.* If anything, we of the new century are inclined to enlarge on Juvenal. We believe in the doctrine of a sound mind in a sound body. But the body is more than the home of the mind, is more than its "cottage of clay," as the poet puts it. For it provides the mind with shelter and nourishment. The mind grows, indeed, in the body much the same way as a plant in its soil. Let the soil be shallow and poor, and a stunted growth results; let it be deep and rich, and a splendid burst of bloom results.

Twofold Emphasis of Modern Physical Education. — This emphasis on physical education becomes marked in

two distinct ways, which may be spoken of as, first, the individual good; second, the social good. In the first place, it dwells upon the intimate relation which exists between the physical condition of the individual child and his fitness at a given time for school work. To this phase of the subject the educator's work is mostly limited. In the second place, it manifests itself in an effort to improve the physical condition of the whole human race, without taking into consideration the effect upon mental efficiency. This phase of the work belongs to the social philosopher, and is well illustrated in the efforts of President Roosevelt's Country Life Commission, working to improve sanitary conditions in rural communities. It is further illustrated, in the cities, in careful medical inspection of schools, in multiplying playgrounds, in constructing athletic fields, in building gymnasiums, etc.

Defectives and Low Standards of School Work. — Of first importance to teachers is a clear understanding of the relation of the child's physical condition to school efficiency. It is now clearly demonstrated that failure in studies, general apathy and dullness, extreme nervousness, and even viciousness on the part of many children are traceable to the existence of chronic ailments or to minor defects of a remediable nature. A recent medical examination in New York City, involving 134,000 school children, disclosed the startling fact that of 37,190 first-year pupils 69 per cent were defective; of 97,543 unclassified pupils 66 per cent

had defects; and of 169 average pupils 84 per cent were ailing. In the school for backward children the per cent defective was 90, and among the truants it reached 95. Commenting on this state of affairs, Dr. Linsly R. Williams, chief of the clinic at Columbia University and an authority in this particular field, says: —

> There are numerous chronic ailments of childhood which absolutely prevent or militate against its receiving any instruction. The more important of these are serious congenital mental defects and defects of the heart or organs of speech. There exist, also, many minor defects, eradicable, provided the parents are informed that such defects exist. The existence of these minor defects such as squint, near-sightedness, adenoids, enlarged tonsils, bad teeth, nervous twitchings, and so on are not often discovered by the parents, nor is their seriousness realized until the child has for some time been under the influence of school life.

The great importance of systematic examination of school children lies in this, that without it the defects would not be discovered until they had seriously impaired the physical condition of the child. In communities where special attention is paid to physical examination school work is unquestionably of the highest standard, infectious disease is reduced to a minimum, the general condition of health is greatly improved, and, withal, the children live happier, better lives for it.

Boston School Nurses. — Massachusetts requires by law that all school children shall be examined for defective eyesight and hearing. Boston has gone still farther in

this matter. Not alone does the city employ expert medical inspectors, but its board of education employs a large corps of regularly examined and certified nurses, who are assigned to specific districts, working under the direction of the director of physical training. Some remarkable results have already come from their labors. They are ever vigilant — always on the watch for first signs of infectious diseases; they look after the cleanliness of the children and the general wholesomeness of the schoolroom; they relieve anxious and overwrought teachers, and assist and instruct ignorant parents. One can get a good idea of the scope and value of the work of these Boston nurses through a study of the figures below, which represent the concrete results of their first five months' work: —

Fourteen hundred ninety-two cases of disease of the ear have been treated; 6078 eye cases and 1131 cases of defective vision corrected; disease of the nose, 2602 cases and 423 adenoids removed; diseases of the mouth, 1765 cases; throat, 1695; skin, 10,139; every case being cared for and followed to the home, where instruction was given for the care of the patient. In addition to all this, 9144 dressings were made by the nurses; 3120 excluded pupils were cared for at their homes; 3293 were taken to their family physician, 3202 of these last returning to school cured after a minimum period of absence; 7559 home visits were made for the purpose of advising or instructing parents concerning their children; 4772 children were taken to hospitals with the consent of the parents, and many deeds of pure charity were scattered along the way. Each of these cases is carefully diagnosed and recorded so that the removal of a child from one district to another does not interfere with

his medical treatment. ("Educational Progress for 1907," by Charles R. Allen, in the May, 1908, issue of the *School Review*.)

All thinking people rejoice to know of the interest manifested in this phase of education in our cities. Medical inspection is coming to the assistance of the schools from coast to coast. Moreover, special schools are being opened in several places for physically deficient pupils. Such are the Fresh Air School, at Providence, Rhode Island, and the Groszmann School for atypical children, at Plainfield, New Jersey.

Relation of General Intelligence to Physical Education. — I repeat: all thinking men and women rejoice in this marked progress made in physical education. For it is established on high authority "that half of all human disability, suffering, and early death results from ignorance — ignorance either upon the part of the sufferers themselves or upon that of those responsible for their existence." All the progressive nations of the world have placed great stress on physical education. The general intelligence and social strength of nations appear in an almost direct ratio to their appreciation of the laws of hygiene and physical nature. The Scandinavian countries are pioneers in this field, and in intelligence and social probity, too, they rank very high. Germany pays much attention to physical inspection and training of children and teachers in the laws of health. The results on German life and influence are too well known to need mention here. "The

comparatively small loss of life on the part of the Japanese, in their war with Russia," says Professor Harry M. Shafer, "was not so much due to the inaccurate marksmanship of the Russians as it was to the rigid enforcement of laws of hygiene in the Japanese army. . . . Perhaps an investigation would reveal a cause more remote in the lives of these people; it might show that the highly organized service of medical inspection in the schools, employing nearly 9000 specialists, was the real cause of Japanese victory."

The Teacher's Responsibility for his Pupils' Physical and Mental Health. — Every teacher should have a comprehensive knowledge of practical hygiene and of its relation to school efficiency. He should be compelled by law, if necessary, to take every precaution known to medical science for the protection of the children under his care. But he should, in turn, have the backing of law to oblige recalcitrant school boards to lend him their every assistance. To begin with, let the teacher realize that he must be held responsible, in a measure, for the physical and mental health of his pupils. Nor does this responsibility end with the close of the school day or at the school ground limits. His responsibility may on occasion extend even beyond the threshold of the home. For, let every teacher bear well in mind that his is a profession of service — and to render service most effectually is its aim. If it becomes necessary to enter the homes of pupils to convince antago-

nistic parents of the wisdom of a certain health regulation or to teach the ignorant the simple laws of health, the teacher must not falter in his duty.

The teacher should be able to recognize the symptoms of diseases common to children, such as diphtheria, scarlet fever, measles, whooping cough, tonsilitis, and mumps; to disinfect the school building and all school furniture, and in other ways maintain proper sanitary conditions on the premises. He should be on the alert to discover defects in eyesight and hearing, nowadays so common in school children, and read the many signs of adenoidal conditions, nervous irritability, unusual fatigue, and other ailments which militate against health and prolongation of life.

Some Simple Rules with which Teachers should be Conversant. — It is difficult, we are told by physicians, to lay down hard-and-fast rules by which to recognize in every case the symptoms of even the most common diseases. Sometimes "symptoms" deceive the skillful physician; under such circumstances the teacher can be pardoned if he does not always diagnose the case correctly. However, with the knowledge of a few simple facts about the visible development of certain diseases, the teacher may at least be led to suspect the nature of the malady, and so send the child home for the family physician to pass upon the case.

Let every teacher who reads these pages study well the simple rules printed in the appendix of this book. They were prepared by L. M. Hyde, M.D., for one of the health



Exhibit made by the Illinois State Board of Health, at the Illinois State Fair, 1909, which may properly be studied by every teacher and board member. Note: Every time the clock strikes the hour some one in Illinois dies of consumption. 1 every hour; 24 every day; 750 every month; 9000 every year. Let school boards be careful as to the kind of air the children breathe and the water they drink. Don't give consumption to others. Don't let others give it to you.

bulletins sent out to his teachers by State Superintendent J. W. Olsen, of Minnesota, and may be the cause of sparing *somebody* both suffering and sorrow.

The Teacher's Place in the Struggle against Disease. — The teacher should make a careful study of all the diseases which are known to be caused by germs; viz. consumption, pneumonia, typhoid fever, la grippe, cholera, erysipelas, scarlet fever, chicken pox, and smallpox. He should not alone *know* the danger from the myriads of harmful germs which are about us on every hand, but should take every precaution possible to minimize the danger of attack by keeping the schoolroom well ventilated and scrupulously clean, disinfecting floors, desks, and books frequently. Then he must give the children daily lessons on these dread enemies of life, and impress upon them while young the dreadful consequences of such scourges as the White Plague. Teach them the necessity of being particular about their drinking water — a glassful of impure water may contain enough typhoid germs to threaten death. Impress upon them the extreme danger which comes from expectorating on floors, sidewalks, or streets. The consumptive spits on the floor, the sputum dries, and the germs are carried upon the dust particles to find lodging in some convenient mouth or throat or lungs, there to abide their time for the attack when the victim chances to be run down physically, and so is unable to resist the poison thrown upon the system by the industrious enemy.

How Disease Germs are Transmitted. — Professor William O. Krohn, of Yale, gives the following summary of

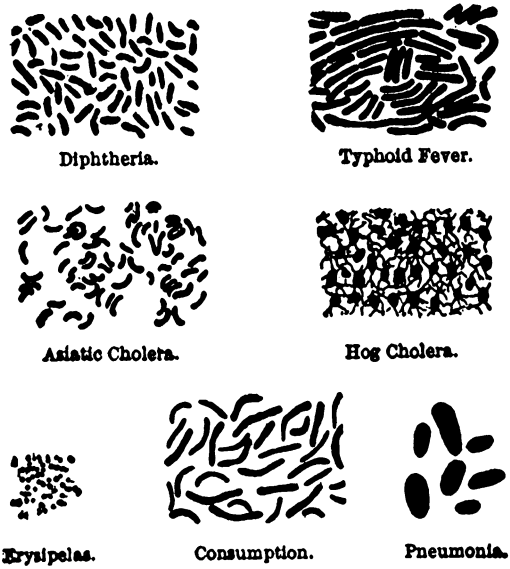


FIG. 19. — Microscopic appearance of some dreaded disease germs. (After Krohn.)

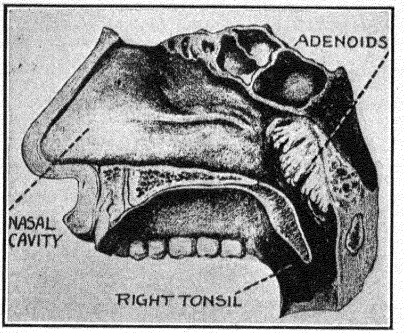
how the most common contagious diseases of children spread: —

Chicken Pox. — Indefinite; probably by the breath, drinking cups, and similar means.

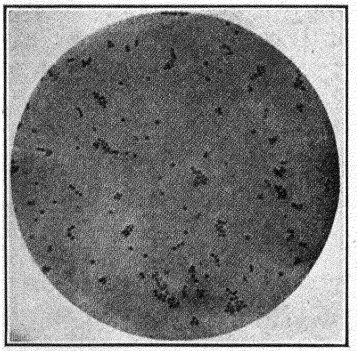
Measles. — By excretions from the nose; by the breath; by clothing.

Whooping Cough. — By the breath; by expectorations from the throat and lungs.

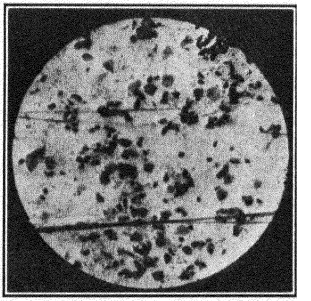
Scarlet Fever. — By contact with cast-off particles of skin from the patient; carried by clothing or by any article containing the



The above illustration shows a large mass of adenoids growing in the naso-pharyngeal cavity of the throat.



Pneumonia germs from a public school drinking cup, magnified 1000 diameters.



Microphotograph of decaying human cells on a drinking cup. The diameter of the circular spot on the glass was one-fifteenth of an inch.

poison; germ persistent a long time; can be destroyed only by fire or disinfection.

La Grippe. — By a germ conveyed by travel, baggage, and in clothing; contagious; latest authorities isolate cases as rigidly as smallpox, because of serious results; in some cases even causes insanity.

Diphtheria. — By the breath; by excretions from the throat and nose; germ persistent; similar to scarlet fever germ. Poor drainage, bad sewerage, and a wet cellar under the house are often contributory causes of diphtheria.

Drinking Cups, Pencils, Books, etc. — Before leaving the subject of disease by germs the author cannot refrain from emphasizing more particularly the well-known danger from the promiscuous use of drinking cups, lead pencils, books, and the like by children in school. The well-equipped city school plant has solved the problem of the drinking cup by installing sanitary drinking fountains of running water, but not so the average village or rural school. Here, the only solution lies in using individual cups. The promiscuous use of lead pencils entails a similar danger. Children are prone to put pencils into the mouth, thereby making possible the spread of contagion. All much-handled books and paraphernalia belonging to the district should be thoroughly disinfected at least once or twice a year. A simple apparatus for this purpose can be devised by almost any one with a mechanical bent of mind.

In order to bring this serious matter home to every teacher, we cannot do better than to quote at length from

an article in the *Technical World* (Chicago, August, 1908), contributed by Professor Alvin Davison, of Lafayette College. The article, which bears the startling heading " Death in School Drinking Cups," reads in part: —

It is an established fact that a considerable number of well persons harbor in their mouths the germs of grippe, pneumonia, diphtheria, and tonsilitis. Examination of 4250 persons by the Massachusetts Association of the Boards of Health showed that over one hundred of them carried in their mouths virulent diphtheria germs. Pennington in 1907 found virulent diphtheria bacilli in nearly 5 per cent of a large number of apparently healthy school children in Philadelphia. In Minnesota true diphtheria germs were found in the mouths of seventy persons in every thousand examined. The average results of a large number of investigations demonstrate that nearly 1 per cent of well persons carry in their mouths true diphtheria germs. In Boston 60 per cent of all cases of common catarrh examined showed the presence of grippe bacilli. Considerable evidence is at hand showing that the germs of sore throat, pneumonia, and bronchitis are present in many people who mingle with the well and drink from the public cups.

Professor Davison goes on to tell of his own investigation in a striking fashion thus: —

During the past six months I have investigated by means of direct microscopic examination, by cultures, and by guinea-pig injections the deposits present on various public drinking vessels. Cup No. 1, which had been in use nine days in a school, was a clear thin glass. It was broken into a number of pieces and properly stained for examination with a microscope magnifying 1000 diameters. The human cells scraped from the lips of the drinkers were so numerous on the upper third of the glass that the head of a pin could not be placed anywhere without touching several of these bits of skin.

The saliva by running down on the inside of the glass had carried cells and bacteria to the bottom. Here, however, they were less than one third as abundant as at the brim.

By counting the cells present on fifty different areas on the glass as seen under the microscope, it was estimated that the cup contained over 20,000 human cells or bits of dead skin. As many as 150 germs were seen clinging to a single cell, and very few cells showed less than 10 germs. Between the cells were thousands of germs left there by the smears of saliva deposited by the drinkers. Not less than 100,000 bacteria were present on every square inch of the glass. Most of these were of the harmless kind abundant in the mouth, but some were apparently the germs of decay feeding upon the bits of the human body adhering to the cup. In order to determine how much material each drinker is likely to leave on the cup, I requested ten boys to apply the upper lip to pieces of clean, flat glass in the same way as they touched the cup in drinking. These glass slips thus soiled were properly stained for microscopic examination, which showed an average of about 100 cells and 75,000 bacteria to each slip.

And of greatest significance: Professor Davison's examination showed that very many of these germs were those of consumption, pneumonia, diphtheria, etc.

Rural Teachers their Own Medical Inspectors. — What is said above concerns all teachers alike. The rural teacher should be as well versed in school hygiene and children's diseases as city teachers. It is true that in the country schools are smaller, the air is purer, children are more robust and less exposed to devitalizing influences than in the city. At the same time the rural teacher does not have a physician ready at his elbow in case of emergency. He

must on this account be his own medical inspector. Every rural teacher should know enough about children's diseases to discover by their outward signs the common contagions, and, acting upon this knowledge, place the patient under a physician's care. He should be able to detect the minor eradicable defects in pupils under his care, as, for example, enlarged tonsils, adenoids, and incorrect vision. Then he should feel strong enough in his duty to insist that all such ailments be given immediate attention.

Some people hold the false notion that children on the farm are largely exempt from the ills to which city folks are heir. Quite the contrary is true. Careful investigation has disclosed that the rural population as a whole displays a startling degree of ignorance on subjects of health and sanitation. As President Roosevelt puts it in his special message on country life, " easily preventable diseases hold several million country people in the slavery of continuous ill health." Typhoid fever, malaria, ague, and pneumonia crave many victims annually. Improper drainage, impure water, and poor ventilation are some of the causes conspiring to heap these afflictions on our farm population. With a good teacher to look after the children's health in school and to train them in more sanitary habits, and to consult with and advise the parents, better conditions will be forthcoming.

The Four Agencies of Physical Education. — Physical education in our schools manifests itself through the agen-

cies of manual training, play, gymnastics, and athletics. These we may now consider so far as they relate to the rural schools.

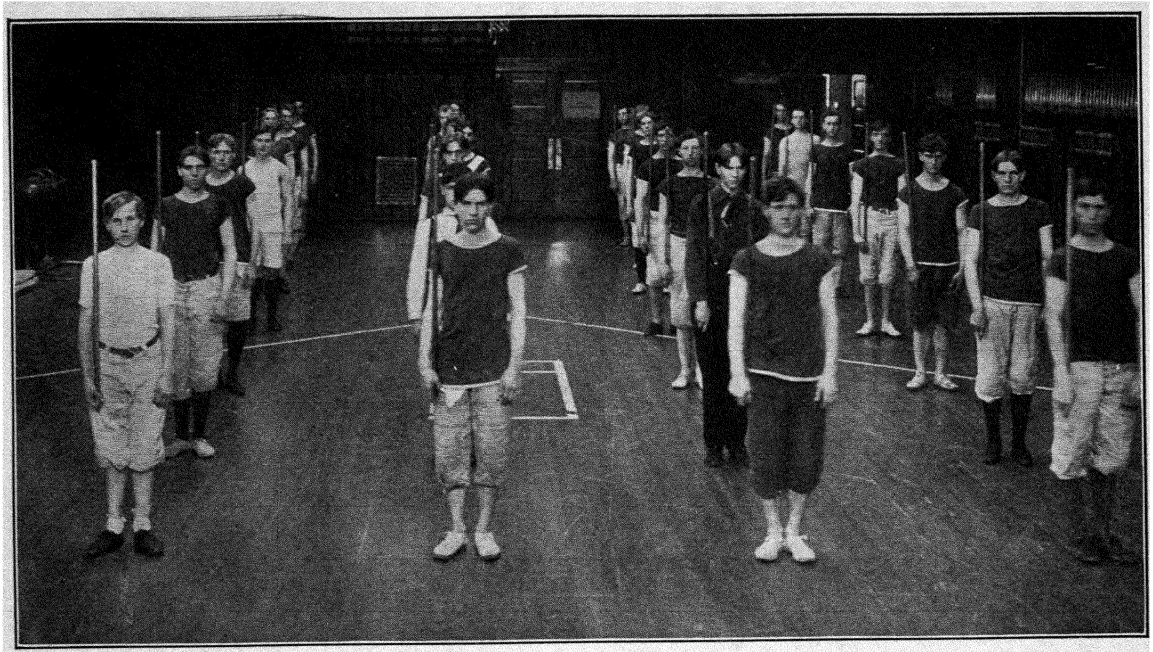
Manual training, as we have seen in another chapter, can be made an important factor in the intellectual, moral, and physical education of the farm boy and girl. It coördinates head, heart, and hand; it fosters mental, moral, and physical habits of accuracy; it makes for dexterity and removal of awkwardness. In the school garden, in the experimental patch, in all digging and spading and planting, it is instrumental in strengthening backs and straightening limbs. In all this outdoor work manual training makes the body a readier and stronger servant of the mind, and in so doing adds a hitherto unknown dignity to labor.

Function of Play. — Play has an important place in school work. It protects the pupil from the enslavement of labor. It keeps his individuality strong and vigorous. It keeps his physical self in health and safe from too much or too continuous work. It is indeed true that " all work and no play makes Jack a dull boy." Human offspring simply cannot get along without play. Most animals play, and play instinctively. They do not need to be taught. And to interfere in their play is to interfere with some law of their natural development. There are times when children play because they have more stored-up vitality than they have use for. At other times they play in order to relax after strenuous effort and re-create exhausted en-

ergy. At all times play is a sort of preparation for the activities to be entered upon later in life. "Thus," says Professor Horne, "youthful play is nature's way of preparation for later serious living. The kitten's ball is the old cat's mouse. . . . The girl's doll and the boy's soldier and horses are premonitory." During the first seven or eight years of life certain so-called "neuro-muscular combinations" in the child system must be developed. To this end play is essential.

Rural children are blessed with ample school grounds and an abundance of pure air. In these respects they are much more fortunate than city children whose playgrounds are generally cramped and far removed from the invigorating ozone of the open country. Every rural teacher should encourage the children to engage in harmless games in this wholesome outdoor environment. He should frown down all indoor moping and *insist* that every child take some exercise in the open air. Lastly, the teacher should be as much as possible a participant in the children's sports, both for the reason that the teacher stands as much in need of the recreation and fresh air as do his pupils and because of the influence of his personality on the children's moral conduct.

Gymnastics. — Gymnastics is a man-made system of physical exercise. It lacks much of the spontaneity of play, requiring a certain measure of mental strain and will assertion. As such it is not engaged in with the natural



Gymnastics at the Dunn County School of Agriculture and Domestic Economy, Menomonie, Wisconsin.

abandon which marks games and sports; but it is superior to these in physical development, because every part of the body receives attention. Gymnastics is designed to keep men from becoming warped and distorted by their occupations in life and to train and develop in them all the groups and combinations of body muscles which such ordinary activities as work, play, games, etc., cannot reach and accordingly leave unquickened. The aim is to approximate physically perfect men and women. The ancients, with the one exception of Athens, were strangers to our ideals. They trained the youth merely for the games and war. Among modern nations the Germans have produced Father Jahn and Spiess and their successors. Jahn was the first to emphasize the importance of proportional training of all physical powers of the human body and to see that with the renewal of hitherto latent or decaying powers comes a new-born exhilaration, a new *motif*, which in the strong, self-respecting man takes shape in such varied activities as patriotic ardor, civil morality, etc.

We must employ in our schools some system of movements which shall straighten and strengthen stooped shoulders and curved spines, crooked legs and knees, and otherwise counteract and remedy the evils occasioned by the use of school desks. The difficulty is to discover a practical method of exercise which shall allow of sufficient individual variation for all purposes. No two children are constituted or developed alike physically; therefore, exer-

cise by class is not the best method to pursue. Some children are most deficient in arms, others in shoulders, others again in legs, and so on to the end of the list. Each should have some individual attention. This the well-equipped high school and grammar school gymnasium in our cities with their trained physical directors can supply. Smaller places and rural communities must get along with less scientific methods; but nowhere need we get along without gymnastics in some form or other.

Gymnastics in Every Rural School. — Do rural children need gymnastics? Our answer is that all children, no matter where they live, should have the benefit of such exercises. Farm children have the advantage of pure air, large playgrounds, and healthful walks along country lanes. But their physical development does not come one whit nearer the approximate of human perfection than in the cities. Country children are inclined to be ungainly and awkward, very often unshapely, bespeaking strength without the essential requisites of harmony and beauty. The shuffling footsteps, the ungainly bearing, so common in rural school children is proof of disproportionate physical development. Some youngsters, literally speaking, run altogether to hands and feet at the expense of other parts of their natural mechanism. Now what can we do to remedy these conditions?

Gymnastics in European Rural Schools. — The author has personally inspected the systems in vogue in many

Danish and Swedish rural schools. The introduction of similar methods in our country would, no doubt, have a very salutary effect. The gymnastic exercises in these schools are divided into informal work with simple apparatus, aiming at individual perfection, and calisthenics for the whole school, seeking class precision, symmetry of body, grace of movement, etc.

To begin with, the boys' side of the playground is equipped with a well-built rack containing a half-dozen or more sets of horizontal bars. Back of this rises a frame of heavy timbers at least twenty feet high, from which hang two-inch ropes, four or more in number, and several smooth, rounded poles, all intended for climbing; at one end of the frame is suspended a set of ropes and rings, the nearest approach on the grounds to an apparatus for acrobatics. These simple instruments, when judiciously used, add amazingly to the development and strength of trunk and limbs.

The girls' side of the grounds has its high and low swings, intended to combine play with exhilarating exercise. It is also provided with "chinning poles" — a sort of high horizontal bars — for strengthening hands, arms, and thorax. The apparatus are used under the direction of the teacher who gives formal lessons several times a week. For practice purposes, however, they may be used freely at all times. It is interesting to see how eager both boys and girls are to become proficient in their use.

But the above is all incidental to the daily drills in calisthenics, which are invariably held outdoors whenever the weather permits. The boys and girls assemble in separate groups and go through a series of exercises bringing into activity every important muscle in the body. The manual eliminates such exercises as might in any way be construed as immodest where the two sexes are concerned. The drill may be given with or without bells, clubs, and wands. It has the advantage of combining system with an abundance of pure air. When the weather is inclement the drill is given indoors, for some fifteen minutes at a time, both in the forenoon and the afternoon. Under such circumstances instruments are never used.

Similar drills can be used in every rural school. One or two states have gone so far as to prescribe a specific course of exercises and have placed the same in the hands of their teachers. School boards can generally be induced to construct the simple apparatus necessary. If not, the teacher and pupils can readily hit upon some way out of the difficulty.

Athletics does not play enough of a rôle in the rural school to need discussion in these pages.

Physical Education and Morals. — One word more before we close this chapter. Waste in school should not always be charged to physical unfitness of the pupil. Very often it may be accounted for by what we shall term his moral unfitness. A boy or girl whose mind is full of

morbid thoughts cannot pay much attention to study. One of the most difficult problems in school management is encountered in our efforts to prevent the perversion of natural instincts through immoral suggestion. One or two vicious pupils can contaminate a whole school. The period of adolescence is very impressionable. At no other time is the pupil so receptive to moral or mental filth as this. Teachers who watch closely the physical condition of their pupils are apt to cope with such difficulties. Nothing is so effective in keeping mind and body pure as interesting games and plenty of wholesome physical exercise. The secret of a teacher's success in this domain must be measured in his ability to keep the pupils out of mischief by engaging all in wholesome exercise; in his vigilance and ability to detect every symptom of child depravity, and in his uncompromising severity in dealing with every case infringing upon the laws of morality.

CHAPTER XV

Consolidation of Schools

General Statement. — We have purposely left the discussion of consolidation or centralization for the concluding chapter of the book. It has been alluded to time and again in the foregoing pages as the solution of many of our most vexing rural school problems. And, indeed, it has been difficult to write the book without making a good part of it an argument for consolidation. It has been the aim throughout to emphasize the new educational trend in its entirety, laying a special stress on the necessity to make the most of the new education in the one-room school while waiting for consolidation to come. But the leading thought running through the entire discussion has been *that ultimate solution must be sought in consolidation.*

What, then, is meant by consolidation? What does it contemplate? We answer: It is a plan to reconstruct the rural schools on a new foundation which will reëstablish the ancient principle of "equal rights to all." It contemplates the abandonment of the many small schools scattered throughout our country communities and the maintenance, instead, at points centrally located, of a few strong, well-graded schools.

Aim of our Free Schools: "Equal Rights to All." — Let it be kept well in mind that the free school system as established by our forefathers had for its purpose to extend equal opportunities to all members of the commonwealth. With this in view they established schools alike in village and outlying farm district. The latter were virtually as good as the village schools, for they were large and taught by schoolmasters, college-bred and trained. The system of free schools stands intact; but conditions have so changed with time that it no longer subserves its original purpose. In order to reëstablish this educational equality it becomes necessary to give the twelve million boys and girls living in the rural communities just as thorough a preparation in school for their life work as we are now offering city children. Consolidation of rural schools is the practical remedy, and wherever given a fair trial it has proved conclusively that just as good, just as thorough-going schools may be made to flourish in the beneficent rural environment as in the city.

What Consolidation Contemplates. — What consolidation really contemplates may be made clear by the following illustration: Let us take, say, a congressional township in a reasonably well-peopled section. We find it subdivided possibly into nine school districts, with schoolhouses two miles apart, each of the well-known box-car type, dilapidated and unsightly; the lighting is faulty; scientific ventilation is unknown; modern sanitation is

out of the question. Here a young, underpaid woman "keeps" school for a short term of months each year, endeavoring her very best to teach the whole curriculum from the A B C's to the high school subjects, some twenty to forty classes each day. Attendance is spasmodic; interest poorly sustained. The work can scarcely be called graded; teachers change with each term; and with every such change the children are "put back" to do over again work of which no record has been kept. In this way the poor youngsters "mark time" until they either grow too old to continue in school or they drop out from sheer lack of interest. And right here, parenthetically speaking, let it be understood that such conditions as here described — and they are very common — are inexcusable in this twentieth century, consolidation or no consolidation. We have emphasized elsewhere in this book that the small school cannot afford to wait for the coming of consolidation as the cure for all its ills; the school must do its own level best to meet present demands while waiting.

To revert: consolidation will change all this. The nine one-room schools will be discontinued, and instead a modern school will rise, near the center of the township, which will afford every opportunity for practical preparation for happy life on the farm. The school will be hygienic, and have modern equipment and better teachers. The course of study will be graded, recitation periods longer, interest well sustained, years in school longer.

Pupils living at a distance will be conveyed to school in suitable vehicles, avoiding exposure to inclement weather. Finally, consolidated schools can offer ample opportunities for thorough work in nature study, school gardening, and elementary agriculture, as well as manual training and domestic economy.

Great Waste in the Small School. — The bane of the present system is its great waste. Of first importance and consequence is the mental waste and scattering of effort resulting from many teachers endeavoring to do for many *small* classes what a few teachers could do for a few *large* classes. Again, it can be shown conclusively that the many small schools are actually more expensive to maintain than the graded consolidated school. Dr. J. W. Robertson, the well-known leader of the Macdonald movement in Canada, made this statement in an address before a large number of farmers: —

> Suppose you start to a creamery with 100 pounds of milk, and 45 pounds leak out on the way, could you make your business pay? And still, of every 100 children in the elementary schools, 45 of them fall out by the way — in other words, the average attendance is but 55 per cent of the school children. The consolidated schools in the five eastern provinces, with their gardens, manual training, and domestic economy, now bring 97 of every 100 children to school every day and with no additional expense to you.

Dr. Robertson speaks truly. Here in the United States we have allowed such unwarranted leakage to go unheeded

entirely too long. It is high time to stop it. This consolidation will do.

Early History of Consolidation. — Consolidation has occupied the attention of educators in the East for a good many years. The notion held by some that this is a fad being foisted upon a long-suffering public by overzealous theorists is altogether without foundation. Consolidation was introduced in New England in the early '70's because it was the rural schools' only salvation. Other states westward have wisely followed New England's example, thereby solving a very serious problem. Three quarters of a century ago Horace Mann declared the Massachusetts Act of 1789 " the most unfortunate law on common school legislation ever enacted in the state." This law, it will be recalled, made the small district the unit of school administration instead of the town (township) as hitherto. While he was secretary of the Massachusetts State Board the great educator was unceasing in his efforts to reëstablish the town as the unit of control, although final success did not come until after his day. We read of Superintendent Horace Eaton, of Vermont, urging the abandonment of the weak schools as early as 1846. Some ten years later Superintendent Caleb Mills, of Indiana, seeing the great danger of multiplying small districts, " urged that the districts in the township be limited to four."

Massachusetts passed a law authorizing consolidation in 1865, and four years later gave added efficiency to this

step by enacting another law providing for the conveyance of children at public expense. The first successful experiment in the state was in the town (township) of Concord, the twelve schools of which were united in one strong central school in the course of the years 1870–1880. Since then consolidation has become operative to a greater or less extent in thirty-two states: California, Connecticut, Florida, Georgia, Illinois, Indiana, Iowa, Kansas, Louisiana, Maine, Massachusetts, Michigan, Minnesota, Missouri, Nebraska, New Hampshire, New Jersey, New York, North Carolina, North Dakota, Ohio, Oregon, Oklahoma, Pennsylvania, Rhode Island, South Dakota, South Carolina, Texas, Utah, Vermont, Wisconsin, and Wyoming. To this list we may add Hawaii, the five provinces of the Dominion of Canada under the Macdonald movement, and parts of the Australian commonwealth.

Passing of the "Little Red Schoolhouse." — New England began to abandon the small weak schools earlier than other sections, because it was the first to feel the disastrous results of disintegration of rural population and the exodus to the cities. The " little red schoolhouse " of song and story has been yielding for a long time now to the onward march of change; it has been growing ever smaller and weaker, more weather-beaten and less red than ever. Alas, for the sentiment which has so long hallowed the little old New England school! It played an important part in our early history in molding the life of the nation.

But sentiment must yield before economic necessity with a sigh of regret, therefore, we behold the "little red schoolhouse" passing into the realm of sweet memory.

Consolidation in Massachusetts. — The first stage of Massachusetts' consolidation was marked by a slow but sound growth — while public opinion could be enlightened and a sentiment for a higher standard of education created. Yet, once well under way, it has had a cumulative growth, which now practically embraces the whole state. The strength and extent of the movement can readily be determined from the following table of expenditures for free conveyance, taken from a recent report of the State Board of Education: —

Year	Amount Expended	Year	Amount Expended
1888	$ 22,118.38	1897	$123,032.41
1889	24,145.12	1898	127,409.22
1890	30,648.68	1899	141,753.84
1891	38,726.07	1900	151,773.47
1892	50,590.41	1901	165,596.91
1893	63,617.68	1902	178,297.64
1894	76,608.29	1903	194,967.35
1895	91,136.11	1904	213,220.93
1896	105,317.13	1905	236,415.40

Elsewhere in New England. — The example set by Massachusetts was soon followed by all the rest of New England. Connecticut began consolidation in a small way in 1889. Four years later the towns of the state

were authorized by law to spend money for conveyance of pupils. All the towns which have adopted the town unit for school purposes (see Chapter III) find centralization and conveyance of children a satisfactory solution of the school problem. The last year reported by the State Board of Education (1903–1904) gives these data: number of schools closed during the year, 114; number of pupils conveyed, 1272; expenses, $21,739.83.

New Hampshire, which truly sits in nature's fastnesses, has not permitted topographical difficulties to discourage the work of centralization and conveyance of children to strong schools. The work is making steady progress. These are some of the results: economy; better teachers; better supervision; greater regularity of attendance and greater punctuality; better educational spirit in and out of the school; better roads, literary organization, and local enterprises.

In Maine 653 weak schools were abandoned between 1890 and 1905. Vermont conveys 8000 children at an expense of $36,000 per term. Rhode Island is steadily uniting the small schools and building substantial structures at centrally located places.

The Progressive Middle West. — Consolidation is having a remarkable growth in many states in the Middle West. In some it is caused by a change in industrial conditions, occasioning the abandonment of the farm for the city; in the youngest states where the cityward migration is not

yet very apparent the cause is traceable to the undue multiplication of schools where they were not needed until small sickly schools could be found at almost every ambitious turnpike; in all the states it is having an encouraging growth because the country population begins to realize that in this way only can their children get an education suited to the age in which they live.

Ohio may be considered in many respects the model from which the other states drew their inspiration. Here consolidation originated in 1892. Ashtabula county, where it began, now boasts twenty-one thoroughly consolidated schools. A glance at the consolidation maps of Ohio on pages 316 and 317 illustrates how the reform has spread and is yet spreading outward, embracing Trumbull, Lake, Geauga, Portage, Summit, Medina, Lorain, and many other counties. The number of consolidated schools increased from 58 in 1904 to 157 in 1907, an increase of nearly a hundred in three years.

In Indiana consolidation has been hastened by some very sound legislation. The law of 1901 *permitted* trustees to close schools having an average daily attendance of less than 12 pupils. Six years later it became *obligatory* to abandon all schools with an average daily attendance of 12 or less, and permits the abandonment of schools with an attendance of 15 or less. The result: for the biennium ending 1907, growth in consolidated schools from 280 to 418; schools abandoned in 1904, 1906, and 1908, respec-

tively, 679, 830, and 1314; pupils transported during the same years, 5356, 9424, and 16,034.

Michigan reports much progress in uniting weak schools. Ten counties have tried consolidation and transportation of children with excellent results.

The Wisconsin State Department of Education is urging consolidation in all small districts. A number of centralized schools are already doing good work. Says State Superintendent C. P. Cary: "There is no question but what consolidation is the remedy for many of the unfavorable conditions now surrounding the rural schools."

Illinois has drawn its inspiration from Ohio. Thanks to the unceasing efforts of Superintendent O. J. Kern and a few others of kindred enthusiasm, the work is going forward at a gratifying pace. The first consolidated school was dedicated in Seward township, Winnebago county, Kern's own county, January 30, 1904. Johnson county, in southern Illinois, and Kane county, in northern Illinois, followed Winnebago county's example in helping to start the movement. County superintendents and state schools are vying with each other to see which can do the most for the movement. How well the work is being done may be appreciated from the report on the John Swaney Consolidated School later in this chapter.

In 1906 Iowa disorganized 76 schools to form 30 consolidated schools. Minnesota is transporting children in

many counties. North Dakota has consolidated schools in satisfactory operation in 9 or 10 counties. Nebraska is making some progress. Kansas established its first such school in 1898 in Green Garden township, Ellsworth county. Up to 1907, 27 consolidated schools had been formed in 20 counties; besides which 130 school districts had discontinued their schools and transported their children to other schools. Even the new state of Oklahoma is planning for great things in consolidation.

The South. — It is gratifying to see how the Southern states take to consolidation. When one considers the many difficulties that this section has to contend with, — difficulties practically unknown in the North, or at least experienced in a less marked degree, such as separate schools for the two races, a very scattered and, comparatively speaking, impoverished rural population, — this progress speaks volumes for the educators who are helping to shape the New South. South of the Mason-Dixon line Maryland is carrying on an active campaign for consolidation, the sole aim being "to give the children better teaching and better school facilities." Baltimore county among others has six consolidated schools, transportation being in five by wagon and one by railroad.

In Virginia the number of consolidated schools is on the increase, being 130 in 1906 and 162 in 1907.

State Superintendent J. Y. Joyner, of North Carolina,

declares that consolidation is rapidly driving the old log schoolhouse out of his state. He writes:—

> In 1906 there were 950 white and 165 colored schools having more than one teacher. This was an increase during the year of 99 white and 49 colored schools having more than one teacher. The increase of schools employing more than one teacher has also increased the number of rural schools giving some instruction in high school branches. In 1906 there were 968 white and 90 colored schools which gave some such instruction, being an increase during the year of 36 white and 32 colored schools attempting some high school instruction.

South Carolina and Georgia are making progress. The former proves by actual figures that the system is cheaper to the taxpayers; that it raises the teachers' salaries; betters enrollment and daily attendance; lengthens the school year; and enriches the course of study. The latter finds progress rather slow, but has in spite of this attained good results.

Florida, too, must be reckoned with. Its record is consolidated schools in 17 out of 44 counties, and other counties ready and favorable to consolidation.

Louisiana has made marked advance in this respect under State Superintendent James B. Aswell's able administration. Parish after parish has united its wards (our districts), "building up larger schools and diminishing the cost of their maintenance."

The West. — The Western states have not yet made any appreciable progress in consolidation of schools. The reason

is not far to seek: a newly settled people—in many places, indeed, still in the process of settling; small communities, isolated one from another by stretch of waste plain or mountain ridge; a general want of good roads; and upon the whole a general newness and instability in population, which makes consolidation in some measure impracticable.

Utah reports central schools in steadily increasing numbers. Consolidation is practiced in many counties here, but on a rather small scale.

Wyoming employs consolidation in a very few districts; but so far as the work has been carried it is reported successful.

Oregon, on the far-away Pacific, is "meeting with very much encouragement."

From the foregoing somewhat rambling report readers will appreciate that the movement to consolidate rural schools is becoming national in significance. That it is no longer an experiment, even the most conservative must acknowledge. If it has not always proved successful, it is not because the principle of consolidation in itself is wrong, but because it was not properly applied or local conditions were not given proper consideration.

Now let us consider a few particular cases of successful consolidation. In this connection it is well to emphasize four types of consolidation: (1) partial, (2) complete, (3) centered in village, (4) purely rural.

Partial Consolidation. — By partial consolidation is meant the grouping of two, three, or more schools at strategic points in the township, without aiming at ultimate centralization of all the schools in the township at the geographical center. This form of consolidation is practiced where the size or shape of the township or its natural contour

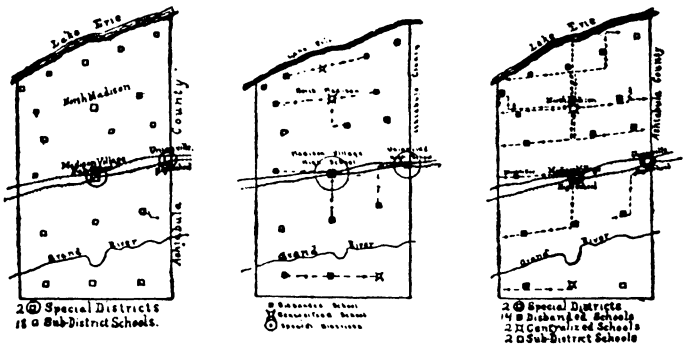


FIG. 20. — Map illustrating growth of consolidation in Madison township, Lake county, Ohio. (See text.)

makes transportation of all pupils to one center impracticable. An excellent illustration is Madison township, Lake county, Ohio, where partial consolidation began in 1892. The accompanying maps tell the story in a graphic way. The township which borders on Lake Erie is seven miles on the west side, nine on the east, and five miles wide. The distance by wagon from the extremes of the township to Madison village is seven miles, which is too far for satisfactory transportation of pupils. As a consequence centralization here has been at three or

four centers. The first map shows the special districts of Madison village and Unionville, together with eighteen

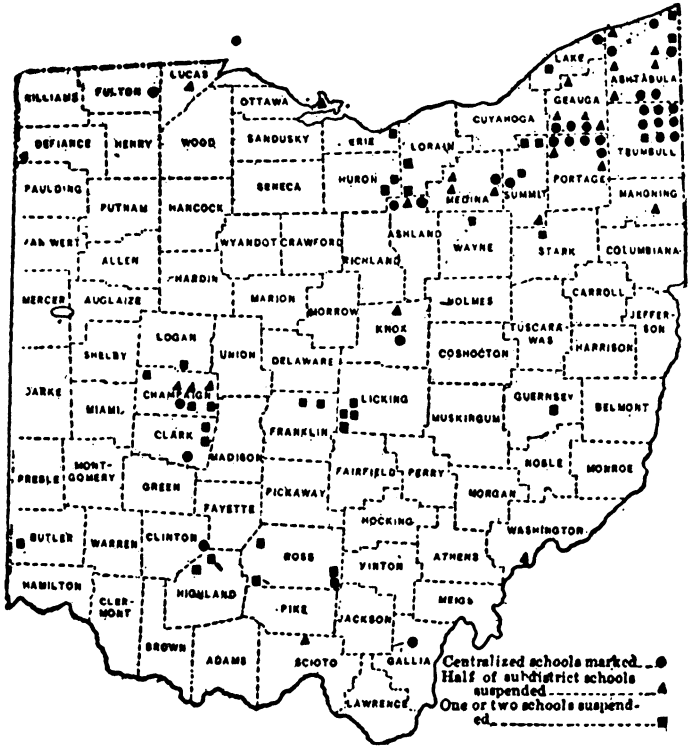


FIG. 21.—This map tells the first chapter of Ohio consolidation and is for 1905–1906.

Centralized	32
Half of subdistricts suspended	25
One or two schools transferred to another	35
Total	92

small subdistricts. This was before consolidation was attempted. The second map illustrates the first stages of

consolidation between 1892 and 1906, during which period ten of the subdistricts were abandoned. Finally, the

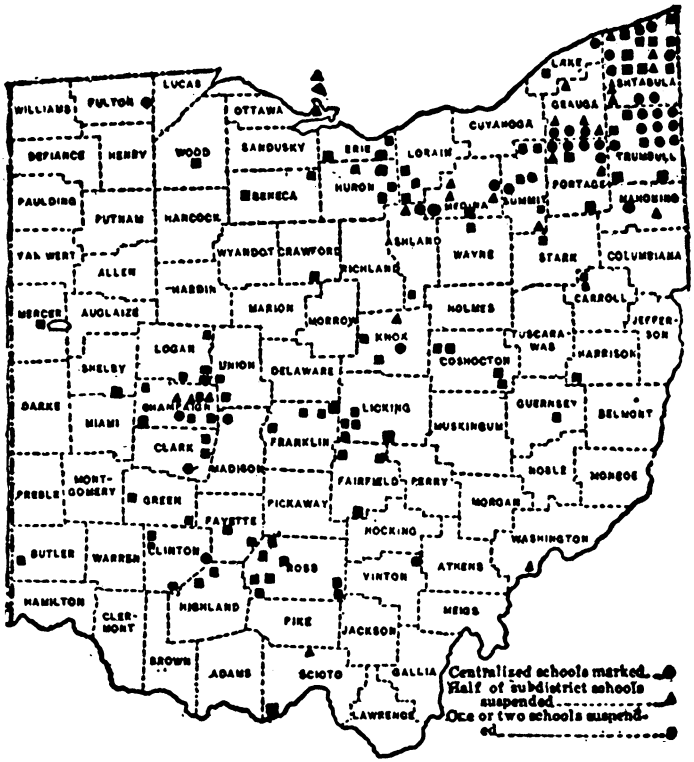


FIG. 22. — The second chapter of the same story, covering 1906–1907.

Centralized	38
Half of subdistricts suspended	22
One or two schools transferred to another	97
Total	157

third map gives the schools as they were in 1907: two special districts, two good centralized schools, and only

two subdistricts without the advantages of consolidation.

Complete Consolidation. — Partial consolidation is very commonly practiced; but it is less satisfactory than the so-called complete consolidation unless, of course, a large enough number of subdistricts unite to establish schools offering thorough high school courses at these several centers. Complete consolidation, as indicated in the name, contemplates the centralization of every small school within the township at its geographical center. This insures the establishment of a high school department, offering just such studies as are adapted to farm needs. This type of consolidation is common and is on the rapid increase. It is well exemplified in Wea township, Tippecanoe county, Indiana. The central school here is not so large as many others that could be mentioned, but conditions are otherwise so near to being ideal that it will answer our purpose of illustration nicely. The report is from the pen of Township Trustee Fairfax Kirkpatrick, who writes:—

The Wea Consolidated School, Tippecanoe County, Indiana. — This township is wholly rural, there being no villages or towns within its borders. It is six miles square, and most of the land is a part of the famed Wea Plains. The farms are large, making a small school population. Seven years ago this township maintained eleven district schools. Many of these were very small, the total enrollment in five of them being 60. About twelve years ago a two-room brick building was built in the center of the township, and one room

was used to maintain a high school. So weak was this high school, unsupported by the grades, that it was a question whether it could survive. At one time it was wholly abandoned the greater part of a term. In 1903 the trustee, P. M. Tompson, abandoned school districts 5 and 9. District 9 was within three quarters of a mile of the two-room building, so no conveyance was needed. The pupils of District 5 were conveyed to the high school building, which now had two teachers. Other district schools were soon closed, and the two-room building was filled to overflowing. In 1904 an addition of two rooms was made to the building. In all, seven district schools have been abandoned and the pupils conveyed to the central school which now supports four teachers. At first the sentiment was strongly opposed to centralization, but now about nine tenths of the patrons are pleased. The township now has three rural district schools, one of which will probably always be maintained. The other two may sometime be conveyed to the central school. There are now six wagons, most of them the best that can be had, running to the graded school. The results in this township show conclusively that the more complete the centralization, and the more wagons there are to the central school, the better the satisfaction. When there were but two or three wagons the routes were longer, and there was more doubling on the track. Now the wagons go more directly to the school and the majority of the pupils ride a much shorter distance. Each wagon is heated by a stove and is made comfortable. Each driver is paid $2 a day and furnishes his own hack. One hundred are transported.

The central school has a large well-shaded ground. The building is heated by a furnace and is modern. For the benefit of the high school pupils who drive to school, the township has built a barn large enough for ten horses and buggies. The central school has a library of more than five hundred books. The school is organizing its work so that in a short time it will be as well organized as the best city school. One teacher who can do high grade music work is employed, and this teacher does all the music work of the school.

A little further care in selecting teachers will give the school a teacher in drawing and penmanship, or a teacher of agriculture. The greatest drawback to the advanced organization of the school is the scarcity of teachers who can do this special work.

Village Type of Consolidation. — A third type of consolidated school results from closing rural schools and transporting to a neighboring village. This has its opponents who assert with much force that what is needed is not some additional convenience for sending children to village and city, to educate them away from the country, but educational facilities right out in the rural districts as good as there can be found in the city, which shall train for the farm, and for the farm only. Moreover, the larger villages are not inclined to adapt their course of study to suit country needs; nor could this be expected. Then the average American village offers temptations to the unsophisticated country youth, which is pretty sure to leave him the worse morally for having come to "town." In some places where centralization has taken place in large villages attempts have been made to study agriculture and other subjects essential to the farm, and not without success. Still, in a majority of these villages the course continues to smack of the city. On the other hand, if the village *is so small that it has none except rural interests*, there is little reason why consolidation cannot be practiced there as well as in the open country. A large number of strong schools are situated in such villages in every state where consolidation is practiced.

Burns Consolidated School, Marion County, Kansas. — Possibly the most successful consolidated school in Kansas is the Burns school, centered in Burns, Marion

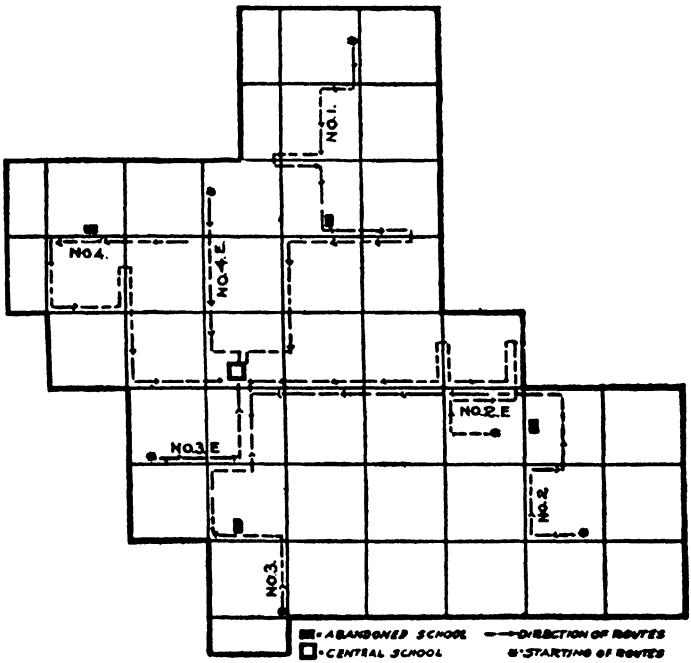


FIG. 23. — Plan of the Burns consolidated district, giving central school, abandoned schools, and transportation routes. Each square represents a section of 640 acres.

county, a village of some 450 people. The spirit, sympathies, and life of the place are purely rural. It may therefore be considered almost as *safe* though not so *ideal* a place for the school as the country proper. Moreover,

it is well to consider the added opportunities which such a school extends to the weak, isolated village.

Assistant State Superintendent C. C. Starr, who made a careful study of the Burns district in 1908, reports on his findings in part as follows:—

The Burns school was consolidated in 1904. The district was originally formed out of five separate school districts. In 1906 an additional district made application for admission to the consolidated district, and it was admitted, so that now the consolidated district consists of what were originally six separate school districts, and the area comprised is forty-three square miles or considerably more than a congressional township. While the last district that joined the consolidated district is farther from the central school than is ordinarily advised for such districts, that district estimated that the advantages of the consolidated school would be superior to the disadvantages of the long distance to school. Experience has demonstrated the truth of this.

Another district, lying outside, is sending seven pupils and paying their tuition.

Before consolidation the Burns district employed two teachers and did not have a high school. The next year they had five teachers, and now six teachers are employed. The school occupies a modern six-room building. A four-year high school course is maintained which admits to the University of Kansas. Two high school teachers are employed, one of whom was added in 1907.

While the population of Burns is about the same as the population of the remainder of the consolidated districts, a majority of the pupils attending the high school are from the country. The pupils in the upper grades (who recall their experience as pupils in the smaller rural schools) unanimously preferred the consolidated school. The reasons the pupils gave for their preference are as follows: their school now has better teachers, there are more pupils to

associate with, the larger classes are more interesting, they make more progress, understand their lessons better, and the teachers have time to give the proper amount of attention to each subject. It is more agreeable to ride the long distance to school than to walk to the country schools.

Upon inquiry from the pupils who attend from the country as to what their chances would have been of attending high school if the consolidated school had not been formed, a very large majority stated that the chances are that they would not have had the opportunity to secure a high school education. A few stated that they thought they would have been able to attend a high school, as their parents told them that they had intended to try to send them away to a high school.

At the close of school I selected the wagon that goes to the most remote portion of the district, with a view of sharing the experience of the pupils while being transported. The distance to the end of the trip was ten and one half miles — a distance much greater than is ordinarily recommended for transportation. The time to make the trip was one hour and thirty minutes. The pupils stated that they liked to ride and did not get tired. Some said that they got a little cold sometimes — a suggestion that the wagons should be heated in the coldest weather. Neither drivers nor pupils expressed any dissatisfaction with the mode of transportation, and the people from the country with whom I conversed expressed themselves as being entirely satisfied with their system of transportation.

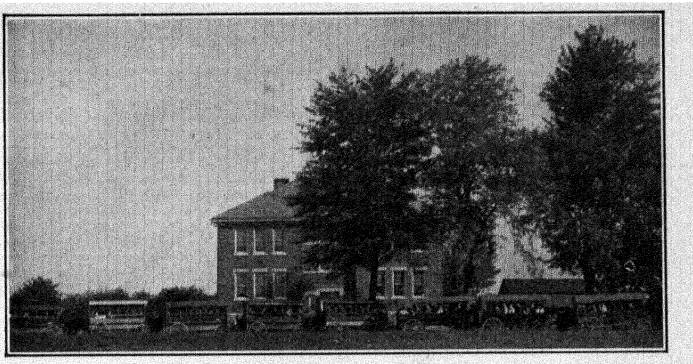
After extensive inquiry, no person could be found in the district who would be willing to go back to the old system of separate small schools. There is a general belief that the schools are far better than under the old plan, and that the community, through consolidation, has taken a long step forward educationally.

The Purely Rural Type. — The last type of consolidated school to call for consideration is the purely rural. This is the ideal type. It contemplates the establishment

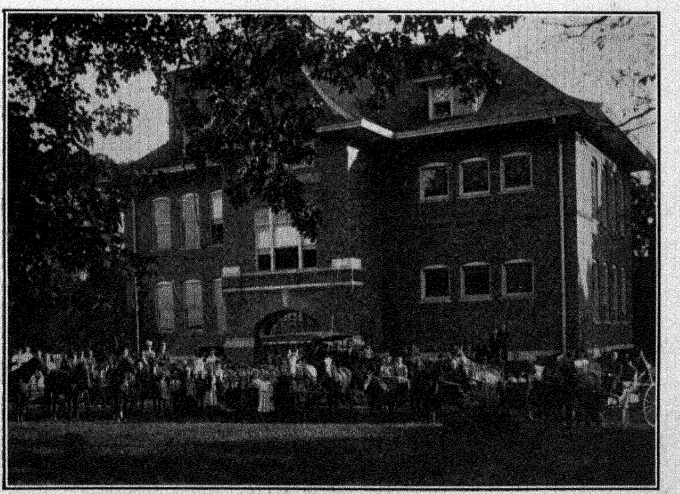
of the school right in the heart of the rural community, where the child can dwell in close communion with nature, away from the attractions and allurements of the city. In such an environment establish the farm child's school. Build it good and large; equip it with all the working tools necessary to the greatest measure of successful work. Add broad acres for beautiful grounds and garden and experimental areas. And *surely the rural school problem will then be in a fair way to solution.*

An excellent example of the purely rural type is the John Swaney Consolidated School, in Putnam county, Illinois. This school was studied by the N. E. A. Committee on Industrial Education in Schools for Rural Communities and the results embodied in their report to the Cleveland Convention, 1908. It was selected for this purpose by the committee "as affording the best illustration of public sentiment, private liberality, and wise organization combined, that the committee was able to find in any consolidated district in the United States." Superintendent O. J. Kern visited the school and reported it for the committee of which he is a member. He says in part:—

The John Swaney Consolidated Country School is located in Magnolia township, Putnam county, Illinois, beside a country road, two miles from the small village of McNabb. The building stands near the north side of a beautiful campus consisting of twenty-four acres of timber pasture. This campus was donated by Mr. John Swaney, who is a farmer of moderate circumstances, a man who believes in better things for country children. His was a worthy



Consolidated school at North Madison, Madison Township, Lake County, Ohio. Eight conveyances filled with children may be seen lined up in the foreground. (Courtesy of A. B. Graham, College of Agriculture, Columbus, Ohio.)



The John Swaney School, District 532, McNabb, Illinois. Irwin A. Madden, Principal.

deed in behalf of a worthy cause and should prove a suggestion and an inspiration to public-spirited farmers in other communities.

The consolidated school is an illustration of the fundamental fact that if the country people want better schools in the country for country children, *they must spend more money for education and spend it in a better way. There is no other way.* It is comparatively easy for a speaker before a farmers' institute meeting to gain the intellectual assent of the average farmer in the community to the above monetary proposition. But to go to the farmers on the morning after, and get their *financial consent* to vote bonds for a better equipment and make an increased tax levy for a better teaching force, is quite a different matter. And yet this actually is what must be done, and *what has been done* in Magnolia township.

SOME FINANCIAL DATA

Unit of Organization. — The consolidated district comprises three ordinary country school districts that were consolidated by due process under the Illinois school law.

John Swaney Consolidated School, Putnam County, Illinois. — *Land Area and Valuation.* — The consolidated district comprises fourteen sections of land, and the assessed valuation under the Illinois revenue law is one hundred seventy-nine ($179) dollars. By the Illinois revenue law the assessed valuation is supposed to represent one fifth of the fair cash value. It is upon the assessed valuation that all taxes are levied. The selling price of improved farms which comprise three fourths of the district is $150 per acre. The selling price of timber land which comprises the remaining one fourth is $75 per acre.

School Levy. — The school levy for the school year of 1907–1908 was $2900 for the building fund to pay bonds issued for the erection of the new building, and $3900 for general education purposes: securing better teachers, janitor service, etc. Twenty pupils are paying tuition at present, bringing in an annual revenue of $375.

Practically all the money raised for school purposes in Illinois is raised by local taxation.

THE BUILDING AND EQUIPMENT

The school is housed in a $12,000 two and a half story brick building, containing four recitation rooms, two laboratories, large auditorium, two library and office rooms, a boys' manual training room, a girls' playroom, furnace room, and cloak room. All are lighted with gasoline gas generated by a plant, the reservoir of which is stored outside of the building. The laboratories are also furnished with gas from this plant. The building is heated with steam and furnished with running water supplied by an air pressure system. The building and equipment cost $16,000.

Donations. — There are people living in this consolidated district and community who are unselfish enough and who have sufficient faith in the consolidation of schools to aid the movement by material gifts. As a consequence the beautiful campus of twenty-four acres was donated by Mr. John Swaney. County Superintendent G. W. Hunt gave a set of manual training tools. Besides these, the John Kay estate, W. G. Griffith, F. E. Smith, John Wilson, Perry Mills, W. L. Mills, and Louis Priebe gave neat sums of money. In all about $2000, besides the grounds, were donated to the school.

Wagons and Cost. — Two teams are employed in bringing the children from two of the old districts. The wagons cost $175 each and are owned by the district. Distance, round trip for one wagon, is nine miles, and nine and one half miles for the other. Drivers of the wagons are farmer boys living in the community who are in the high school room. The horses are put in the school barn located on the campus. Each team costs $40 per month for twenty-two round trips, thus making an outlay of $1.82 per day for each wagon. As each wagon carries twenty children, the cost per pupil daily is nine cents, about the cost of two street car fares in the city.

Grounds. — No finer environment, perhaps, can be found for a

country school. The grounds, twenty-four acres in extent, are dotted with groups of the native forest trees. It is the purpose of the district to beautify the grounds still further according to a plan prepared by the Horticultural Department of the Illinois College of Agriculture.

The Teachers' Home. — Four or five farmers, at their own expense, fitted up one of the abandoned schoolhouses for a teachers' home, thus solving the problem of a boarding place for the teachers. The cost to the farmers was $500. The teachers pay $9 a month rent and hire an elderly woman for housekeeper. The teachers club together for the living expenses of the home.

Janitor's Home. — An old tenant building located on the school grounds was fitted up for a janitor's home. The janitor has charge of the grounds, school building, and stables. He receives a salary of $30 a month and pays $5 per month for his home.

In this sylvan retreat, fitted with everything essential for school work, the boys and girls of Magnolia township learn to know nature and to love it. Here they early learn to know that they are indigenous to the soil; that here they must live and die. Give us many such schools, and the farm youth is in no danger of leaving the farm!

High School Work in the John Swaney School. — For a lack of space we cannot give the details of all the work in the Swaney School. This much, however: the pupils below the high school are taught by normal graduates of careful training and experience, who receive a salary each of $60 per month for nine months. The principal is a normal graduate, who has had additional training in the Illinois College of Agriculture. He receives $100 per month. His assistant has had special preparation in

domestic science, and receives $60 per month. (We dwell with much satisfaction on these statements; for here we have found one country community that *demands trained teachers and is ready to pay a fair remuneration.*)

The high school course of study is planned for country boys and girls. While the culture studies are not neglected, farm interests are emphasized in the study of agriculture, manual training, and domestic science. Here follows the complete course of study:

FIRST YEAR

First Semester	*Second Semester*
English I.	English I.
Algebra.	Algebra.
Physiology.	Physical Geography.
Agronomy I or Latin.	Horticulture or Latin.
Household Science or Manual Training.	Household Science or Manual Training.

SECOND YEAR

English II.	English II.
Algebra, 10 weeks.	Geometry.
Geometry, 10 weeks.	Botany.
Zoölogy.	Ancient History, 10 weeks.
Ancient History.	Animal Husbandry or Household Science, 10 weeks.
Drawing.	Music.

THIRD YEAR

English III.	English III.
Chemistry.	Chemistry.
Agronomy II or Latin or Household Science.	Animal Husbandry or Latin or Household Science.
English History.	English History.

FOURTH YEAR

English IV.	English IV.
Physics.	Physics.
Household Science or Agronomy III.	Bookkeeping, 10 weeks.
American History.	Arithmetic, 20 weeks.
	Civics.

Excellent courses are offered in household science, manual training, and agriculture. The latter deals with the theory of agriculture, soil physics, soil fertility, animal husbandry, and horticulture.

In order that the state may learn the needs and methods of improvement of its different large soil areas, experiment stations are established in these areas; in all there are now twenty-three. One of these stations is now being installed adjoining the campus on the east. This station contains a plot of ground consisting of six acres and is divided into four series with five breeding plats in each series. This is to be conducted by the state, but the school will have the privilege of observing the work of the station, and will have access to the records of results.

A plan of the ground is given here: —

EXPERIMENT STATION

SERIES I

1	2	3	4	5

SERIES II

1	2	3	4	5

SERIES III

1	2	3	4	5

SERIES IV

1	2	3	4	5

Series I will be planted to corn; Series II to oats and clover; Series III to oats; Series IV to cowpeas, in 1907. Plats 2 and 4 have been fertilized with rock phosphate. The others were not.

Consolidation: Advantages and Objections. — We have now dwelt at some length on four consolidated schools, representing as many states. Enough has been told to give the reader an idea of their organization and effectiveness of their working plans. At this point writers on con-

solidation usually take time to summarize the advantages of the system and to state the objections urged against it. It is scarcely necessary to take up any further space in these pages with an enumeration of the manifold advantages due to consolidation. The reader has gathered enough from the discussion above to realize that these advantages are very many and weighty. For additional summaries he may make a study of the excellent books and pamphlets on the subjects enumerated at the close of the chapter. The objections, also, may be passed over lightly. Some of these are of a sentimental nature and must yield to economic necessity. Others which at one time seemed valid enough have been proved fallacious by the experience of years of successful consolidation. The objection most frequently urged is that the cost under the new plan is greater. We have ample figures to prove that consolidation *may* be carried on at just as small an outlay as under the old system. Under complete consolidation the *gross* cost is undeniably greater; but when we consider the added effectiveness of the new schools in the matter of increase and regularity of attendance, general economy, and ultimate educational effectiveness, the *net* individual cost is far less than under the passing régime.

A Closing Word. — This offers an opportunity to speak a closing word. The plea throughout the book has been for a return to that equality of opportunity on which our common school system was built. This equality no longer

exists except in theory. The farm youth has not had a square deal. And the fundamental cause of it all is that our rural population does not spend enough money on the education of their boys and girls, nor does it spend this money to the best advantage. To-day the farmer spends $13.17 for the education of his children every time the city dweller spends $33.01! Can further argument be necessary? And much of what is invested in rural education is spent to poor advantage in feeble, poorly instructed schools which could just as well be abandoned or consolidated.

Let every one who reads these pages become a self-appointed herald to proclaim the new rural school education; to go into every countryside and preach the new doctrine; to do everything in his power to create sentiment favoring better schools and better teaching. *Then shall come a bright dawn for the youth of the farm!*

A SELECTED REFERENCE LIST OF BOOKS, PAMPHLETS, AND SPECIAL ARTICLES ON CONSOLIDATION

1. ASWELL, JAMES B. The Consolidation of School Districts. Issued by the state of Louisiana, Department of Education, Baton Rouge, 1906. pp. 77.
2. Consolidation and Transportation. Issued by the state of New Hampshire, Department of Education, Concord. pp. 12.
3. COTTON, FASSETT A. Twenty-third Annual Report of the State Superintendent of Public Instruction, Indianapolis. Especially chapter on Consolidation.

4. DAVENPORT, E. Consolidation of our Schools. University of Illinois, Urbana, 1904.

5. FAIRCHILD, E. T. Consolidation of Rural Schools. Topeka, 1908. pp. 48.

6. FLETCHER, G. F. The Consolidation of Schools and the Conveyance of Children. Issued by the Massachusetts Board of Education, Boston. pp. 25.

7. FOWLER, WILLIAM K. Consolidation of Districts, the Centralization of Rural Schools, and the Transportation of Pupils at Public Expense. Issued by the Department of Public Instruction, Lincoln, 1903.

8. GRAHAM, A. B. Centralized Schools in Ohio. The Agricultural College Bulletin, No. 6, Columbus, 1907. pp. 24.

9. KELLEY, PATRICK H. Consolidation of School Districts. Issued by the Michigan Department of Education, Lansing, 1906. pp. 23.

10. KERN, O. J. Among Country Schools. Ginn and Co., Chicago, 1906. Price $1.25. Especially chapter on Consolidation.

11. —— Annual Report, Winnebago County Schools, Rockford, 1908. pp. 96.

12. LONGSDORF, H. H. The Consolidation of Country Schools. Published by the Pennsylvania Department of Agriculture, Harrisburg, 1901. pp. 89.

13. Proceedings of the National Education Association for the following years: 1901, pp. 804–811; 1902, pp. 224–231 and 793–798; 1903, pp. 919–936; 1904, pp. 313–316; 1906, pp. 337, 338; 1907, pp. 277–279; 1908, pp. 420–431 and 1054–1060.

14. Report of the Committee of Twelve on Rural Schools. Published by the University of Chicago, 1905.

15. Tenth Annual Report of the Illinois Farmers' Institute, Springfield, 1905. Especially pp. 208–213.

APPENDIX A

APPENDIX A. — PERMANENT SCHOOL FUNDS[1]

STATE OR TERRITORY	PERMANENT COMMON SCHOOL FUNDS, STATE AND LOCAL	TOTAL VALUE OF PERMANENT FUNDS AND PRODUCTIVE LANDS
United States	$218,973,736	———
North Atlantic Division	23,356,319	———
South Atlantic Division	4,661,103	———
South Central Division	52,071,271	———
North Central Division	112,900,359	———
Western Division	25,984,684	———
North Atlantic Division:		
Maine	445,716	———
New Hampshire (1904–1905)	59,470	$ 59,470
Vermont	1,120,218	1,120,218
Massachusetts (1905–1906)	4,980,111	———
Rhode Island (1904–1905)	257,414	———
Connecticut (1905–1906)	3,060,097	———
New York (1905–1906)	8,996,863	8,996,863
New Jersey (1904–1905)	4,436,430	———
Pennsylvania		———
South Atlantic Division:		
Delaware (1896–1897)	350,000	350,000
Maryland		
District of Columbia		
Virginia	2,025,736	2,025,736
West Virginia	1,000,000	1,000,000
North Carolina (1903–1904)	200,000	200,000
South Carolina		
Georgia		———
Florida (1905–1906)	1,085,367	———

[1] This table, which is compiled from the U. S. School Commissioner's report for 1907, does not take into account unproductive school lands.

APPENDIX A — *Continued*

STATE OR TERRITORY	PERMANENT COMMON SCHOOL FUNDS, STATE AND LOCAL	TOTAL VALUE OF PERMANENT FUNDS AND PRODUCTIVE LANDS
South Central Division:		
Kentucky (1901–1902)	2,315,627	———
Tennessee (1905–1906)	2,512,000	———
Alabama (1902–1903)	2,135,313	———
Mississippi (1902–1903)	3,466,667	———
Louisiana		
Texas (1904–1905)	39,421,018	49,921,018
Arkansas	1,135,279	———
Oklahoma		
Indian Territory		
North Central Division:		
Ohio (1901–1902)	2,315,627	———
Indiana	10,845,348	———
Illinois (1905–1906)	17,656,923	———
Michigan (1904–1905)	5,228,333	———
Wisconsin	6,214,623	6,214,623
Minnesota	19,000,000	19,000,000
Iowa	4,778,369	———
Missouri	13,348,348	———
North Dakota	14,000,000	22,000,000
South Dakota (1905–1906)	4,850,014	30,850,014
Nebraska	6,949,444	18,949,444
Kansas (1904–1905)	7,553,330	7,803,330
Western Division:		
Montana (1905–1906)	1,120,439	4,120,439
Wyoming	191,973	2,691,973
Colorado	1,433,059	26,015,462
New Mexico	24,791	883,117
Arizona		
Utah	1,913,850	2,185,907
Nevada	3,065,167	———
Idaho	1,197,012	———
Washington	6,492,000	16,146,980
Oregon	5,232,343	5,232,343
California	5,314,050	———

APPENDIX B

Mr. S. J. Race, of Redwood Falls, Minnesota, some years ago wrote an admirable article on *Rural School Heating and Ventilation* in the *American School Board Journal*, which describes how to transform an ordinary heater into a ventilating stove so well that I take the liberty to quote him at length. He says: —

Mr. S. J. Race on Rural School Heating and Ventilation. — There is no reason why the small rural school cannot be provided with an adequate system of warming and ventilation. The physical welfare of pupil and teacher demands it. Health is wealth. The cost should not exceed $50. This allows for rebuilding the chimney from the foundation. I would recommend a single flue 12 × 16 inches. This will give a chimney with an outside measurement of 16 × 24 inches. We have tried double-flue chimneys, with two flues, each 8 × 12 and 12 × 12 inches, respectively. They work well, but a single flue is somewhat better. The flue is warmer, and hence the outward and upward movement of the foul air is better.

The iron register, 12 × 16 inches, for opening measurement, should go into the chimney within 4 inches from the floor (do not put any in the chimney near the ceiling). Place the stove in a corner, the one most out of the way. Do not put it in the center of the room where it would be in the way.

Cut a hole in the floor, 10 × 14 inches, over which place an iron register. Connect this opening with a box 10 × 10 inches wide and long enough to reach from the register in the floor to the outside of the foundation. Cover the end of the box with a coarse wire screen to keep out any animals. The box may be of wood or of galvanized iron. Wood, I believe, is preferable. Surround the stove with a circular galvanized-iron jacket 6 feet high and from 34 to 40 inches

in diameter. The stove will determine the diameter of the jacket. Measure the diagonal base of the stove to determine the diameter of the jacket. Cut a door 2½ feet by 4 feet in the jacket for removing the ashes and feeding the fire. Have the jacket strongly made. See to it that the door in the jacket is properly arranged so that the ashes may be easily removed.

I am often asked by school trustees whether if the stove were placed in the middle of the room, will not the heat be more uniformly distributed? I do not see how it can be. By this plan all the heat in the stove is forced by the flow of pure air from the outside through the fresh-air box, directly to within a few feet from the ceiling. The only escape for it is through the foul-air register in the chimney near the floor. The escape is by pressure. In a recent test of six school-houses the greatest variation found was 3 degrees, when measured.

APPENDIX C

I. EARTH AND SKY

There are four leading categories in this group: (1) the weather; (2) the natural events of the year; (3) the conformation of the surrounding country; (4) survey of a brook or other strong natural feature of the region.

1. *The Weather.* — First year: The child should observe and tell what the weather is, and should begin to learn to be weather-wise and to know the "signs" of the weather. Second year: Clouds, sunshine, and shadow, both indoors and outdoors; sundial. Third year: Wind; making and flying kites; weather vanes; chimney hoods; effect of wind on shape of trees; begin weather record, perhaps as blackboard exercise. Fourth year: Temperature; begin thermometer readings; continue record, perhaps in notebook. Fifth year: Barometer; weather maps, signals, and forecasts.

2. *Events of the Year.* — First year: Note the change of seasons; position of the sun at different seasons; holidays. Second year:

Begin seasonal observations, chiefly on date of appearing of frogs, migrations of birds, etc. Third year: The calendar; continue observations, chiefly on trees, fruit trees, etc.; begin a record, perhaps on blackboard. Fourth year: Continue observations, taking up the farming industries if in the country; times of plowing, tilling, sowing, harvesting, wood hauling, fence building, etc.; making a diary of work in the community.

3. *Scenery, or Conformation of Region.* — Second year: General observations as to contour of country, perhaps as seen from schoolroom windows. Third year: More detailed observations, classifying into swamps, hills, flats, woodlands, river-beds, orchards, grazing lands, etc. Fourth year: Describe the scenery in oral and written work; how the scenery can be improved. Fifth year: Observations on a particular area, one farm, the school yard, the main road, etc.; make charts and drawings.

4. *Survey.* — Third year: Begin a regular "survey" of a brook or other prominent natural feature of the region; it is better if the feature is near the schoolhouse; the first work will be chiefly exploration. Fourth year: Continue survey; begin to take definite measurements of the brook, width, depth, length tributaries, pools, etc. Fifth year: Continue; describe the brook; make charts; determine the drainage basin and how the brook affects its region.

II. ANIMALS

The purposes of the animal work are chiefly three: (1) to determine the animal population of the region; (2) to discover how the animals are related to their environment (ecology); (3) to study particular animals or groups of animals.

1. *Population.* — First year: How many kinds of mammals, birds, insects, etc., does the child know? Let the child be kept on the lookout; train his observation; always include the farm animals within the scope of the observation. Second year: Carry the observation further, with birds. Third year: Further with mammals

Fourth year: Further with fish, frogs, salamanders, etc.; aquarium. Fifth year: Insects; terrarium.

2. *Relations.* — Second year: Where do the different birds live? What do they eat? nesting habits; classify as to habitats. Third year: Same with mammals. Fourth year: Same with fish, etc. Fifth year: Same with insects.

3. *Particular Animals.* — First year: Canary; cat. Second year: Robin; chicken; rabbit; dog; woolly bear; goldfish. Third year: Pigeon or dove; house or English sparrow; frog; turtle; cow; tent caterpillar or cabbage butterfly. Fourth year: Bluebird; blackbird; crow; toad; squirrel and chipmunk; horse and mule; mouse; cricket. Fifth year: Poultry; salamanders; fish; water insects; moths and butterflies; sheep and goats; pigs; woodpeckers, thrushes, warblers, sparrows, and other bird groups.

III. PLANTS

The purposes of plant work are similar to those of animal work: (1) to determine the plant population of the region; (2) plant relation (ecology); (3) particular plants and parts of plants.

1. *Population* — First year: Plant population, as for animals. Second year: Observations with garden flowers and vegetables. Third year: Wild flowers; preservation of the wild flowers. Fourth year: Continue with bushes. Fifth year: Continue with trees.

2. *Relations.* — Second year: As with animals; habitats, etc., particularly with garden plants; distribution of seeds will be an incident in this and succeeding years. Third year: Continue, with wild flowers and weeds. Fourth year: Same with bushes. Fifth year: Same with trees; plant population of hills, swamps, open fields, etc.

3. *Particular Plants and Parts of Plants.* — Second year: Leaves; roots; flowers; seeds; fruits; some common vegetable or grain; strawberry. Third year: Hepatica, trillium, spring beauty, arbutus, or other early spring flowers; pussy willow; dandelion; sod and grass; morning glory; ferns; sweet pea; daisy; asters; goldenrod.

Fourth year: Lilac; rose; elder; willows; snowball; sumac· hawthorn; blackberries; raspberries; currants and gooseberries; virginia creeper; grape vine. Fifth year: Evergreens; elms; maples; oaks; ashes; hickories and other nut trees; fruit trees.

The committee has prepared a number of complete lessons to illustrate "why and how the work may be taken up." One of these we have taken the liberty to reproduce below. The pamphlet, which deals with all the different phases of industrial education in rural communities, is of great value to rural teachers, who should not fail to send for a copy. Get it from the secretary of the N.E.A. It costs only ten cents.

THIRD GRADE: A RAIN STORM

Purpose of the Lesson. — (1) To put the pupil in the right attitude toward weather. (2) To interest the pupil in the changes to be seen in the out-of-doors after a storm; to lay foundations for geography lessons.

The Lesson. — Although discussion of a rain storm may take place profitably in the first and second grades, the best time for continued observation will be the third year in school. Then the pupils are ready to do some independent observing, and they can seek certain definite results of the storm.

The spring shower comes up suddenly; the room darkens and the children cannot see to work. This is the time to have them feel the part that the rain storm takes in their lives. It will be restful to lay all books aside, to clear the desks, and study the shower. Can the rain be heard on the roof? How cheery it sounds! With closed eyes you know that the drops are coming down thick and fast. Let us go to the windows. It is interesting to watch the water dash against the panes and roll down; to see it falling on the trees and flowers; to think what it means to the fields. How fast the streams flow in the gutters and ruts in the road! Why? How muddy the rills and rivulets are! Why? Where are the birds? What a good time robin is having out there in the rain! Do you suppose the

squirrel dislikes the rain? Do the wild animals run for cover? Are the cows and horses in the fields in a hurry to seek shelter from the storm?

The nature of the rain itself should be noted: drops large or small? Very numerous or relatively few on the pane? Does the rain fall straight down or does it come slanting? Does it strike hard? Does it seem to come from a great height, or are the clouds low? Let the first few drops strike on a clean piece of glass, then dry the glass. Is the glass soiled? Why? Catch some of the last drops in the same way.

It frequently happens that the spring showers are heavy and brief. They cease before the close of school. The wise teacher will go out with the children to see the results of the storm. If her class is large, she can limit the observations to one or two definite things; as, for instance, the flowing of the water, making tiny valleys and carrying the waste material; but if there is time, she may take this opportunity for teaching some of the land and water forms, for after a shower these are present in miniature and are best taught afield. If the class is large, preparation for this lesson can be made by means of sand and clay maps, and then the children may be told what kinds of things to seek before leaving the schoolhouse. Young people enjoy a particular quest. Who will be the first to find an island, a peninsula, a lake, a mountain, a valley, a delta, a mountain range? Then will come the question, How are these land and water forms made?

APPENDIX D

The list of shrubs appended below are taken from Hunn and Bailey's *Practical Garden Book* and may be suggestive. They are especially well adapted to Northern conditions:—

Barberries.

Box.

Burning Bush or Euonymus.

Bush Honeysuckles.
Bush Willows.
Caryopteris, blooming in August and September.
Cotoneasters.
Desmodiums or Lespedezas, blooming in fall.
Dwarf Sumac. *Rhus copallina.*
Elders. Native species are excellent.
Exochorda, with profuse white bloom in spring.
Flowering Almond.
Flowering Crabs.
Flowering Currants.
Forsythias or Golden Bells.
Fringe Tree or Chionanthus.
Hawthorns.
Hydrangeas.
Indian Currant. *Symphoricarpos vulgaris.*
Japanese Quince.
Kerria or Corchorus.
Lilacs.
Mock Orange or Philadelphus.
New Jersey Tea or Ceanothus.
Osiers or Dogwoods.
Privet.
Rose Acacia.
Roses.
Smoke Tree.
Snowballs. The Japanese is preferable.
Snowberry. *Symphoricarpos racemosus.*
Spireas of many kinds.
Viburnums of many kinds.
Weigelas.
White Alder. *Clethra alnifolia.*
Witch Hazel. Blooms on the eve of winter.
Xanthoceras sorbifolia.

APPENDIX E

No doubt teachers will be interested in the following brief outline of school garden work from the report of the committee on Industrial Education in Schools for Rural Communities. It is intended for the one-room school: —

The purposes of school garden work may be thrown into three general divisions: (1) to make garden and acquire skill with tools (handicraft); (2) to learn how plants grow and behave under cultivation; (3) to discover what transpired in the garden.

1. *Handicraft.* — First year: Simplest garden operations, as raking, sowing seeds, watering, shading, etc. Subsequent years: The garden work will naturally continue itself, and new problems will come into the horizon of the pupil as soon as he is ready for them. Such questions as staking, tying, thinning, transplanting, planting a bush or tree, distinguishing weeds, kinds of soil, and fertilizing will come up as the work proceeds. In all years window gardens and plant boxes may be a regular part of the school garden work.

2. *How Plants Grow.* — Second year: Germination; seed leaves. Third year: Seed testing; layers; bulbs. Fourth year: Identification of kinds of seeds; cuttings. Fifth year: How different kinds of plants grow and behave; grafting; pruning.

3. *Record.* — Third and subsequent years: A garden record may be begun, at first probably as a blackboard exercise. Each garden worker in fourth year should have a note-book.

APPENDIX F

Jere M. Pound, State School Commissioner of Georgia, on the Future of Agricultural Education in his State. — Jere M. Pound, State School Commissioner of Georgia,

looks for great things from the inauguration of the new thoroughgoing system of agricultural education in his state. In a recent (1907) report to the General Assembly touching the new agricultural high schools, he said in part: —

The future of these schools and their fate depends upon your wisdom. We have classical schools, technological schools, normal schools, — schools of medicine, schools of law, schools of science; but these constitute the only recognition we have ever given in an educational way to a business in which three fourths or four fifths of our children will engage and upon which we all, without exception, must depend. Of course, ignorant men may farm; they may support themselves in this way; they may even appear to make money. But they can do these things only at the expense of the soil. We are now easily in sight of a period when the prevention of soil erosion and waste will become a most vital problem, which shall appeal for solution to every intelligent citizen. Already, as is shown by the census just completed, many school districts of counties in middle Georgia are losing large percentages of their population, for reasons which we need not go far to find. Thoughtless and wasteful methods of cultivation have worn out much of the soil of what was once the choicest part of the state and have left the red hills sterile and gashed and scarred. There is yet fresh land elsewhere. Hence the exodus. But ignorance will soon waste and exhaust that likewise. Then we shall be face to face with the greatest problem that our people must face — the problem of replenishing by artificial means a worn-out land whose forests have vanished in a generation or two through heedless, wasteful, wanton, almost criminal destruction. To dwell upon these things is not pessimism. It is simple prudence. Our own children now in school will live through harder and more artificial conditions than we shall witness. It is, therefore, our bounden

and manifest duty to prepare them for their future, and particularly to prepare that portion of them who through manual toil and labor must make the food supplies for all the rest, so that they may perform their task with a minimum of discomfort and a maximum of profit and pleasure. . . . To such schools [the new high schools] I look for the redemption in great part of our common schools from their aimless wanderings toward unseen ends. Indeed, I regard the effort to inaugurate a thorough system of agricultural education as the kindest and best thing that has been done for the common schools since their inception. I sincerely trust, therefore, that you may find some way to support these institutions liberally, that they may help in the development of the common schools and in the education of our great rural population.

APPENDIX G

The Committee on Industrial Education in Schools for Rural Communities recommended the following general plan for years six, seven, and eight: —

FIRST HALF YEAR: THE AFFAIRS OF AGRICULTURE

The place that the farm occupies as part of the community life. What the farmer's business is; what he does: what he sells; how he spends his year.

What is the nature or kind of agriculture of the particular region.

What outside help the farmer has: good roads; telephones, rural free delivery; experiment stations, colleges; markets. Gather rough statistics from the farmers of the neighborhood. Write up the farms of the district as to history, size of buildings, etc.

SECOND HALF YEAR: THE SOIL

Here may be introduced many experiments as to the physical conditions and texture of the soil. Soils of the neighborhood must be gathered and classified.

Let the pupil classify the soils on his own farm and make a chart as to the soil distribution.

General ways in which the soil is improved as to plowing, tilling, rolling, cover-cropping, fertilizing, and the like.

SECOND YEAR: FARMING SCHEMES AND CROPS

The general layout of the farm: rotation schemes and mapping. Farm crops: the crops or their products themselves to be studied, sometimes in the schoolroom. Ears of corn, for example, may be studied and "judged" as a part of the school exercises. The same may be done with potatoes, grains, and fruits.

The crops to be studied as they are grown in the community; let each child report on the crops and the cropping schemes of his own farm.

THIRD YEAR: ANIMALS

What animals are a part of the farm enterprise, and why.

What relation these animals bear to rotation of crops or other farming schemes. Relation they bear to the fertility of the land. Relative importance of different kinds of animals, and why they are raised.

Some general studies of the different breeds of animals and also "points" of specific animals and something of the judging of animals. Some observations may be made on feeding and the like.

A good text-book treating in a simple way the soil and the plant life of the farm may be used with profit to supplement the actual study of the things themselves.

Supplementary reading matter, treating country-life subjects, may well be used in connection with this work.

APPENDIX H

The following are some of the problems made use of by Mr. Lyon. As they are full of suggestions to the teacher, they are herewith repeated: —

Air:

Test for moisture.

Test for carbonic acid gas (limewater, etc.).

Tests for ammonia (in schoolroom and in cow stables).

Seeds:

Germination. (Find per cent, etc.)

Manner of growth (monocotyledons, dicotyledons).

Plants:

Water taken from soil. (Use scales.)

Transpiration. (Collect H_2O.)

Examination of nodules on leguminous plants.

Effect of nodules on luxuriance of growth.

Soils:

Search for water-table — different places and times.

Test with litmus paper.

Effect of lime or ashes on clay soil.

Effect of lime on clear and on muddy water.

Correct acidity with lime or ashes. (Result observed in growth of clover.)

Capillarity under different conditions.

Milk:

Babcock test.

Drill in making measurements, reading bottles, computations.

Test acid with acidometer.

Acid test.

Correct measurements, computations of acid.

Milk at different ages.

Under different conditions of cleanliness and temperature.

Bottle and cork tight; keep warm; observe odor; use different samples to compare.

Water:

Test for organic matter.

Bottle with a little sugar; keep warm; observe color, etc. Use potassium permanganate.

Osmosis:

Using egg.

Using bladder.

Fungicides:

Formaldehyde for oats smut.

Hot-water oats smut.

Bordeaux for potato blight. (Use ferrocyanide test.)

Computations in each case.

Chemical Action:

Caustic soda solution plus muriatic acid.

Evaporate; find the salt.

(Can teach chemical formula of this even at 10 or 12 years.)

Commercial Fertilizers:

Handling and mixing — nitrate of soda, muriate of potash, and dissolved rock. (Computations.)

Cows:

Dairy type. (Examine form, milk veins, hide, etc.)

Beef type.

Weather Map:

Receive daily maps and determine location of storm center.

Physical Experiments of various kinds taken from books on physics.

Make suction pump with lamp chimney, etc.

Garden:

A grass plot has been substituted for the school garden, where farm grasses, fertilizers, and seedlings may be studied.

APPENDIX I

ART WORK

In almost all rural localities the following lines of work may be introduced with slight tool equipment: —

Primary:

Clay molding, with local clay.

Paper cutting, design, representation, free hand.

Brush drawing, objective and subjective.
Charcoal and chalk painting.
Color study.
Design cutting.
Paper picture work.

Grammar Grades:

Subjective expression with geometric *motif.*
Clay molding, objective, subjective, and illustrative.
Brush drawing, line drawing.
Free-hand drawing.
Sketching.
Charcoal tone study, picture making.
Pencil painting.
Design.

MECHANISM

Primary:

Simple wood construction, with prepared stock and nails, local material.
Paper cutting, folding, pasting.
Paper construction.
Pasteboard construction.
Spool knitting, braiding, weaving with twine and string that the children have collected.
Textile art work, primary.
Constructional needlework, primary, with material that is furnished by the child.

Grammar Grades:

Three-sixteenth stock whittling.
Fret sawing.
Clay carving, wirework, grass, husk, straw, willow, or other fiber basketry. Design.
Knife carving.
Heavy whittling.
Bench Sloyd.

Domestic art, ornamental and constructional.

Gardening, primary agriculture. Perhaps at first at home of the child, on small plot.

Cooking, primary domestic science.

The above is designated to be correlative on all possible subjects of the schools.

It is not the design that all the course work mentioned be given at one time. The work is selected by the district teacher with reference to possibilities.

As many phases of work as possible should be given the child during the elementary school period, for by this means the hand receives a broader, more sensitive training.

APPENDIX J

SIMPLE RULES BY WHICH TO RECOGNIZE SYMPTOMS OF SOME COMMON DISEASES

Diphtheria. — It is an easy matter to ascertain whether or not the throat is inflamed, because a child suffering from this cause will generally complain that the throat is sore. While this sign may sometimes fail, yet it is generally true that a child with a sore throat, accompanied by a foul breath, is a possible victim of diphtheria, if the throat shows patches on the tonsils or in the back of the mouth. Diphtheria, however, may exist without this condition, and it is, therefore, necessary, in case of suspected sore throat, especially if the disease has appeared elsewhere in the community, to isolate the case until a physician has passed upon it. The diphtheric sore throat is generally inflamed to a dark red.

Scarlet Fever. — The early manifestations of scarlet fever are usually associated with throat symptoms, headache, and fever. The throat is bright red. The tongue is mostly clean and of a strawberry hue, although this symptom does not always appear in the early stages. One of the earliest manifestations is the flushing of the face and the appearance of red spots on the neck, arms, and body.

When a child who has suffered from the disease returns to school, it should not be admitted if its skin is still scaling, as it is a generally recognized fact that the scales carry disease.

Measles. — This is generally preceded by fever, followed by the appearance of a dark red rash and by sore throat and eyes. The symptoms are not usually so pronounced as in scarlet fever, but the case is, as a rule, to be diagnosed by the rash.

Tonsilitis. — This disease is generally accompanied by lassitude, high fever, and enlarged tonsils. While children suffering from tonsilitis often remain in school during the entire progress of the disease, yet its spread in a school can often be prevented by immediate detection and isolation.

Other common and important contagious diseases are: whooping cough, mumps, smallpox, itch.

Mumps may generally be recognized by a swelling above the angle of the jaw and below the lower point of the ear, which, upon pressure, is extremely painful. The sufferer should be sent home at once.

Whooping Cough. — Patients should be at once isolated from the school, and, as in other cases of contagious disease,the other members of the family not affected by it should be kept at home as long as it exists. The disease manifests itself in a series of short, spasmodic coughs, followed by a long inhalation and a whoop.

Smallpox is hard to recognize in its early stages, but may generally be detected by patches on the palms of the hands and soles of the feet. It also invades the mouth and throat. Vaccination should always be insisted upon for schools in communities visited by smallpox.

Itch can ordinarily be detected by the teacher. It occurs on the arms and hands, especially between the fingers, and the excessive itching causes the child affected to scratch the sores, and so keep them open. The child should be sent from the school, and should be attended by a physician until well. In no case should articles handled by the patient be used by the other members of the family.

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