

THE TRAINING OF FARMERS

BY

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OF FARMERS**

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The so-called rural problem is one of the great public questions of the day. It is the problem of how to develop a rural civilization that is permanently satisfying and worthy of the best desires. It is a complex problem, for it involves the whole question of making the farms profitable (that is, of improving farming methods), perfecting the business or trade relations of farming people, and developing an active and efficient social structure.

As the problem is complex, so there is no simple or easy solution. The present status is, of course, a phase or stage in social evolution; and the improvement of the condition must be a process of further evolution.

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The existing condition is not inherently bad or ineffective, as a whole; but in some of its aspects it is relatively inefficient and undeveloped as compared with the best urban conditions. It is not because the rural status may be less or more efficient than city conditions, however, that I am interested in it, but rather because it is not what it is capable of becoming, and is therefore in need of improvement.

The rural problem is being attacked on many sides by very many persons. In this book, I speak of only one phase of the problem,—the means of training the farmer himself, both as a craftsman and as a citizen. From the point of view of the college and school I have contributed several articles on the subject to *The Century Magazine*. With these articles, I have now incorporated others that discuss the same general subject, together with much new writing, so that the whole may comprise a homogeneous statement. I hope that these contributions may have more value rather than less from the fact that they have been separate studies, made at long enough in-

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tervals so that the conclusions have had time to season. I have discussed some of these questions in "The State and the Farmer"; but in the present book I bring the subjects together for the purpose of showing some of the means now in existence whereby farmers may be trained. The future will develop other means; I am here speaking of what it is possible and practicable to do in the present state of society.

THE NATURE OF THE PROBLEM

IF the betterment of rural conditions is a process of evolution, then all persons who are to be concerned in the evolution must take active part in it if they are to enjoy the benefits of the progress; and I like to think that each person will enjoy these benefits in about the proportion that he actively participates in the work of reconstruction. That is to say, we all bear a natural responsibility, as citizens, to forward the rural status as well as the urban status; and this responsibility rests specially on all those who are near the problem or are a part of it. The countryman must not be one of a recipient or receptive class, but he must himself promptly help and cooperate to solve the rural problems and to discharge his full obligations to society. This is in large part the theme of the book.

Even a farm is not a private business in

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the sense that it should be absolved of responsibility to society and be outside all regulations in the interest of society.

The schools and colleges

Schools, colleges, experiment stations, departments and bureaus devoted to agriculture and country life are now many and they are increasing. They mark a distinct advance in the application of knowledge and teaching to the plain daily problems of the people. They are rapidly becoming the best expressions of the social responsibility of government. Their work is free of cost to individuals; and in this fact lies a danger, now becoming real, that their benefits will be accepted as a matter of course and of right, and that the individual will not contribute in return as much as he is under obligation to contribute or as will make the help that he receives of real value to him; for I assume that when a person receives personal help and encouragement from society (or government) he contracts an obligation to aid society and his fellow man. The institutions will render the best service

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when they help persons to help themselves and when they stimulate active local initiative on the part of those with whom they deal or work.

The indigenous forces

If the countryman is to be trained to the greatest advantage, it will not be enough merely to bring in things from the outside and present them to him. Farming is a local business. The farmer stands on the land. In a highly developed society, he does not sell his farm and move on as soon as fertility is in part exhausted. This being true, he must be reached in terms of his environment. He should be developed natively from his own standpoint and work; and all schools, all libraries, and organizations of whatever kind that would give the most help to the man on the land must begin with this point of view.

I will illustrate this by speaking of the current country movement to revive sports and games. More games and recreation are needed in the country as much as in the city. In fact, there may be greater

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need of them in the country than elsewhere. The tendency seems to be just now, however, to introduce old folk-games. We must remember that folk-games such as we are likely to introduce have been developed in other countries and in other times. They represent the life of other peoples. To a large extent they are love-making games. They are not adapted in most cases to our climate. To introduce them is merely to bring in another exotic factor and to develop a species of theatricals.

I would rather use good games that have come directly out of the land. Or if new games are wanted I should like to try to invent them, having in mind the real needs of a community. I suspect that suggestions of many good sports can be found in the open country, that might be capable of considerable extension and development, and be made a means not only of relaxation but of real education. We need a broad constructive development of rural recreation, but it should be evolved out of rural conditions and not transplanted from the city.

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Individualism

We are gradually evolving into a social conception of government, by which I mean that the inherent rights and welfare of all the citizens are to be recognized and safeguarded and that the whole body of citizens shall work together coöperatively for these common ends. Privilege and opportunity belong to every man, according to his ability and deserts. It is a common misapprehension that this gradually approaching social stage will eliminate individualism and that its methods will constitute a leveling process; but individualism and social solidarity are not at all antipodal.

Individuality and personality are much to be desired, and we are under obligation to see that they are not lost in our progressing civilization. The farmer is the individualist. His isolation, and his ownership of land and of tools, make him so. He may lose his individualism when he attempts to dispose of his product, but he nevertheless retains his feeling of individ-

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uality and independence throughout life. He may even resent any inquiry into his welfare by government, even though it is apparent that the sole purpose of the inquiry is to aid him. We need to preserve and even encourage the spirit of independence, at the same time that we forward the social cohesion and working together of farmers on all points of mutual or collective interest. The educational and other institutions should help to do these two things,—to assist the farmer to rely on himself and to be resourceful, and to encourage him to work with other farmers for the purpose of increasing the profitableness of farming and of developing a good social life in rural communities.

Not an "uplift"

It will be seen at once that this is not at all a question of "uplift," as this word is commonly understood. The rural question is broadly a problem of stimulation, redirection, and reconstruction.

Nor is it, therefore, merely a problem of technical agriculture as an occupation,

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although, of course, the whole rural condition rests on the agricultural condition. All citizenship must rest ultimately on occupation, for all good citizens must be workers of one kind or another, and there must be no parasitic class. The question directly concerns all persons who live in rural communities, whatever their occupation, and it concerns them in all their relations,—in relations to church, school, co-operation, organization, to politics and all public improvement, and in the general outlook on life and the attitude toward all matters that affect the general welfare.

It is not a problem merely of the thinly settled farming regions, but of the entire country outside distinctly urban influences, comprising hamlets, villages, and even small cities that sit in an agricultural region and are controlled by agricultural sentiment. To designate this extra-urban realm I have used, for several years, the term "the open country," and this has now become current in this semi-technical or special signification.

Considered as a whole, the people

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of the open country have not yet arrived at a conception of a thoroughly social or coöperative society. The farming people have been obliged—and are still obliged—to give too great a proportion of their thought and energy merely to making a living. They have not entered on the social phase and they scarcely know what it means. They are tied to the daily routine both because they have not learned how to organize and conduct an agricultural business effectively, and because they are preyed upon and subjugated by interests that control distribution, exchange, and markets and that divert or exploit the common resources of the earth.

The farmer must be aided in his business of farming, and the artificial hindrances that are not a part of this business must be removed or checked by government; then he must be made to feel that he is to give of his time and talent to the community. In the largest sense, no person is a good citizen, whether in country or town, who merely has good character and is pas-

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sively inoffensive and is a "good neighbor." He must be actively interested in the public welfare, and be willing to put himself under the guidance of a good local leader, if he does not himself attain to leadership.

THE INSUFFICIENCIES IN COUNTRY LIFE

A FEW months ago I attended a meeting in one of the best parts of the corn-belt, that was called for the purpose of discussing the condition of country life in that region. The first testimony of those who spoke was uniformly to the effect that farm life in that part of the world was all that could be desired. All farmers who had given any worthy attention to their business were prosperous, farms were paid for, the men had the best of turnouts and some of them had automobiles, and many of them not only had money in the bank but were bank directors or concerned in other important business enterprises. The farmers were not complaining, and town people considered farm land to be a good investment. In fact, the farmers were so prosperous that they were able to move to town at fifty years of age.

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I asked why they desired to move to town. The answer was, to secure good school facilities, to escape bad roads and isolation, to have church privileges and to be able to enjoy social advantages. In other words, the country life of the region was successful only on its business side, and a satisfying rural society had not developed. The town was the center of interest. The country was not sufficient unto itself as a permanent place of abode.

The better country life

What I mean by a better country life is a rural civilization that meets the needs of the twentieth century, and that is able to hold the center of one's interest throughout life. Primarily, it must be profitable in money; but it is not a good civilization until it develops good social and educational institutions of its own, directly from the resident or native forces, and until it appeals both to youth and old age because of its intrinsic attractiveness and advantages. A civilization of this kind will be the country life of tomorrow.

THE INSUFFICIENCIES

Striking insufficiencies

The most apparent deficiencies are lack of effective rural institutions, as of really live and progressive social organizations, churches and schools; but all these are of course dependent on the earning-power of the farmer; and this earning-power is conditioned on the freedom and fairness with which the farmer may conduct his business, as compared with other men. The middleman system needs to be overhauled and the abuses removed. This ought to come about through the operation of a public-service commission or similar body. Foreign markets should be opened. The inequalities of taxation should be evened up. The discriminations in transportation rates and regulations must be corrected by the constant oversight of some competent authority. Parcel posts and postal savings banks must be provided. A useful system of agricultural credit and banking needs to be worked out. Injustices in general legislation that bear specially heavily on the farmer need to be corrected. Monopolistic control of streams,

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forests, lands, and other resources must be regulated. Good highways and other means of communication are to be provided. Sanitary conditions are to be studied and supervision provided for public health in the open country. Intemperance must be reduced. The labor and immigration problems as they affect agriculture are in great need of thorough study. The woman's part in farm life must be redirected. The scenery attractiveness of the farming country should be appreciated, and the landscape features preserved and improved. A new rural architecture must be developed. There is the greatest necessity for a more fundamental, accurate, and understandable knowledge of the processes of farming, to the end that a perfectly rational agriculture may be developed. The countryman of the future must be trained for his work.

I am not to be understood as saying that all these shortcomings characterize all agricultural regions. In some country communities, they are not marked; but, on the whole, the rural social structure is unde-

THE INSUFFICIENCIES

veloped, and even some of the most prosperous or profitable agricultural regions are the most barren of social and intellectual resources.

How to bring about reconstructive ends is now the problem; but it is certain that the essentials of the problem are these: (1) better knowledge; (2) better education; (3) better and completer organization; (4) quickened social and spiritual forces.

I shall now name some of the public agencies that may help to bring about the new order.

PART I
THE MEANS OF TRAINING
FARMERS

THE MEANS OF TRAINING FARMERS

The farm home itself is the most important training place for farmers; but in this book I am not considering personal and domestic questions. The training of the farmer must be largely in the hands of government (or society), both because the stimulation and direction of persons who need stimulation must come from the outside, and because government can command the services of leaders and experts. Government will not impart information alone, but it will set up local organizations and institutions to apply the information and to set the people to work.

It is essential that government should train farmers because this is the readiest and most effective means, in the long run, of saving our natural resources, and because the rural problem is in the best sense a national problem and on its solution rests the permanent welfare of society.

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As a means to these ends, government should encourage all voluntary efforts of the people of the communities. In North America, the governmental activities have outrun the organized voluntary activities. This is rather remarkable in a country in which the theory of government has been to govern as little as possible. Yet it should be explained that these governmental activities are not a part of "government" in the narrow sense of official procedure, control, and paternalism, but are institutions of public betterment maintained by the people.

The most direct means of training farmers is through the schools and colleges of various kinds. There are many other means, however, although they may not be recognized as such; I propose now (in Part I) to enumerate enough of these to explain what I mean, and then to pass (in Part II) to a fuller discussion of regular educational agencies.

I shall not enter into any argument to show that it is necessary to train farmers. I presume that there is no disagreement on

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this point. I assume that farmers, as other men, must be trained if they are to be effective workers in the world. From the point of view of society, it is essential that farmers be trained in order that the fertility of the land—on which the existence of mankind depends—shall be safeguarded. Other interests have been the beneficiaries of protection and special privilege; the training that the farmer receives is calculated to develop the man himself rather than to succor and shield his business.

RURAL GOVERNMENT

THE American system of government is theoretically a process of self-education. All rural government should produce improved conditions of living in country communities. Unfortunately, parts of it have fallen into the hands of men who seek mere personal advantage, and to that extent the system has been deflected from an organism to serve and develop the people into one that serves to place men in power; it has to this degree ceased to be educational, and therefore has missed its function.

The subversion of government is specially marked in many rural communities, where local incentive is often so completely stifled by machinery, domination and custom that the community is unable to work out any real improvement in its condition. There is a general lack of any fundamental

RURAL GOVERNMENT

or structural plan to improve the neighborhood in a broad or effective way. The county board of supervisors, or equivalent group, for example, is not usually a body that is much concerned with any large plans for the development of the county as a whole; each supervisor is likely to be chiefly concerned to force down the expenses in his own township and to put the cost of improvements off on somebody else. This spirit runs through rural government. In most cases, such government is dead, as compared with what it might be.

We hear much of boss rule and of graft in municipal politics, but it is probable that the difficulty is as great in rural politics in proportion to the population, to the opportunities, and to the stakes that are involved.

The whole country status should be brightened up and loosened up, with new life put into it. I doubt whether this can come about until we evolve different processes in government of rural communities. We may even need new schemes of government in these communities. I am not at

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all sure that the schemes now chiefly in vogue are such as are designed to develop a new structure of society or to encourage the best leadership; they certainly have not proved themselves. We are beginning to study *municipal* government; we are in equal need of a fundamental reconsideration of the way in which rural communities may be governed. To this subject I hope to return at some future time.

THE RESPONSIBILITY OF STATE GOVERNMENT AND OF PUBLIC INSTITUTIONS

A MODERN government not only administers and executes, but it develops the business and the welfare of society. There is an educational side to government that we will recognize more clearly as time goes on. Public institutions bear a responsibility to the community aside from executing their own plans or performing their legal functions. I will first illustrate this by speaking of the idle farms belonging to the public or semi-public institutions. Now that we are beginning to recognize the very great importance of "demonstration farms" as means of teaching the best agricultural practice, the state or institutional farms assume a new significance.

1. PUBLIC DEMONSTRATION FARMS

The United States Department of Agriculture, experiment stations, and agri-

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cultural colleges are beginning to establish demonstration farms to teach the people in the localities. Every public institution that owns a farm should contribute to this movement. There are prison farms, asylum farms, almshouse farms, and other land properties, comprising many thousands of acres and located in all parts of the states, that might be local teaching agents. It is not enough that public farms of this kind be merely well farmed (some of them do not even meet this requirement); they should all be demonstration areas, at least in part, to exhibit and explain to the communities the newer and better facts of agriculture. They should have some kind of relation with a supervising educational institution, and their work should be broadly organized on an educational basis.

We need to go still farther than this. There are thousands of good acres of land in the states, located directly in the centers of the best communities, that are used only one week each year and even then perhaps with little effect on the betterment of coun-

RESPONSIBILITY OF GOVERNMENT

try life. These properties belong to the fairs. It is apparent that here is also an enormous property and opportunity that might be made of direct and continuing use to the people of the communities. It would be possible in many cases to grow experimental crops on certain parts of the fair grounds, to be standing in exhibition when the fair meets; or if not that, certainly the entire grounds could contribute to the public good fifty weeks in the year if they were carefully laid out with trees and shrubs and kept open as exhibition parks. All of them could in this way become test grounds and recreation grounds. They should be tied up to the idea of public betterment. And the fair itself should be so directed as to be an educational enterprise: there is no other reason for holding a fair. No country-life institutions are so expensive for the length of time that they are in service for the public as the fairs. We may look for the time when the fairs themselves will be more continuous, with educational exhibitions given at intervals throughout the year when their effect will

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be greatest. All exhibits should be explained by a good teacher.

An inquiry in an eastern state (not yet complete) shows that at least 156 public institutions have farms, aggregating more than 25,000 acres, and only three of the institutions are conducting agricultural experiments. Of semi-public institutions, twenty-one have farms, with more than 2,500 acres, but no experiments are conducted. Two of the institutions that make experiments are poor-farms or almshouses and one is a state school. Of the sixty-two fairs reporting, none conducts tests or experiments on the grounds.

2. INVENTORIES OF RURAL RESOURCES

The government of the state has a larger responsibility to the country problem than merely to turn over the rural institutions to the general good. It must set constructive forces in motion. It must develop the business and welfare of country life.

RESPONSIBILITY OF GOVERNMENT

We must know exactly what our resources are. We are accustomed to geological surveys and to censuses to count the voters and make apportionment of voting districts. We inventory our mineral resources. But we have no accurate knowledge of the soils in the different localities, of local climate, the wealth of localities in the way of woodlots and small streams, the feasibility of developing small industries in the communities (and the open country needs new industries and new interests), no good studies of local markets or of the kinds of agriculture that it would be best to encourage in any section.

The central experiment station or college engages in the discovery of principles, but it may not be able to apply them in other parts of the state, because it has no specifications of conditions in these parts. Neither has the farmer himself any adequate concept of the conditions, because no one has given him the knowledge and no one has it to give. We are now passing the stage of exploitation in agriculture. We are rapidly coming to a time when spe-

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cial skill must develop on our farms. This skill is, of course, conditioned on local knowledge. The greatest fundamental need in country life is a thorough-going survey in detail of our agricultural resources. Something is being done in this direction by the colleges of agriculture, but it is pitifully small when compared with the needs. Within such a survey scheme should be included, as component parts, all soil surveys, orchard surveys, live-stock and dairy surveys, and whatever other systematic studies are made of the products, industries, people, and institutions of the localities. All this geographical knowledge should be mapped and platted.

An agricultural survey of national scope should be set on foot, with all the states coöperating. The work should be nationalized under the United States Department of Agriculture. A well-analyzed plan should be made by a committee of competent persons representing many regions and many lines of study. The scheme having been perfected, the work could proceed systematically year after year, each state

RESPONSIBILITY OF GOVERNMENT

completing its own field as rapidly as it chose. Certain phases or parts of the investigation could probably best be carried by the national government. The important considerations are that the plan shall be well studied, the work correlated, and the movement progressive. It will be only when we collect and compare such data that we can hope to take the best steps to establish a thoroughly sound country life in the localities.

3. ATTITUDE TOWARD THE FARMER IN LEGISLATION

Because the farmers are not organized, their interests are likely to suffer or to be overlooked in the making of legislation. I will illustrate what I mean by the game-law legislation. No type of legislation seems to be in a more hopeless or chaotic condition than that relating to the preservation of small game. Laws are enacted that apply to particular localities and not

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to localities adjacent to them, or that please a certain set of sportsmen, or that have certain special interests in mind. Now, small game is to a large extent a natural product of farms. All game is a product of the earth. So far as the earth is owned for productive purposes, it is controlled by the farmer. The general result of game-law legislation and agitation is to antagonize the farmer against the sportsman, whereas their interests ought to be harmonized and unified. There must be fundamental principles on which such legislation may rest, and these principles would necessarily recognize that the farmer has rights as well as the sportsman. Laws so made would put the farmer and the sportsman into sympathy and cause them to work together to the betterment of each.

The reader can extend this observation to many other forms of legislation.

THE READING HABIT

WHAT the farmer reads has great influence on his training. The libraries carry a distinct obligation here, particularly since traveling libraries and rural libraries are being greatly extended. To a large extent the effect of library work is to cause persons to read for entertainment. The countryman, however, needs to read for courage, that he may overcome his fatalism and inertia. Herein is where library schemes are likely to be fundamentally weak, if in fact not radically wrong for the countryman. I would not eliminate the natural desire of anybody to read for entertainment; but I would make a special effort to develop in the countryman a habit of reading such things as will give him personal mastery over his conditions.

Rural literature

There is very little good literature that is specially adapted to rural communities

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except the technical agricultural books and bulletins. It is often said that farm homes are greatly lacking in books and in magazines. This is often true. One reason is that there is so little literature that is really applicable to the farmer's general condition and also because his whole training leads him to think in terms of experience rather than in terms of books. There are many farm homes that are well supplied with good literature, and the number is rapidly increasing. In the old days one would be likely to find a copy of "Pilgrim's Progress," the novels of Scott and Dickens, a copy of "Robinson Crusoe" and other books of the earlier order. The Bible is found everywhere, but it is too often read in the country, as in the city, from the point of view of "texts" and not interpreted in terms of present-day life. If I were making out a set of books for reading anywhere, I should want to include some of the modern expositions or adaptations of biblical literature in order that the Scripture might be made applicable and vital to the lives of the people.

READING HABIT

The novels have no special relation to the actual conditions under which the farmer lives. I would not advise that all reading have relation to the life of the present, but some of it certainly should be applicable in order that it may have meaning. We have very few good novels depicting the real farmer. A good many farmer characters have been drawn, but most of them are caricatures, whether so intended or not, and present a type of life and a vocabulary which, if they exist at all, are greatly the exception. Common novels are likely to be exotic. A good part of them are read because they are the best sellers of the time.

The bulletins of the experiment stations and departments of agriculture are now widely distributed; but they are not read as much as they ought to be. This is in part because the mailing lists are not selective, and in part because the reader may have no fundamental knowledge to enable him to use them. In many cases the bulletins themselves are unreadable and are only reference texts.

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We have practically no good poems of American farm life. A poem of the plow-boy is very likely to be one that sees the plow-boy from the highway rather than one that expresses the real sentiment of labor on the land. I do not know where I can find a dozen first-class poems of farming. Farm poems usually are written from the study outward, and by persons who see farming at long range, or who come to it with the city man's point of view.

The nature books are largely forced and lack personality. There are, of course, distinct exceptions; but taking the books as a whole my experience seems to justify this judgment. We need native and sensible books with country direction in them. We need something like the Burroughs mode applied to farm operations and farm objects.

Of late the reportorial type of literature has forced itself into country-life subjects. The reporter discovers a high point here and there, does not understand relationships, writes something that is effervescent and entertaining and very likely mis-

READING HABIT

leading. The "wonders-of-science" idea has also expressed itself in agricultural writing, and we are beginning to produce a type of literature that is unsafe. Some person who is doing good quiet work in the improving of crops, or in other agricultural fields, is likely to be discovered by a facile reporter, and his work may be made to appear as a sensation.

We have no history of farm life or farm people. I have recently been much impressed with this lack, when I have been trying to find biographical data of a great many persons who have had much influence in developing good country life in North America. The careers of these persons do not appear in our standard biographies, although persons who may have accomplished much less may be included. The result is that no ideal of leadership in agricultural or country-life affairs is put before the boy or girl. The biographies that the youth reads are of persons who have made their way in other careers. Yet, as a matter of fact, scores of persons whose names are unknown to the

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standard books have exerted an influence that is truly national in its character. These persons should be listed among the heroes to whose accomplishments the young generation may aspire.

There are gilded publications that appeal to city persons who have an extrinsic interest in the country, or to those who have abundant money to spend; but they exert little, if any, influence on the development of a native country life.

The agricultural press is now very extensive and is contributing to the developing of the reading habit, at the same time that it spreads information and puts the reader in touch with current topics.

We need a high-class journal of a new type that will interest men sympathetically and psychologically in farm life, devoting only a secondary part of its space to the smaller questions of technical farming.

Another mode of developing the reading habit is by means of reading-courses and reading-clubs, which are now beginning to be organized by the agricultural colleges. These are likely to have great influence in

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rural communities because (1) they are directly related to the life of the people, and (2) because they are dynamic or have an active follow-up system.

Need of organization

Every social or educational organization that exists in the open country should be a means of developing and spreading the reading habit. Local granges should be reading centers. The farmers' institutes should leave behind them some kind of an organization that will continue the work of the institute and develop the reading habit. All country churches, and all country schools, should also be agents in the same cause. All these organizations should be made distributive centers for good literature. They should all aid in distributing the bulletins of the experiment station of that state. The local library will often be able to distribute the experiment station bulletins much more effectively than the experiment station itself, because the library should know the local needs and the habits of life of its constituents.

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We are much in need of a coördination or association of all these various efforts. If there is no formal organization as between them all, I am sure that there should be a coöperative interest between them so that they will all work together harmoniously toward one end. All these agencies should be active. They should know what other agencies are doing. Each one of them should preserve its full autonomy, but it will do more concrete work if it knows its own field, and will be stimulated to greater effort if it knows what other organizations are doing.

The libraries

There should be a library in every rural town. This library should have relation to its community, as a school or a church has. It should be an educational center.

The traveling libraries have provided a new way of developing the reading habit in the country and in remote towns. It undoubtedly has had great influence, although I think that the character of its literature needs to be reconsidered.

If libraries and librarians are only a

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means of distributing books, all that needs to be done is to perfect the machinery or the mechanics of the work. If they are to energize the people and to redirect the currents of local civilization, they must do very much more than this. They must inspire the reading habit, direct it, and then satisfy it. We need not so much to know just what kind of books to put in the hands of readers as to establish a new purpose in library effort. It is not enough to satisfy the demands of readers: we must do constructive work by creating new demands.

The world outlook

Of course, I would not limit the countryman's view to his own environment. I would begin with the things at home, as I would begin to teach the child by means of what is within its range; and then I would lead out to the world activities. There is every reason why a farmer should have as broad a view of life and of the things that lie beyond as any other man has, but this comes as a natural extension of his proper education.

HEALTH CONDITIONS IN THE OPEN COUNTRY

IN our approach to country-life questions, we have largely overlooked the subject of the physical efficiency of country people; yet here is a problem of fundamental importance, and attention to it by all public agencies becomes at once a powerful factor in education. The rural districts cannot develop to their greatest possibilities until every precaution is taken to preserve the health of the resident inhabitants. This is nowhere more marked than in the necessity of controlling the farm-labor supply. The excessive death rate among children, which obtains in some parts of the country, may be a direct cause of scarcity of farm labor. We must also develop strong and resistant bodies at maturity in order that the real work of the farm may be well accomplished. Public health is one of our greatest natural resources, as important to conserve as iron,

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coal, or timber. No doubt our greatest national loss and waste lies in disease and reduced bodily efficiency of the *citizens of the Republic*.

The sanitary condition of the open country is also of the greatest importance to the city and the town. From the country are derived water, milk, and nearly all the food consumed in the cities. The condition of these supplies is of the greatest consequence to every person living in an urban community. As society becomes better organized, every member of it bears increasing responsibilities toward the other members. Therefore there is a distinct brotherhood responsibility on the part of the country toward the healthfulness of urban regions; and a no less reciprocal responsibility on the part of the city toward the country.

I do not know whether the health conditions of the country are worse than those of the city; I make no comparison whatever as between rural and urban communities. I mean only to state what some of the country conditions are.

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1. SOME OF THE SPECIFIC HEALTH DEFICIENCIES

I will mention some of the deficiencies of public health in rural districts. In making these remarks I do not have in mind merely the question of disease. I wish to consider the whole question broadly, to include the lack of physical efficiency in whatever way it may be expressed.

Physical training

There is a widespread lack of appreciation on the part of the farmer of the necessity of good physical training. He is likely to feel that because he leads an outdoor life and has muscular exercise, he does not need to give attention to physical development. The fact is, however, that the farmer is as much in need of "setting-up" as any other man. His routine work may not contribute to the development of a well-proportioned and strong physique. The number of ill-formed, broken, lame and imperfectly developed men and women im-

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presses this fact. The modern riding machinery has not contributed to the physical development of the farmer. One has only to note the posture of the man as he sits on the plow, the reaper, or the wagon-seat to see that this is true. He is likely to take the position of a horseshoe rather than to sit upright with straight back and well-carried shoulders. We need to give more attention to the mode of construction of seats on our farm machinery and vehicles. The man who follows the plow is very likely to fall into a loose and shambling gait, with stooped shoulders and an unequal poise of the body; the plow-handles are perhaps too low to allow him to stand erect and carry himself well. The lack of good posture and good carriage (both of which contribute greatly to physical efficiency) is also marked in most housewives. They have not learned how to stand or to walk or even how to sit. Directors of gymnasia find that country youth usually need a radical setting-up, even though they may have strong muscles, clear complexions, and robust health. If, in addition to these use-

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ful native qualities, the young man or young woman could acquire the proper physical carriage and development, much would be gained toward resisting the demands of later life. The farmer is likely to be careless of his body.

I do not know whether any careful statistics have been made comparing the physical development of farm folk with other folk. It is not unusual for persons of good observation and in full sympathy with rural conditions to say to me that the physical health and development of farm people is lower than of other people of comparable position in life, although this is contrary to the prevailing opinion. It is said that flattened chests, spinal curvature, weak arches of the feet, and similar deficiencies, are marked in certain classes of students coming largely from rural districts. It is a current saying that the isolation drives many farm women insane; this, I think, is an error. If it is true, it affords the best possible argument for such an educational program as will give the

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woman new interests in life; there is no doubt about the necessity of the program, from every point of view.

Long hours

As a whole, the farm exacts too long hours of work to enable the farmer and his wife to develop the best physical resistance. They become fagged; they have too little time and strength to give to recreation, reading, and to intellectual pursuits in general, thereby making life exclusively physical. A shortening of the hours of labor must come about through a general reorganization of the farm scheme following the gradual application of science and business to the work of the farm. In some of the best farming regions, a farmer's day does not now average more than about nine and one half hours. It is especially necessary that woman's work be so reorganized that she will have time enough and strength enough to enable her to take part in some of the larger affairs of the community. There is no one way whereby the farm work and

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the housework can be reorganized, but the reorganization must come as a matter of necessity.

We are now making the mistake of trying merely to improve the present order, whereas we need to develop a new point of view and to realize that all our systems and modes of life must change in order that they may be adapted to changing conditions. At a time when there is a marked tendency to shorten the hours of physical toil and expand the intellectual opportunities, we cannot expect that the farmer will be an exception, although his hours can never be arbitrarily regulated.

Cleanness

Greater attention needs to be given to common cleanliness. The whole question of sanitation is said to be one of cleanness, although this statement is too sweeping. I have in mind not only bodily cleanliness, but also the general appreciation of the importance of tidy and well-kept surroundings. This is fundamentally a question of attitude toward life, but it also has very

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distinct special bearing on the spread of disease. Whether in city or country, the first essential to conditions of good health is the elimination of all wastes, the destruction of all rubbish and refuse, and the free use of water, soap, and disinfectants.

Many uncleanly personal habits must be overcome and banished from rural communities. In the remoter parts, these habits are likely to persist. Perhaps nothing has done more to challenge attention to the essentials of cleanliness than the recent agitation for "clean milk." A man cannot make clean milk without himself being clean; and being clean of germs in person and in barns, enforces a wholly new conception of what cleanliness is. The agitation against promiscuous expectoration should be extended to the country districts, not only for protection against tuberculosis but to enforce standards of decency. A sensitive civilization cannot be developed in a spitting community.

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Good air

There is still great need of emphasizing the importance of fresh air. It is most strange that persons who spend the day in the open air are likely to bottle themselves up at night. I suppose that the fear of fresh air is in part expressive of our general philosophy of life, whereby we unconsciously carry the idea that man is in warfare with nature. We shut our doors to nature. Our windows are small and cramped, as if we only grudgingly let in the out-of-doors. Before we knew the nature of contagious disease, it was very natural that we should consider the atmosphere to be responsible for all kinds of insidious enemies. Disease was supposed to be due to some effluence or miasma, and we shut our doors to it. Now that we are able to distinguish the effects of air from mosquitoes, flies, and germs, we should begin to discriminate in our habits. The best civilization will come when we put ourselves in sympathetic attitude toward nature, rather than when we antagonize it; and we shall

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learn what things are noxious and take means to avoid them. The spread of tuberculosis in northern regions in former time was due not so much to the fact that winters were cold as to the battening up of doors and windows. Sometime we shall learn how to warm our houses and at the same time supply them with clean air.

Ignorance of disease

There is still widespread ignorance of the nature of contagious disease. There are those who think that a swale or an overflowed stream is in itself a source of disease. The result is, in some parts of the country, that there is too much visiting in case of contagious disease; or persons may have a white fear of all sickness that they cannot understand and thereby avoid the sufferer and leave him without sufficient care.

The lack of knowledge of the nature of disease and the difficulty of securing a physician quickly, no doubt contribute largely to the use of what are called patent medicines. I would not condemn all proprie-

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tary remedies; but it is really a marvelous thing what faith we have in the label on the bottle. It is a curious psychological state. Without knowing what ails him or what the bottle contains, if only the label is reassuring, the man puts the contents into his stomach. He asks no questions; he takes no advice. I do not know of any other habit that exhibits such supreme faith; and the signs on the fences and barns show that our faith still abides.

We need to appreciate the nature of our dependence on domestic animals. This relationship has its sanitary bearings. A number of the animal diseases are transmissible to man. A healthy herd goes far toward insuring a healthy family; and the habit that develops good health in animals is likely also to develop good health in human beings.

Diet

In many families the diet is monotonous, innutritious, and poorly prepared. It is not such as to develop strong and resistant bodies. There are some geographical

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regions in which this deficiency is marked. We are beginning to feed our cattle directly for milk-production or beef-production, that is, for efficiency. We ought also to begin to feed ourselves for efficiency. Whatever is said of the country cooking, however, it has the transcendent merit of being honest; it is just what it pretends to be. The most artistic fabrications (with music) may be compounded in the victuals that one finds at the polite hotels and restaurants.

Waters and wastes

The general dependence on wells has an important bearing on health in the open country. We all know what dangers are likely to overtake the well, unless it is very carefully safeguarded. The spring may be safer or it may not, depending on circumstances. The point is that we need to give increased attention to the guarding of our water supplies, whatever their source.

The greatest care must be taken to remove the wastes. Perhaps there is no single deficiency in country life that is more marked than this. Soil-pollution and

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water-pollution are responsible for a number of our most widespread and dangerous diseases. Typhoid fever is one; the hook-worm disease of the South is another.

Sanitary houses

There are very few sanitary dwellings. This is true of country and city alike. We have builded houses for protection and to cover our household gods, but we have given very little attention to building houses for health. Fresh air, sunlight, water supplies, removal of wastes, the saving of steps and of useless effort, cleanliness, cheerfulness, restfulness, must all be considered in a residence that is really good to live in.

Highways

The lack of good highways has its public health significance. It is difficult to secure expeditious medical and surgical service in many parts of the country because of the lack of traversable roads. It is natural that the physician or surgeon should dread such roads. This lack of service is likely

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to increase the countryman's confidence in the medicine bottle, and also the dependence on the midwife who in many cases may not be too cleanly or too well informed and the results of whose practice may not at once be apparent.

Rural diseases

A number of important diseases are mostly rural and need to be given special attention by those who are interested in country-life affairs. Typhoid fever is essentially a rural disease in its origin; so is malaria. Perhaps the most remarkable example now before the public is the hook-worm disease of the South, to which I have already referred, and which is said to involve four million people. The parasite that produces this disease has been termed "the germ of laziness." It is quite hopeless to rely only on teaching and preaching with persons who are ill with hook-worm; they need medical attendance.

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2. SOME OF THE REMEDIES FOR HEALTH CONDITIONS

My first observation is that it is natural to be healthy. I do not know whether most of us have discovered this fact. We have put the emphasis on disease. We have thought sickness to be a kind of judgment or punishment, as if we were all doing penance in this world. When we meet a friend, we say "I hope you are well:" the presumption is that he is sick, but we still have hopes that he may have escaped. We must overcome the notion that disease is an act of Providence. There seems to be a widespread belief that the organs of the human body tend to go wrong and that therefore they must be regulated; so we have liver regulators, stomach regulators, nerve regulators, and others. We are beginning to place the emphasis on sanitation rather than on disease. It is natural for a fruit-tree to bear: it is our business to remove the obstacles to its bearing; it is natural for human beings to be healthy: it

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is our part to remove the obstacles. We now have colleges of medicine and of disease, but we shall sometime have colleges of health. The mental attitude toward health and disease is the first thing to be considered. To a great extent, our state of mind determines the bodily functions and controls the progress of disease. This is well illustrated in the undoubted success of many of the systems of faith cure. We must arrive at a sense of mastery over ourselves.

New kind of dwelling

We must have a new kind of country residence. Every building should be adapted to its place and its uses, and it should be built as largely as possible of native and local material. Many a farmer's wife has worn herself out by going upstairs and downstairs and traveling through intermediate rooms, when a different plan of the building might have placed the kitchen and dining-room and the supplies within easy reach. Water must be taken into the house and all wastes must be taken

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out and safely disposed of. It is not difficult to supply water to a farm residence. It can be supplied from springs, pumped by windmills or gas engines, syphoned from wells on higher land, provided from roof water stored in attics, or by the pressure-tank system. The time will soon come when every first-class farm home will be supplied with these essentials. It is the part of the colleges of agriculture to introduce a new rural architecture.

I know it is difficult to overcome the prejudice, but I think that I have the solution to the question: I advise country girls not to accept the proposal of any young man until he promises to provide the house with water supplies and a sanitary kitchen. The question could be settled in ten years.

Inspections

Rural manufacturing establishments that prepare food must be inspected, not only as to the honesty of the product but as to its wholesomeness and healthfulness. Creameries, cheese factories, canning factories, and others are of this kind. Of late

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years the practice has developed of inspection of dairies and creameries by city boards of health. The city considers this to be necessary in order to protect its people. The city inspector, however, is likely not to understand the practical conditions under which the farmer works, and antagonism often arises between the city officers and the producers. It is really not a city function to inspect dairies and creameries. It is a state function. This work should be performed by a state department or state college or some similar institution that is entirely unpartisan and non-political and that is thoroughly conversant with farm conditions and in sympathy with the farmer as well as the consumer.

Greater attention needs to be given to local slaughter-houses. Many of them are not only an offense to the community but present most unsanitary conditions through the feeding of the offal to swine, and other practices.

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Attitude of societies

The regular rural societies and organizations should now begin to discuss public-health questions in the same spirit in which they are accustomed to consider purely agricultural questions. The wide-awake physician should be interested in these subjects, and the sanitary engineer and others should have a modern and rational point of view on the question of good health and physical development. It is especially important that women's clubs take up this kind of work energetically, and they have done this in many places.

The rural organizations carry a responsibility in the training of farmers in other than the technical agricultural relations.

Farm laborer

We must develop a new attitude, at least in some parts of the country, toward the laboring man. We must regard him not only as a fellow man, but we need also to see that he does not become a spreader of disease and thereby a menace to the com-

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munity. No doubt a part of the typhoid fever is due to cases of "walking typhoid"; and the danger of the spread of tuberculosis and other diseases by means of poorly housed, unguided and transient farm labor is by no means inconsiderable.

The school

Of course, the school has a responsibility to public health, for good health is mostly a direct question of teaching. The school should teach persons how to live. This means that every pupil who has had any school training should have some kind of an idea of the bodily functions and their control, and how and what to eat. It is less important to teach physiology as ordinarily understood than to teach hygiene. It is the part of the schools to correct and eliminate the mock sentiment that now precludes an understanding of the natural functions of the human body. The lack of discussion and rational knowledge of these subjects contributes directly not only to physical inefficiency but to a coarse vulgarity. It is a good suggestion recently

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made that one week of each year be given over in the schools to the discussion of health and sanitation, this period to be called a "Health Week."

Supervision.

I may summarize these suggestions by saying that every one of us carries a natural responsibility to develop good public health. We are all under obligation to see that society is effective, and it cannot be effective without strong and smoothly working bodies. We must develop a new spirit toward the isolated and the disadvantaged man. This spirit would have great results in the training of rural people.

Government must interest itself in health as well as in other social and economic questions. The federal government has no legal right or power to investigate human diseases in any of the sovereign states, except at quarantine stations, although it may freely investigate the diseases of chickens, cattle, and pigs. Certain sanitary questions are so important and widespread that they become national rather

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than state problems. One of these is the hook-worm disease of the South, mentioned before. If society has a right to compel persons to go to school, it has an equal moral right to compel them to be healthy. We concede the right of government of calling men out to war. It is a marvelous thing that the mass of mankind will allow itself to be driven to slaughter. I am wondering whether the time will not come when it will allow itself to be driven to life and health. Society now has a right to kill, but it has not an equal right to make well. The last right that a man surrenders is the right to be sick.

We must establish a better regulation of health in the open country. City boards of health are continuously in operation and usually they are effective. If the open country has a board of health, it is usually operative only when some epidemic or other dire necessity arises. A thorough-going health organization for the open country is as important as similar organizations for the city, and it is to the interest of society and of each of us to see that

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such a provision comes about. This regulation must be both state and local; and the work should be nationalized by the establishment of public-health work on a worthy basis at Washington, and by a widespread educational propaganda.

ORGANIZATION

FARMERS have not yet learned how to work together effectively. They have numberless organizations, but there is a lack of good "team work." The very individualism of the man makes him either suspicious of other men or undesirous of working with them. The farmers in any region are engaged mostly in the same kind of farming, and they regard themselves as competitors rather than coöperators. It is now beginning to appear that it is usually more profitable for a farmer to grow the same crops that his neighbors do, for the community comes to have a reputation for certain products and it attracts buyers and bidders; better transportation rates and facilities are secured; and the common interest brings expert knowledge into the community. The immediate region, rather than the separate man, should be conceived of as an economic unit.

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When firmly united on correct principles, a community of farmers can accomplish anything within reason in the regulation of production, labor, markets, schools, churches, and general betterment. They should seldom organize merely to oppose or expose the existing conditions, even though these conditions are bad, but gradually, by careful study and systematic action, to bring a new condition out of the old.

The educational results of organized effort must not be overlooked. Many boys and girls have been put in the way of improving themselves by the local grange, pomological society, or other club or society.

Organized effort becomes an active means of real training of farmers, a kind of community school. There are localities in which organizations of one kind or another have transformed the life of the region.

The farm home is a democracy

The farmer really has the very best school in coöperative democracy in his own

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farming, if his business is properly conducted. All members of the family are workers. The home is so much a part of the farm that one is not sold without the other. If the boys and girls are given a share-interest in a good farm (and allowed to keep it), they usually like the business and stay on the farm. The same principle might be applied to the community.

Inasmuch as the city, speaking broadly, has not yet solved the problem of permanently providing a growing population, the farm home assumes a most important relation to civilization. It is charged with the duty not only of maintaining the open country but of contributing population to the city. The farm home also carries an obligation to maintain the quality of the population. It is a preservator of morals, and it is well, therefore, that the farming people is conservative. I hope that the country folk realize these responsibilities.

The farmer's fatalism

Experience in working together has its psychological results. The real country-

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man is likely to be a fatalist, although he may not know it and he may resent it if told. His work is in the presence of the elemental forces of nature. These forces are beyond his power to make or to unmake. He cannot change the rain or sunshine or storm or drought. The result of this is that the man may either develop a complacent and joyful resignation, taking things as they come and making the best of them, or else a species of rebellion that leads to a hopeless and pessimistic outlook on life. I am convinced that much of the inertia of country people is traceable to the essential fatalism of their outlook on the world.

This outlook of helplessness is to be overcome by giving the man the power and courage of science, whereby he may in some degree overcome, control, or mitigate the forces of nature, or at least effectively adjust himself to them; and by securing the impulse of collected action.

Agricultural colleges, experiment stations, and other institutions are giving the countryman no end of fact. We have not

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yet organized this fact into such a philosophy of application, however, as to give the countryman full confidence in his ability to contend with his native conditions. The new knowledge that the farmer acquires is likely to be held as a mere passive possession; it does not work itself out into action as it would in the case of men who are organized to accomplish definite results. An organized community is one in which the new knowledge and appliances are put into use.

The community should prove up

Rural societies can accomplish much for the community by putting up money to have special investigations made of the local or special problems. A society of ginseng growers recently made a purse to call in a plant pathologist to make investigations of ginseng diseases. This illustrates a very important principle: the college of agriculture or the experiment station of the state cannot find the funds to meet all the difficulties in the state, and the people should be willing to contribute money for

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the solution of the problems of their special business or region (page 6). It is no doubt the part of the institution or of farmers' institutes or other agencies to set backward neighborhoods into action, but it does not follow that the institution should forever carry the neighborhood or industry. As a neighborhood becomes prosperous, it should be glad to help those who are less fortunate. The farmer has been so long accustomed to saving that it is hard for him to acquire the habit of giving.

If a stock-growing community is perplexed by a feeding problem or a pear-growing community is injured by the pear-blight, let the people unite and call the best advice. If investigations are needed that the college or experiment station cannot undertake, let the people collect a purse of say \$600 a year for two or three years and have the institution send a special post-graduate or advanced student into the region to work the problem out under the immediate direction of the college authorities. This would give the locality the benefit of the most expert help at the mini-

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imum cost, and it might be helping a needy and worthy student at the same time; in this way, the locality could have the distinction and satisfaction of maintaining what would be practically a scholarship or fellowship, and the people would become active coöperators in the public work of the state. In very many cases this method would be far better than the common practice of running to the legislature for every difficulty, and it would eliminate the necessity of depending for betterment work on the politician and office-holder. It would strongly develop the ability of self-government.

It does not follow, because a county fair, a farmers' club or a shipping association asks the college of agriculture or experiment station to send exhibits or a lecturer or an investigator, that the institution is under obligation to do so. It may be quite as important that the local organization "prove up," show that it deserves the help, that it will take pains to coöperate and to execute the work. I have known many cases in which the people in the locality sit

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Young Men's Christian Association

A typical example of the application of organized effort in rural problems, is the new "county work" of the Young Men's Christian Association. A rural county, rather than a city or town, becomes the unit of organization, with minor divisions and leaders. The motive of the work is to develop local leadership and imagination in all ways that will permanently help the young men in the localities. We may expect to see this new movement become one of the recognized agencies of constructive rural development.

FEDERATION OF RURAL FORCES

IT is possible for all the foregoing agencies, and many others, to be organized into one or more federations and to be united in a general campaign for rural progress. One of the earliest writers and workers in the federating of rural organizations in a comprehensive way was Kenyon L. Butterfield, now president of the Massachusetts Agricultural College. Following his suggestion, the New England Conference on Rural Progress was organized in 1907. The organization idea, as a force in rural betterment, is well expressed in his book, "Chapters in Rural Progress."

A successful campaign must come as the result of the uniting or working together of all rural forces within given regions. We already have the beginnings of enough institutions and of sufficient forces to reconstruct our rural civilization if only they are

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well supported and if they coöperate genuinely for the general good. This coöperation can come about in such a way as not to interfere with the essential autonomy of any institution or organization, while at the same time it ties them all together into one broad and common effort. The responsible heads of all existing rural agencies and movements in any state should constitute a kind of consulting board to stimulate and direct country-life work. It should be important to combine small agencies into state and national federations, when persons of wise leadership can be found, who are free from partisanship and personal ambition. Such movements should be intrusted only to persons who see the whole problem of rural life.

Movements of national importance must be carried through to a finish by some responsible agency. If the middleman system is to be regulated, some one must take the lead and be supported by the forces representing rural affairs. If the church is to take a new hold on country people, the movement should be nationalized under

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good leadership. If the general welfare of a certain region is to be considered with any effect, some kind of organization must take up the work and bring the people together; this is what the New England Conference on Rural Progress aims to accomplish. In every state or region some such open organization should stand in a large way for the working together of all other organizations so far as they touch public rural questions.

Reforms and progress are not to be brought about by abuse of the present conditions or by a process of muck-raking. The work must be shaped up in a constructive way and put through by a body that is beyond reproach and that has fairly definite aims.

The greatest function of a Commission on Country Life would be the handling of such questions as these. A national Commission is much needed to serve as a clearing-house on rural problems, as an organ through which the people can express themselves, and as an agency to study the whole situation.

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We are just now in need of a National Conference on Rural Progress, associating the ablest men and women, for the purpose of laying all these questions before the public. Such a conference would crystallize the slowly forming movement toward state and national unity in rural affairs.

PART II

**THE SCHOOL AND THE COLLEGE
IN RELATION TO FARM
TRAINING**

THE SCHOOL AND THE COLLEGE IN **RELATION** TO FARM TRAINING

The special emphasis of this book lies on *the relation of the school and college to the training of farmers*: I shall therefore enter into this subject in greater detail.

The American movement to reach the last man on the land originated in a chain of colleges of agriculture. The present institutions in the United States are founded on the Land-grant Act of 1862 and on subsequent acts, one college in each state and territory "to promote the liberal and practical education of the industrial classes in the several pursuits and professions of life." These institutions "teach such branches of learning as are related to agriculture and the mechanic arts." There are agricultural institutions of similar scope in Canada.

These colleges are reinforced by a chain of experiment stations, founded on the federal grant of 1887 and a subsequent act.

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Practically all of these stations are connected with the Land-grant colleges.

Official departments of agriculture, representing several types of organization, have been established in most of the states. These departments or bureaus represent the police powers of the state in respect to agricultural matters, or become offices for the advertising of the agricultural possibilities of the commonwealth, or they do certain educational work, as the holding of institutes or the giving of instruction to dairymen. For the most part, they do not represent high types of governmental organization or efficiency. They should be strongly capable, however, of training the people in legal and governmental affairs as these matters apply to rural conditions.

The United States Department of Agriculture represents the interest of the federal government in agricultural affairs. It has recently grown immensely in extent and influence, and has become one of the great coördinate executive departments of government. Much of its work is educational, and therefore it may be considered

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to be one of the institutions that are contributing powerfully to the training of farmers.

These three types of effort,—colleges, experiment stations, departments of agriculture—constitute the recognized American system of reaching the rural problem. Great numbers of other educational agencies are contributing much to the solution of the same problem, but they are not a part of the regular public machinery. In this book, no effort is made to discuss the experiment stations and the departments of agriculture: attention is given to some phases of the college work, since it is the chief function of these institutions to train farmers.¹

The colleges alone cannot solve the problem of developing a better country life. The school training is more important than the college training; yet the schools have really not entered the field of training the farmer. There is universal demand

¹I have made a discussion of the history and scope of these colleges in Vol. iv of the *Cyclopedia of American Agriculture*.

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that they relate themselves to this kind of work, and many beginnings have been made. Naturally, these beginnings are an adaptation of present school methods to agricultural subjects; but the outcome, if they meet the situation, will be a wholly new or different type of school effort. In other words, the agricultural and other industrial teaching will eventually redirect the schools, so that we shall have a new conception of what schooling and education is, or should be.

In approaching these educational questions, we may first ask why some boys and girls leave the farm and why others take to farming, in order that we may have before us some of the influences that are to be corrected or encouraged. We may then ask what the schools are doing to help the situation. Then we may consider the influence of the college of agriculture on country youth, and thereafter discuss college men as farm managers. Finally, we may discuss the general relation of the college of agriculture to the state.

WHY DO THE BOYS LEAVE THE FARM?

THERE are several ways of attempting to answer the question why the young folks leave the farm for other occupations or professions. The commonest way is to give probable reasons drawn from general observation of farm conditions. The observer can readily see many unattractive features of farm life that he supposes might influence the young. Another method is that of the advocate or propagandist, who is likely to fix his attention on one discouraging feature and to make it the motive force in the exodus from country to city. He may see this cause in some governmental or other disability, which he conceives to press with particular hardship on the farmer, and which he desires to correct or reform. A third method is to ask persons who have joined in this exodus why they have done so. This is the

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natural and scientific method, but because of the difficulty of reaching these persons, this method seems not to have been employed to any useful extent. It is this direct method and its results that I purpose now to discuss.

Character of the problem

It is difficult to choose the persons of whom one may inquire in hope of securing usable information. Persons in middle life who are now deeply immersed in affairs are too far away from the farm to be trusted to give an account of the motives that guided them in their youthful choice; I have usually found that such persons are likely unconsciously to color their replies by the experience of subsequent years. Those who work at day labor have usually drifted away from the farm rather than purposely left it, and their ideas commonly lack definiteness; and, moreover, these persons are laborers rather than farmers, and their case does not greatly influence the larger agricultural and social questions. I have therefore chosen to inquire of stu-

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dents, for they leave the farm, if at all, with a definite purpose, and they are still near the point of their departure.

Before taking up the details of my investigation, I should say, perhaps, that such an inquiry is well worth making wholly aside from its bearing on technical agricultural questions. In its larger phases, the problem is both an economic and a social question. A migration cityward imposes problems of addition on the city as well as problems of subtraction on the country. It has a direct relation to all general questions of population. It seriously affects land values, and, therefore, other values. It has an important bearing on the vital problem as to where our people shall be bred. I have elsewhere tried to show ("The Outlook to Nature") that farmers constitute the chief nature-bred class of men now remaining to us, and this fact cannot help having a far-reaching effect on the character of future populations.

I am not now discussing the question as to whether there is, in fact, a general exo-

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dus from farm to town, but am only considering specific instances; nor am I assuming that because a person is born on a farm he should therefore remain on a farm. Many persons have left the farm, and we may ask them why they have gone.

An inquiry of students

In 1904-5, I addressed a circular letter to all students in Cornell University outside the College of Agriculture who, I had reason to believe, were born in the country, asking (1) whether the person were reared on a farm, (2) where, (3) whether he intended following some other business than farming, and why. I also addressed a letter to the nearly 400 students then in the College of Agriculture of Cornell University, asking similar questions, and inquiring why they desire to pursue agricultural occupations. In all cases I asked for first-hand personal reasons, and, in order that the respondent might not be embarrassed, I promised not to make the names public.

The replies fall chiefly into four groups: (1) persons reared on the farm, but now

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planning to leave it; (2) persons born in towns or cities, and purposing to remain in them; (3) those bred in towns or cities, and planning to go to the farm; (4) those raised on farms, and expecting to remain there. We may now discuss those who plan to leave the farm.

I make no attempt to discuss the merits and demerits of farm life, or to place values on the replies, or to enter the tempting field of discussion of the psychological aspects of the cases. I mean to put before the reader only the reasons that these earnest young persons think to be the ones that have determined their choice of careers.

Of course these replies in this chapter are against the farm. They comprise a series of vigorous indictments against the business of farming by persons who have known the business; for nearly all these persons were born and reared on farms, and the few others have lived on farms long enough to make them essentially farm boys.

In this farm-exodus class I have 155 replies. Although the number of respondents

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is not great enough to warrant statistical conclusions,—I am not making a scientific investigation,—yet they probably state the larger part of the reasons that a much greater number of similar persons would allege. These replies come largely from New York, but those from other states, chiefly in the West, are the same in tenor. Most of the respondents give more than one reason for planning to leave the farm. These reasons I have roughly classified below. It will be seen that the predominant reason is that farming does not pay in money, and other reasons are that the physical labor is too great and the social advantages are too small; but I prefer not to comment. The figures give the number of persons who allege the different reasons:

The question of financial reward

Farming does not pay; no money in the business	62
Difficult to acquire a farm without a start	10
Farming requires too much capital	5

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Discouraged by the fact that farms are mort- gaged	5
Farmer cannot control prices	2
The farmer buys high and sells low	1
High taxes near the city	1
Expect to farm some day, after making money in some other business	15

The question of physical labor

Too much hard work	26
Hours too long	17
Work too monotonous	11
Farming is drudgery	8
Work is unattractive and uncongenial	6
The work is not intellectual	6
No machinery can perform the hard work of the farm	2
The work is too hard in old age	1
The farmer is too tired to enjoy reading	1

The social and intellectual ideals

No social advantages or activities	26
More opportunity for advancement elsewhere	14
The farmer cannot be known in the world	5
Life is monotonous	4

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The social and intellectual ideals (continued)

The life is confining ; no freedom	4
The association is with uncultivated people	3
The occupation is too narrow	3
The farm is isolated	3
Women are overworked on the farm	3
Farming is physical labor only	2
People have a low regard for the farmer	2
No higher and nobler achievement possible	2
No high ideals in farming	1
Education gave higher ideals and needs	1
College training unfits for farm work	1
Farmer cannot serve humanity	1
Farming has little excitement	1
Has come to know the city and likes it	1
Farmer has no political advantages	1

Miscellaneous handicaps

Natural bent elsewhere	24
Parental influence against farming	6
Teacher influenced against it	1
Father was unsuccessful	2
The home was unpleasant	2
Health not sufficient for the work	3
Difficult to secure help	3

WHY BOYS LEAVE FARM

Letters from those who have left

Every one of the 155 letters is worth reading, because these letters express personal points of view. There is every internal evidence that they are genuine expressions of conviction, and are not written for effect. Since it is not possible to print all these letters in the space at my disposal, I have chosen those that seem to be most definite or emphatic, and at the same time present divergent points of view. I first transcribe seventeen letters from persons reared on farms in New York state, and then follow with characteristic statements from farm boys of other geographical regions.

(1) "The principal reason why I left the farm and am here in college, working toward another business, is the influence of the principal of the village school which I attended for several years. He continually urged me to get away from the farm, to go to college, and prepare myself for something better.

"While I was living at home, on the farm, the attractive side of farm life, as I believe is

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very generally the case, was not brought out. It was merely hard work all the time. So I, like the majority of farm boys, was not at all unwilling to leave the farm.

“However, I now sincerely think that I shall sometime return. I truly love the country and all the attractions of nature. Since I left it, I have constantly come to appreciate the country more. I have spent my summers on the farm, and very pleasantly spent them, too. I now firmly believe that farm life may be made the most attractive kind of life. The trouble is, in the majority of cases that have come under my observation, that farm life is not made attractive for the boys. Many of them have very little education, and their life is to them merely hard drudgery from early morning to late at night, with only a bare living as a return. Hence, they are only too glad to leave it. They are in the dark, and don’t know that there is light for them.

“With the increase of agricultural education and betterment of conditions in the country, I believe this will change. The young men will come to see the brighter side of farm life, and the attractions and advantages in staying on the farm.”

(2) “I intend to follow some other business

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than farming because I consider that farming is all work and no pay. It is nothing but drudgery from morning—early morning—until late evening, and there is little chance for social and intellectual advantages.”

(3) “I have lived on a farm, except for the last year before entering Cornell, all my life. My reason for not wishing to continue on a farm is the financial side of the question. The work is also distasteful to me, not because it is hard, for I think a farmer’s life is a comparatively easy one, but because a farmer’s work is never done.”

(4) “The duty of securing from the soil the means of sustenance for the race belongs to the farmer. This involves hard and incessant toil with no adequate reward. The scope of the farmer’s activities is limited to the farm upon which he toils, as is that of his enjoyment.

“The farmer’s burden is heavy, painful, and without reward, with no prospect of a change in his condition. Life is short and uncertain. Why spend it performing a painful task, which is at the same time a thankless one?”

(5) “I intend to follow civil engineering because it gives a better chance to get out in the world and keep in better touch with a broader kind of life. The farm is far from unattractive to me, and I think the farmer’s life as near the

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ideal life as it is possible to get. I like the life, could have a farm of 150 acres for the trouble of working it, and there is no more fertile land in the state than that same farm; but a farmer's life is rather too monotonous, and it has been my experience that he vegetates if he is not careful. This is noticed on going to the city after some months on the farm."

(6) "I left the farm because I realized that farming, like any other productive business, needs capital, and I had only the questionable possession of brains to capitalize. The only unattractive feature to me was the young farmer starting out in life with a mortgaged farm having to compete with men who owned their farms."

(7) "I do not intend to follow farming as a business, for the following reasons:

"a. It is unprofitable.

"b. It is a life solely of physical labor. I consider myself better adapted naturally for mental work.

"c. Although a respectable occupation (all honest work is respectable), it does not offer a field for extensive development of the broader and nobler of human faculties.

"d. It is a life which involves a never-ending monotony of daily routine.

"e. Viewed from its present status, it is a

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life in which no self-respecting man should ask a woman to participate. I say this because of the ceaseless care and unlimited toil which fall to the lot of the farmer's wife.

"While I have many minor reasons, the foregoing are the most important that occur to me at the present time."

(8) "On the farm, there are longer hours, harder work, and smaller compensation."

(9) "It has been a *matter more of accident than of choice*. When I was fifteen my father retired, being then fifty-five or more. My elder brother is a farmer (market-gardener on about fifty acres) and my other brother a civil engineer. As far as finances go, the farmer does better than the civil engineer, although I judge their abilities equal, each in his line. The civil engineer has perhaps less work and more time for recreation. I believe, however, that if the farmer would be satisfied with savings per year equal to the civil engineer, this condition would be reversed.

"I believe the answer to your question lies in the narrow-minded and selfish attitude of farmers toward their sons rather than in anything unattractive in farm life itself. In my own case, my choice is by no means final and is due to accident rather than to deliberation."

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(10) "Farm life is unattractive to me because of the social conditions. Social life on the farm is simply stagnation. I dread the horrible monotony of such a life. I love farming, I love the farm. I like to go out in the fields and work under the clear open sky; but man is a social being, and is not destined to live an isolated life."

(11) "It seems to me that one can never, without assistance, become independent on a farm, and without independence farm life is little more than drudgery. Life on a farm is bound to be, to a certain extent, dull and tedious, with little variety or relaxation. One tends to become narrow, sordid, and self-centered, with few interests, and to lose his inspirations for higher things. His finer sensibilities are deadened by toil, and he becomes entirely unconscious of the many interesting and beautiful things around him. It is the man who was not born there who really sees and appreciates the beautiful things in the country."

(12) "If I had been heir to a large or even a good-sized farm, I would probably have engaged in farming.

"The chief reason why farmers' sons leave the farm, from my observation, is that their fathers or their neighbors are always crowded by their work, and have no time to spend in va-

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cations or reasonable rest periods. This is not the fault of farm life, but rather the result of unbusinesslike management and unscientific operation."

(13) "My father was a very poor farmer, although one of the few in the neighborhood owning his farm, and as I wished to advance according to new ideas, we could not agree. I went into the sale-stable business, but wishing to be more than a horseman, I am seeking for a degree of doctor of veterinary medicine. Being heir to farm land, I shall be interested in the advancement of agricultural lines. When I retire from active professional life, it will probably be to the farm."

(14) "When I entered the university and registered in mechanical engineering, I had the idea that a fellow had to get off the farm, as the saying goes, 'to make something of himself in the world,' and that a living could be made more easily, with more enjoyment, in another profession. But now, after seeing a little of the other side of the question, if I had the four years back again, agriculture would be my college course. As for country life being unattractive, I have always found it much the reverse. The best and happiest days of my life have been on the farm, and I cannot but wish

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that I were going back again when through with school work."

(15) "The struggle for a mere living is too strenuous. Reliable help, a necessity on a large farm, is very difficult to obtain, either male or female. The life is pleasant enough in summer, but the cold and snow of winter and the deep mud of spring virtually shut out many farmers' families from social intercourse with their friends, and tend to make them narrow-minded. With smaller farms, more scientifically managed, employing labor-saving devices more generally, especially in the performance of household work, and with improved roads and daily mails, the life would be almost ideal."

(16) "I was reared on a farm in central New York. It is my intention to go into some other business than farming because there is not enough money in it, and because one has to depend too much on the seasons for the production of good crops. One disadvantage is, that if a farmer wishes to sell anything, he must take what is offered him, instead of setting his own price. On the other hand, if he wishes to buy, he must pay what is asked. In regard to working farms on shares, there is but very little money made. Also, the work is too hard and the hours are too long."

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(17) (From a woman) "A woman must be primarily a cook, whether on a farm or in the city. It is difficult for a woman to fill this position and at the same time manage outside work. Not so much of this outside work comes to the woman in the city as in the country. If a husband considers the farm a place to which he declines to be 'tied down,' a woman finds it rather difficult to get things done on the farm, enough to keep it in good condition."

(18) (Connecticut) "I intend to follow the profession of civil engineering. I did not take up farming because in New England a farm is not of much value for earning a living unless situated near enough to a large city to sell garden truck. Dairy farming is about all there is left to a farmer, and one firm virtually controls the market at my place, and places the price very nearly as low as the cost of production.

"My town is a summer resort for New Yorkers, and being thus thrown into close connection with them, the young people, as a rule, desire to be like them. So they either take some course in a business college and start for the city, or they start for the city without such training at their first opportunity.

"Then, too, there are excellent schools scattered all about New England, and the height

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of the ambition of the young country lad is to enter one of these schools, and be with the sons of the 'big men' of the country. After he has passed through the school, he will naturally wish to follow his classmates on through college. Since most of these colleges lack an agricultural department, he chooses some other profession.

"The older farmers of my section of New England are quite often wealthy, but they secured their wealth in former years, and they themselves say that farming at the present time does not pay, and are educating and encouraging their sons to seek business in other fields."

"Outside of going to the country fair once a year, the farmer's son does not see in what way other more successful farmers are attaining their success. Of course every farmer takes farm literature, but this does not appeal to him so strongly as to visit and see for himself these successful farms."

"When I had finished my common-school education, my father came to the conclusion that since, in his opinion, farming did not pay, he would send me through college, although he hated to see me leave the farm."

"I might add that the drudgery of such long hours as are necessary on a dairy farm is an unattractive feature of farm life in my locality."

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(19) (Pennsylvania) "a. The drudgery of life on a small farm.

"b. The small profits.

"c. The farmer is tied down, because crops, etc., cannot wait.

"d. Other fields seem to offer possibilities for greater and nobler achievements.

"These are a few of the unattractive features of farming that come to my mind. If, when younger, I had seen more of farming on a large scale or had known more successful farmers, I might now be taking agriculture. Even now I hope some day to own a farm."

(20) (Maryland) "I am intending to be a civil engineer. There are several reasons why I did not care to be a farmer. First, farming in my country, where I naturally would want to farm, does not pay fair return for efforts. Second, the influence exerted at home was opposed to such a life without a strong desire on my part, which I did not have. Third, I had a strong desire to become an engineer."

(21) (Ohio) "Because I was not born the heir to a fortune. Had I been, I can think of no more attractive place to spend life than a farm. Without plenty of money from other sources than the farm itself, a farmer's life is too limited. He cannot travel, he cannot have

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a large acquaintance, or make himself known in the world. Other lines of business offer more money, especially if one is naturally qualified to enter them, and hence broader and more profitable careers."

(22) (Illinois) "No money in farming. I like the city and its pleasures. There is nothing 'doing' on a farm."

(23) (Wisconsin) "On a farm, especially dairy, a person is kept at work each day, no time to be away more than half a day at a time, as help on a farm is not always to be trusted. As compared with other occupations, farm life demands longer hours, harder work, and less pay; so, being in a position to leave the farm and receive an education, I did so, knowing that at any time the farm is there. For independence there is no person that can be more so than a farmer."

(24) (Missouri) "I do not intend to return to the farm because, with my present education, I can do better as an engineer.

"I think I can best give you the information you wish by answering the question, Why did I decide to leave the farm?

"a. There was no money in farming, unless a man had money to invest. Even then there was but little.

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“*b.* Disadvantages of being away from schools, churches, entertainments, social life, etc., which a city affords.

“*c.* Somewhat too ambitious to be content with the quiet life of a farmer.

“*d.* A natural liking for machinery and engineering work.

“*e.* I was physically not strong enough to do the heavy, hard work which farm life demands of the man unable to hire it done. The most unattractive part of farm life is the long day's work, under a hot, sweltering sun, following a harrow or pitching hay or doing similar work. Plowing was an exception: I like to plow.

“Farm life has changed a great deal since I left the farm twelve years ago. Machinery has been added, making the work easier; farming has become more scientific, giving scope to the man who does not wish to be a mere nobody. For the last few years there has been more money in farming.

“At the end of my arts course I could have returned to the farm, made a better farmer, been more contented, and worth decidedly more to mankind and to my country than I could ever have been without it.”

(25) (Arkansas) “In my part of the country cotton is the only staple crop, the produc-

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tion of which is too monotonous. The labor in that part of the country is all done by negroes, and, owing to the climate, must always be. The race question has never affected us materially, but it must be solved in the next few years, and the outcome is uncertain."

(26) (Mississippi) "Lack of remuneration in proportion to the amount of labor. Lack of opportunities for social intercourse.

"I was too far from school, church, and post-office."

(27) (North Dakota) "I do not care to be a farmer because, first, I do not like farm work; second, I do not think there is the chance for advancement on a farm that there is in other lines, either social or financial; third, the farmer in general is not looked up to intellectually; fourth, there is not enough 'doing' on the farm for a boy."

(28) (From a large ranch in Montana) "Yes, I intend to follow some other business, but not because farm life is unattractive, for my opinion of the farm is health and true freedom; but I can follow a professional business and have the farm as a side issue, and through it always have a steady income."

(29) (Washington State) "I did not leave the farm because it was unattractive or because

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my home was not a pleasant one. Had there been only one boy in the family, I should probably be there to-day. As there were two, one was naturally the farmer and the other the mechanic, gunsmith, and engineer. My reputation in these lines made it necessary for me to do much technical reading, even before entering the high school, and every step after that carried me farther from the farm. A year with the U. S. engineers put the question beyond further doubt. I enjoy farm life and farm work."

Questions raised by the replies

These native replies at once bring up many questions of great public concern, for they have to do, in a broad way, with the position that the farmer occupies in the economic and social structure. These young persons come from good or at least average farm homes; otherwise it would be wholly improbable that they would seek a university training. Exactly forty per cent. of them desire to leave the farm because it is not remunerative. It is easy to say that this financial unsucccess is due to poor individual farming; but it is a ques-

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tion whether a good part is not due to causes that go further and deeper than this; and it is the part of the publicist and statesman to determine what these causes are.

Farming is virtually the only great series of occupations that is unorganized, unsyndicated, unmonopolized, uncontrolled, except as it is dominated by natural laws of commerce and the arbitrary limitations imposed by organization in other business. In a time of extreme organization and subordination of the individual, the farmer still retains his traditional individualism and economic separateness. His entire scheme of life rests on intrinsic earning by means of his own efforts. The scheme in most other businesses is to make profits, and these profits are often non-intrinsic and fictitious, as, for example, in the habit of gambling in stocks, in which the speculator, by mere shrewdness, turns over his money to advantage, but earns nothing in the process and contributes little to civilization in the effort. If the farmer steps outside his own realm, he is met on one

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side by organized capital and on the other by organized labor. He is confronted by fixed earnings. What he himself secures is a remainder left at the end of a year's business.

Neither can the question of the onerousness of physical labor be overlooked in the replies. About one-fifth of the replies mention this as a distinct handicap. This will no doubt surprise those persons who have thought of machinery as eliminating the toil of farming; but it must be remembered that the farmer is both capitalist and workingman (in this respect being almost unique, as a large class of the community), and that this question takes a different aspect according to the point of view from which the farmer looks at it. The replies raise the question as to whether the farmer is to continue to occupy this dual position.

The replies of these serious-minded youths should also set every thoughtful person wondering what is to be the place of the farmer in the social scheme of things, and whether the present trend is doing

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him complete justice. About seventeen per cent. of the replies consider that the farmer has distinct social disabilities. They suggest the question as to how far agriculture is to depend for its progress on the efforts of the separate individual farmer, and how far on coördinated effort.

WHY SOME BOYS AND GIRLS TAKE TO FARMING

IN the previous chapter I presented the reasons that 155 college students gave me for leaving the farm to engage in other occupations. These students saw little opportunity in farming, forty per cent. of them alleging that the business offers no financial reward. Twenty per cent. said that the physical labor is too exacting, and approximately an equal number that no social opportunities are offered. These replies present one view of the vexed question as to what the place of the farmer is to be in our coming civilization. There was a strain of hope running through some of the replies to the effect that in the future the opportunities on the farm would be improved; but, for the most part, the responses were hopelessly against the business of farming as a means of personal achievement.

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When I asked for the opinions of those who had planned to leave the farm, I asked, also, for the reasons that moved those who have planned to remove from city conditions to farm life and those who, reared on farms, intended to return there after leaving college. The responses are most illuminating, and, of course, they are hopeful for those of us who look to the open country to aid in some large way in maintaining and forwarding the best civilization.

1. CITY TO COUNTRY

Sixty-eight town-bred or city-bred students wrote me that they intend to pursue farming as a business, and to this end had entered themselves in the College of Agriculture. I should explain, however, that I use the word "farming" in its broadest sense as comprising those many occupations that are directly concerned with the products of the soil and are in intimate touch with actual rural-life conditions; for some of these young men expect to be

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creamerymen in the small rural factories rather than actual tillers of the soil.

The nature of the replies

Many of the respondents give more than one reason for desiring to follow agricultural work, and in the following list the figures represent the number of times that the various reasons were alleged:

The personal or subjective desires

Desire to be out of doors, and love of nature .	25
Love of farm life	12
Natural bent for farming	8
Love for growing things	6
Love for farm animals	4
Desire to change from city to country . . .	1

What farming provides

Farming is an independent occupation . . .	18
It provides healthful life	17
There is money in farming	16
It is an interesting or fascinating occupation .	7
Provides as many advantages as does the city	3
Farming broadens one's mind	3
A most agreeable way of making a living . .	2

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What farming provides (continued)

Provides good home life for self and children	4
Farmer is never out of work	1
He is not subject to unions	1
Country people hold many things cheap because they do not have to pay for them . .	1
Farming requires and develops skill	1
There is time for study	1
Opportunity to understand nature	1
Great economic and social possibilities . . .	1
Provides a cheap living	1
It is a noble work	1
It is a useful work	1
A means of uplifting the community . . .	1
It is an active life	1

What the letters say

Following are some of the letters in full, chosen because they strongly present various points of view:

(1) A town-bred boy from the South, desiring to take up "general farming."—"I have always had a natural desire to work among economic plants and animals, and make my soils and barns the laboratories for such economic work. It is a supreme pleasure to see and to help accomplish

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the fulfilment of certain laws of the fundamental sciences to as high a degree as possible, under the conditions put in force, and get a result, in course of time, that brings much money and happiness. A farmer of this sort becomes an independent man in every sense of the term, and should prove a valuable citizen in his home community. His increasing love for and study of nature also become valuable assets."

(2) A town boy, expecting to go on a farm.—
"I like farming because it is independent, healthful, noble, useful, and wide enough to utilize all of one's faculties."

(3) From the city, desiring to follow farming.—"Because it is the most independent life and the most healthful one; also, a man is free to do as he pleases, for he has not a boss standing over him all the time. The things around him grow up with him, and each has its own particular place in his life."

(4) Reared in a city of about 100,000, and now desires "to get a position on some large, well-run farm."—"My main reasons for living on a farm are because

"a. I much prefer the country to the city;

"b. I think there is a good opportunity to make a success as a scientific, businesslike farmer on a large farm;

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“c. The living expenses are less on a farm, and for me the pleasures are more numerous.”

(5) Reared in a town in Germany.—“I desire to have a farm after I have saved enough to get what I want, and after I have seen enough to know where my best possibilities are. I want to go on a farm because I love the independent life, because I see business there, because I have a good, strong opponent (nature) on which to grind my knowledge, and because I want to demonstrate the feasibility of some social and economic problems in which I am interested.”

(6) Reared in a city of 100,000 inhabitants, and desiring to be a farmer.—“Primarily, for pecuniary profit; secondarily, for the independent, healthful life.”

. (7) Reared in a city.—“Perhaps the farm is attractive to me for much the same reasons that the city attracts country-bred lads—a desire for change. One thing is certain, I do not want to be cooped up in a factory or office all my life. I have seen all I want of factories. A farmer works hard, but he is never out of a job; never on a strike, and never subservient to a labor union. Lack of experience, lack of physical power to endure heavy labor, and the necessity for a reasonable income in the near future, will force me to take a town position; but sooner or later

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I hope to be a farmer, keeping a salaried position until the farm assures me a good living and is entirely paid for."

(8) From a woman born in the city, and wishing to follow "some not too strenuous outdoor occupation."—"I desire to go on a farm probably because I never lived on one.

" 'As a rule a man 's a fool;
When it 's hot he wants it cool,
And when it 's cool he wants it hot—
Always wanting what is not.'

"My father and my mother's brothers were born on the farm; but they left it as soon as they were old enough to act independently, so that, in my farming notions, I have no encouragement from relatives. They, however, had their way to make. I do not expect to make money on a farm,—that is, not primarily,—though I hope to make the farm support me (who am the proposed overseer) and all the other workers on it.

"A farmer who works his own farm is only, after all, an independent day-laborer, and no one can blame a young man for trying other methods of making a living. The case of some women with a small amount of capital is quite different, however. For instance, if a woman

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has a strong love for green fields and trees and animals; if every living, growing thing is interesting to her; if she has had a college education; has seen the world, or a good portion of it, knows, besides, what office work in a city is, and is thoroughly acquainted with boarding-house life, she is in a position, I fancy, thoroughly to enjoy a real home on a farm and all the luxuries which that implies. It is only people of experience who can fully appreciate the country and what it can give. The country man holds many things cheap because he never paid directly for them.

“To be sure, the farm must have all the so-called ‘modern conveniences,’ with telephone and rural free delivery, besides; and, if the woman expects to live on it the greater part of the year, it should have good railroad connection with some large city. The woman whom we are considering expects neither to follow the plow, do the chores, nor the housework, except in cases of emergency; but she should be capable of doing any one of them, and is trying to become so. What a generous life such a woman can lead on a farm on an income which would support her but meagerly in a city! This is my theory. When I have put it into practice, I hope to be able to substantiate it.”

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2. COUNTRY TO COUNTRY

It was to be expected that the most significant responses would come from those students who have had experience of farm life and also of college life. I have replies from 193 students of this class, all enrolled in the College of Agriculture at Cornell University. Aside from the great significance of these replies from the occupational point of view, the responses afford an interesting commentary on the widespread notion that the agricultural colleges "educate the boys away from the farm"; and what is true (or not true) in this particular agricultural college is also true in others.

Replies from farm students

Following is a tabulation of the various reasons that are alleged by these 193 farm students for desiring to remain on the farm. I publish them only for the purpose of stating some of the motives that actuate farm boys, and not as statistics or as a con-

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tribution to a scientific study of the general problem.

The personal desires

Love of out-of-doors and of nature	55
Love of farm life and of the kind of work	47
Love for living and growing things	28
Love of the free life of the farm	15
Natural bent to the farm	5
Have already a personal interest in a farm	5

What farming offers or provides

An independent life	77
A healthful life	41
A profitable occupation	39
Not a hurried life	3
A natural life	3
A simple life	2
Wide opportunities offered by farm	23
Ideal place for home and rearing of children	20
Involves interesting social and economic problems	8
It is a pleasant and agreeable occupation and provides a happy life	17
It is instructive	6

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State aid is making farming more attractive . . .	5
Farmer's condition is better than the average city man's	6
A good education is essential	4
Opportunities for study	2
Best place for spiritual life and growth . . .	4
Good social opportunities	4
Opportunity for individual work and in- itiative	3
Cheaper living than in the city	3
An honorable occupation	4
Has more knowledge of farming than of other occupations	5
One can see the fruits of his own labor . . .	2
Provides a better life in old age	1
The life is not monotonous	1
Farmers have good food	1
Provides opportunity to acquire property . .	1
Farming provides both mental and physical work	4
It offers a variety of work	4
The work is useful; it affords good training; it is easy in winter (each)	1

Along with these reasons for desiring to remain on the farm, some of the respondents also mention disadvantages; but they regard these disadvantages as being over-

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balanced by other considerations. These disabilities are as follows:

No money in farming	4
Requires better health than the respondent has	4
Farming requires more capital than respondent possesses	3
Farm life is lonely	3
The work is hard	2
Farmer does not control prices	1
Small opportunities for development	1
No employment for women	1

Letters from farm-bred students

It will now be interesting to transcribe some of the reasons that these farm boys allege as determining their choice to remain on the farm, for they may be looked on as indigenous and non-theoretical; and these reasons have the advantage, also, of having been formulated after the persons had seen something beyond the farm. It is most interesting to know, also, that nearly all these 193 students are from New York state; for it is often asserted that agriculture offers little inducement in the old East as compared with the West—a

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statement which usually is made in ignorance of the facts.

(9) "I was reared on the farm where my father was born and where my grandfather lived. I like dairying and general farming. I choose farming because I like to care for horses and cattle and to see the crops that I have planted grow; and I like the independent life that the farmer enjoys."

(10) "I think the farm offers the best opportunity for the ideal home. I believe that farming is the farthest removed of any business from the blind struggle after money, and that the farmer with a modest capital can be rich in independence, contentment, and happiness. I lived one year in a city (Philadelphia), which was long enough."

(11) "The farmer is the most independent of men. He leads a happy, out-door life, and is his own boss. His conditions are much better than those of the average city man."

(12) "I wish to live on the farm, for I like the work. One is not doing the same thing every day, but doing a variety of things. There is satisfaction in knowing that the products of one's labors are to be his and not somebody's else. Then, there is the independent life; one's

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time is his own, and if one does not use it to the best advantage, he has only himself to blame.

“If I were unable to farm on my own account, but had to work out, then I should go to the city.”

(13) “I lived in the city until I was eleven, when my parents moved to the farm. There I attended the country school until I was fifteen, when I was sent to the city high school in Buffalo. The last six years I have been in the high school and at Cornell.

“I desire to go on a farm because of the independence and healthfulness of the life. The farmer has a wider field of business, which requires a vast range of knowledge, far beyond that required by the ordinary business man. I think that a comfortable income can be obtained. Only a few men in the cities are earning more than is required for their subsistence. My chief reason is that I like the life and the out-door work.”

(14) “a. Respect for agriculture as an occupation.

“b. To enjoy the freedom of the country life and the beauties of nature.

“c. To partake of the pleasure which comes from conquering natural obstacles.

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"*d.* To give that which is in me the best chance to develop.

"*e.* To have a congenial means of support."

(15) "I intend to stick to farm life, for I see nothing in the turmoil of city life to tempt me to leave the quiet, calm, and nearness to nature with which we, as farmers, are surrounded. I also see the possibilities of just as great financial success on a farm as in any profession which my circumstances permit me to attain."

(16) "Have always lived on a farm, with the exception of three years, when I lived in town. I desire to follow farming, with stock-breeding and dairying as main branches. I believe it is the most independent life; that it has the broadest field in which to work; that intelligence, judgment, and business ability are needed here as much as anywhere; that it gives opportunities for the best development of a man; that a farmer may enjoy many blessings which can not be measured by dollars and cents. It gives opportunity for study of the most interesting kind, and it is the best place for spiritual growth and life."

(17) "Having always lived on a dairy farm, and having taken care of domestic animals, it is virtually the only business I understand.

"Although there are many discouragements

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and a great deal of hard labor, I think a person of average ability, who enjoys farming and taking care of and studying characteristics of domestic animals, will be a more independent and useful man if he sticks to the farm than if he follows any other business.

“Perhaps there would be more money in some other line of work. Money is not all of life; so I will go back to the farm.”

(18) “*a.* I like the work.

“*b.* The farmer is the most independent man that lives.

“*c.* It is healthful work.

“*d.* It is a good place for a happy home.

“*e.* There is profit in it, and it is gaining headway every day.”

(19) “I am going back to the farm because it is the most healthful business I have ever known and I like it as a business from start to finish. The cattle alone are enough to call any one back to the farm.”

(20) “*a.* Because agriculture seems to offer one of the greatest opportunities financially.

“*b.* Because I see in agriculture the most pleasant and agreeable occupation.

“*c.* Because I love nature, and may be brought into more intimate relations with it by this profession than by any other.

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“d. Because a great chance for improvement and advance is offered in agriculture.”

(21) “I have tried city life, and do not enjoy it. I prefer to work in the open air, and enjoy working with animals. I believe that a man can be as truly successful on the farm as anywhere else, and can lead a much happier life.”

(22) “I was born in the country, but educated in the city, returning home on vacation. I expect to follow live-stock farming: first, because it is my father’s desire to keep the family estate still in the family, and being the only son, it devolves upon me; apart from this, he prefers that I should be a farmer as a means of earning a livelihood.

“Coördinate with this is my own wish to lead the life of a farmer, probably because I inherited the love for it and because I have always understood, from earliest childhood, what I was to do. I love nature, and like to be closely connected with its workings. I like farm life for the freedom and opportunity offered for success from individual work.”

(23) “I am an only son. My parents wish me to return, and, as I study, I see nothing more inviting. I see this more than ever after studying agriculture at Mount Hermon and here. Then, if a man is immortal, and I believe he is,

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it is what he is that counts, and not altogether money. We need studious Christians on the farms, and I want to be one. I expect some day to have a plain country home. A good place to live is next to nature."

(24) "I should like to take up experimentation work for a number of years, then go on a farm.

"*a.* There is as good opportunity for one to exercise his business ability and apply his scientific knowledge on a farm as anywhere.

"*b.* The average man is surer of acquiring a competency, and having a good home of his own, in the country than in the city.

"*c.* A good farmer will find life less monotonous, as well as more healthful, in the country than in the city.

"*d.* One man's social and intellectual influence will be stronger and last longer in the country than in the city.

"*e.* The best place to bring up children, and especially boys, is on a farm in a good agricultural community."

(25) "I was born and reared on a farm. It has always been my intention to become a farmer. After living in the city for several years, while attending preparatory school, I have come to the conclusion that the farm is the only place

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to develop well-rounded, sturdy manhood. The farmer need not fear lest his children be led astray by the evil influences of an indolent city life; he is independent and, if temperate, sure of good health and long days."

(26) "I shall follow poultry husbandry and fruit-growing:

"*a.* Because of the independent freedom of farm life.

"*b.* Because of my desire to raise a family where my influence will be the dominant one.

"*c.* Because of the false standards set up in the modern city; namely, hurry, worry, and selfishness.

"*d.* Because of the great opportunity offered to the man of skill."

(27) "I like the farm probably because I was brought up on one, and have learned to like the free and independent country life, to be with stock, to harvest the grain and hay, to try to raise or grow the best and most fruit on a tree."

(28) "I expect to make a business of breeding live-stock. I like to work out of doors, where the sun shines and the wind blows, where I can look up from my work and not be obliged to look at a wall. I dislike to use a pen as a business. I want to make new things and create new wealth, not to collect to myself the money

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earned by others. I can not feel the sympathy which makes me a part of nature, unless I can be nearer to it than office or university life allows. I like to create things. Had I been dexterous with my hands, I might have been an artist; but I have found that I can make use of as high ideals, use as much patience, and be of as much use in the world by modeling in flesh and bone as I can by modeling in marble."

3. THE CONCLUSION

The point of view of all these various personal replies is most significant, and it is in bold contrast to the general run of the responses of those who plan to leave the farm. The present replies are marked by the prominence given to ideals and by the subordination of mere personal emolument and desire for money. Forty per cent. of those who are leaving the farm allege that they do so because there is not money enough in it; very few of the 261 students who plan to be farmers mention the expectation of earning money as the leading motive. and a number of them men-

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tion the relatively small earning power and then declare that they will follow the business in spite of that handicap. Nearly every one of them gives higher ideals of living as the propelling motive, and these ideals crystallize about two points—the love of nature, and the desire of a free independent life.

Moreover, these are responses of strong conviction. They evidence pride of calling, and not one of them is apologetic. They are hopeful; they all have a forward look. They are surprisingly unselfish. Not one of them asks for power. They show that even in this epoch of hurried city-building, the love of the open country and of plain quiet living still remains as a real and vital force.

I was impressed, in the replies of those who are to leave the farm, with the emphasis placed on lack of money, hard work, and small social opportunity: they had not had a vision of the new country life; I am impressed in these replies with the recurrence of such ideals as love for the work that one is doing, education, study, per-

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sonal influence, happiness, service, home. With these young men, their business is to be an affair of the heart. We hear much about the greed of money and power and the great dangers that threaten our run-away society; but I wonder whether, in the end, the countryman will not still have hold of one of the reins.

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THE agricultural colleges are now accomplishing results of great and permanent value, in spite of the fact that they are isolated from the common schools, on which good collegiate training is supposed to rest. The country is well peopled with good farmers, in spite of the fact that the school in the open country has given them no direct aid in their business.

Responsibility of the school

Sympathy with any kind of effort or occupation, and good preparation for engaging in it, are matters of slow and long-continued growth. This growth should begin in childhood, and should be aided by the home and the school. The country school carries a greater responsibility than the city school, in proportion to its advantages, for it is charged not only with its

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own country problems, but with the training of many persons who swell the population of cities. The country school is within the sphere of a very definite series of life occupations.

The subjects taught in the common run of country schools are not the essentials; the school does not represent or express the community. I do not know that any schools teach the essentials, except as incidents or additions here and there, and essentials cannot be taught incidentally or accidentally. Arithmetic and like studies are not essentials, but are means of getting at or expressing the essentials. The first effort of the school should be to teach persons how to live.

The present methods and subjects in the rural schools have come to the schools from the outside. If we begin the school work with the child's own world, not with a foreign world or with the child's world as conceived of or remembered by the teacher or the text-book maker, it is plain that we have by that very effort started a revolution.

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The next step that the school must take is to realize its social responsibility to its community. It should be much more than an educational organism. It must relate itself to the whole life and welfare of the people, and be one of the fountains from which good ideals of service flow.

Educational values

All this supposes that the school is in the process of developing into a kind of institution that will serve the living needs of the time, and be even fundamentally different from the existing system. We have only begun to understand what education means and what it can do for society. If this is true, then we must first reconstruct our ideas of educational values; and therefore I pass to a consideration of the old courses and the new.

An eminent scholar once said to me that he saw no reason why a dairy building should be placed on a university campus, for he could not see that it had any relation to education. This remark called for no justification of education by means of

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dairying: it merely expressed his conception of what education is.

We have so long associated educational processes with particular subjects that we are in danger of regarding these subjects as constituting the sum of education. This attitude was well illustrated to me some time ago on the occasion of my visiting a farm home. There was a disagreement between father and mother as to where John should attend college, and I was asked to judge. The mother closed her argument with the remark, "His father wants him to go to an agricultural college, but I want him to get an education." In spite of all my questioning, I could not get her further than this; but she was sure that she saw a broad distinction.

1. THE QUESTION OF THE EQUIVALENCY OF STUDIES

The principle of the equality in pedagogical value of all the different lines of study that comprise the curriculum of the modern high-school or college, is now

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widely accepted in theory, but there is much reservation in accepting it in practice. This reservation is no doubt in part well founded, and it must be given due hearing. Every new thing must prove itself as against the things that are established and accepted. It is right that possession is nine points in the law.

The older order

The old or established subjects are such as language, literature, mathematics, usually typified in a "Latin" course. The new subjects are science on the one hand, and the industries on the other. The science course is almost universally accepted as of equal value with a strictly classical course, often with the reservation, however, that more or less Latin and mathematics form a part of it. The industrial courses are as yet less completely organized and are of course less accepted in terms of educational equivalency. The burden of proof is supposed still to rest on them.

The argument for the Latin course is that it has met the approval of a long

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struction by the different kinds of subjects. It has not appeared to me that language, literature, and mathematics are any better taught in the schools and colleges than the sciences and some of the industrial arts. It all resolves itself at the last into a question of the equipment and personality of the teacher; and we all know that few teachers in any subject are as good as we desire them to be.

Nevertheless, it is right that in any particular institution the presumption should lie with the older subjects, until the new subjects can prove their educational worth by the severest tests. There is much training value in orderliness and consecutiveness of work, in careful thoroughness, and in the moral discipline that comes from obligatory study. To my mind, the educational values of the different subjects do not lie in the essence of the subject-matter so much as in the way in which they are taught. If different subjects were taught by the same person, the educational value of all of them would probably be about the same. I should not consider the acquiring

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of mere manual dexterity in any subject or study to be a complete educational process. Combined with all industrial work, there should be such a systematizing of subject-matter and such a method of teaching as will bring out the underlying reasons and strongly develop the mental grasp. If the educational or training value of a course in science or in an industry is not equivalent to that of a language or literary course, it must be because it is not so well taught.

The newer order

We are given to berating the older education for not producing better results, but the fault may not have been so much in the subjects that were taught as in the fact that in many cases no subjects were taught well. There should be a strong central backbone to any elementary or secondary course of study, and the same may probably be said of most college courses. Whether this backbone shall be the customary subjects of present courses of study, or whether the school work shall crystallize about other subject-matter, may well be left to the

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gradual evolution of education to determine. The probability is that quite another framework will control the school life in times to come; if it does not, then the school will remain relatively stationary.

As the idea grows of the necessity of a good mental equipment for all persons, we must be increasingly ready to admit new subjects into the school and college course. This means that some schools will develop strongly in one line and others strongly in another line, and that the student may exercise a choice of schools; or, that we shall come more and more to a departmental organization of schools. No doubt both methods of organization will develop. The essential point is that there may be more than one route in education: it is our responsibility to see that all routes are of equal value and dignity.

Whatever may be said or done by the close adherents to the older means of education, it is inevitable that other means shall come in. This, of course, does not mean that the old subjects shall go out, although the teaching of them may need to

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be redirected in some cases: they will constitute one part, but not necessarily a so-called fundamental part, in a new scheme of school-teaching. I expect to see a recrudescence of the so-called classical studies. I would eliminate nothing from educational programs, but I would add everything; and I would have it so arranged that persons could have a choice of routes without disparagement or handicap.

We must train the coming race in the means and practice of living. New ideals and aspirations must grow out of the life that they live. The means of life are constantly more numerous, and their relations are constantly more complex. When society was more homogeneous than at present and when it was expected that only a few persons out of many were to be well trained, one general line of study suited very well. But we can no longer neglect to teach the philosophy of life and the arts by which men and women become a useful part of a growing society. In the nature of the case, therefore, the sciences and the industries will make headway in our schools and

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colleges, and those who would oppose them are setting themselves against the course of human evolution.

2. THE NATURE OF THE FORTHCOMING SCHOOL

The acceptance of the educational equivalency of studies is the very first essential to the development of a kind of school that is capable of redirecting country life. The person who rejects this premise does not accept education in terms of the daily life, or if he does accept it, his concurrence is only a concession to popular demand.

The four R's

The old schools were built on the four R's,—reading, 'riting, 'rithmetic, and ruler. They were a combination of certain formal subjects and what is called "good order" or discipline. There are still those who hold that the pursuit of reading, 'riting and 'rithmetic is of itself an end in education. These subjects, however, are

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tools or means to be used in the acquiring of knowledge and power. Of course, the pursuit of them is an educational process; but the basis of education is at first to develop the child by means of his activities and of the things that make up his world: he needs reading, 'riting, and 'rithmetic to enable him to make use of his world and to 'understand it.

Similarly, "good order" or discipline is not an end in itself. By focusing attention, it develops the mind to follow a given line of thought and to be undiverted. It has its moral significance. But many teachers seem to act on the principle that there is virtue in the very act of sitting still and of not whispering. The school of the future will have the activities of life in it; and the "order" of the school-room will be the order that is naturally a part of the work that the pupils do; not the order imposed by the ruler. The only real school discipline, in the end, is the natural control that the subject and the teaching hold over the pupil; it is the pupil's interest in his work. The larger part of the really

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fertile school work cannot be pursued by the pupil in silence and inaction.

Agriculture in the schools

I look to the school, when faced about, to be an essential factor in the evolution of the country life that we all hope for. All the people hold this hope, or something like it. We may differ as to the kind of school that is needed. The common idea seems to be to make an end of the matter by introducing "agriculture" into the school. Many persons object to this for the elementary school and some of them for the high-school, on the ground that children should not be made or influenced to specialize. I am not now asking that the public elementary schools teach trades and professions. George F. Warren has put the matter tersely in his sentence, "While it is not desirable to try to make farmers, it does seem desirable to stop unmaking them."

Personally, I have very little care whether a class in agriculture is introduced in any school or not: if the people are

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ready for it and the teacher is prepared, it should go into the high-school and possibly in lower grades; but the real nub of the matter lies much deeper than this. The whole process of the school must change. We must begin with the child's world and not with the teacher's world, and we must use the common objects, phenomena and activities as means of education. When these objects, phenomena and activities are agricultural (as they are in a rural community), then agriculture becomes a means of education, but it is not agriculture in the sense of a specialty leading directly to the occupation of farming. That is to say, in such cases agriculture (which is the sum of the community life) becomes the real backbone and motive of the school. Other subjects grow out of it and are picked up with it as the school life proceeds.

I would have the child know the people of his community, and how they live; how the community supports itself; its relation to the neighboring community; how many schools there are and how many churches, and how they came to be there; the roads;

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the general lay of the land, and something about the soils; how many farms in the district, and what they produce and why; the common or significant animals and plants; the woods and the streams; how the locality is governed; how the houses are built; what the local factories are; and so on. And I would teach him how to keep himself from being sick or lazy. I would not have all this told to the child as news or pleasant pieces of information. I would have it constitute the real work and substance of the school, carrying the method out to the world questions as the pupil reaches the proper understanding; and I would enrich his life by bringing in the literature and the history and biography, and incorporating them into his education, as the figures are woven into a fabric.

It may seem to be a difficult thing to teach all this; but that is no argument against it, for such things must be taught. We must train the child into touch and sympathy with life, not take him out of and away from life. Ideals that are worth anything must grow out of the common things

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and the daily life. Mere abstract ideals are no ideals at all: they are only dreams.

But these things are not difficult to teach. We think that they are difficult because few persons have yet been trained to teach them. We are so obsessed with the book habit, and so possessed by what has been, and so depressed by the domination of educational method, that we are not free really to teach.

They say to me that this kind of teaching would lack definiteness and consecutiveness and would tend to looseness of school work. My first reply is that I would like to see school work loosened up. I am leaving the old order of school work behind. My second reply is that a good teacher would make this kind of teaching just as definite and systematic as any other; and I am not at all alarmed by the old bugaboo of "drill" and "mental discipline." Such work, when well done, should have vitality, and this is exactly what the old process so often lacks; it would lend itself in the least degree to memorizing and mummery.

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Of course, I would not confine the work of the school to the local subjects; but I would ground the pupil in the concepts of his own place and time. If he is started and directed right, he should make a better Latin scholar as well as a better nature scholar; and it would be folly to try to bend all his energies to farming and to nature-study, or to any other special line.

School to represent the community

All this means that the school represents and reflects the life of the community, and works out suggestions for the betterment of the community. In other words, as I have said, the school carries a social as well as an educational responsibility.

Our ideal of a state university is an institution that really represents the state and helps in working out the problems of the state. It lends its aid officially in tax commissions, railway commissions, public-service commissions, in problems of agriculture, manufacture, mining, and commerce. It gives advice in education (which is its particular specialty) and in social, economic, and even religious questions.

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Now, I look on the school of the future as the little university of its community, working out the problems of the community and developing leadership. The school should aid the rural community (my subject is country life, and I leave it to others to write of town life) to better roads, better cattle, better butter, to more eggs and more crops, to better seed corn and better alfalfa, and to higher efficiency everywhere. It should be a local forum. It should coöperate with the church, the library, the fair, the farmers' organizations, with every farmer and every housewife, tying the community together and making it a better place to live in.

This cannot come about without active coöperation by the people. We do not even yet take our schools seriously. They must become a part of the government of the community, and be just as essential as the crops or as politics. The school must have much more money, particularly in the rural districts, than is now given it; and the people will provide the funds when the school begins to do the work.

One of the means of improving the

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schools is the consolidating of two or more districts into one. No doubt it is often necessary and advisable to consolidate schools, but I warn my reader that it is easy to carry this process too far. It usually follows that when schools are consolidated, they begin to copy city-school methods. I much doubt whether the methods of city schools are on the whole such as will endure, even for cities; and I am much more in doubt whether they are best for country schools. There is a value in the simplicity, directness, democracy, and even the smallness of the "district school" that we cannot afford to give up lightly; and it is an institution of the community. The sterility of the district school lies not so much in its remoteness, separateness, and smallness as in the lack of funds to enable it to do the work of a school. The state must come to the aid of the district school.

The high-school

In this discussion, I have chiefly had in mind the school life below the high-school. If the primary and intermediate teaching

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is started right, the high-school work will largely take care of itself. The reform is needed in the beginning years, not because the work in these years is now more imperfect than in the high-school years, but because the process is a point of view that needs to be established very early in life, and because relatively few youths reach the high-school. In the high-school, the specializing studies begin. Specially qualified teachers are usually provided, and these teachers should be able to handle their own subjects. It is significant that the popular agitation for agriculture teaching has considered chiefly the children "in the grades," and that the books and leaflets have been written for this range.

Process of evolution

I am not criticizing the schools. We owe everything to the schools. I am developing a point of view. We are in the process of evolution. All the improvements in schools and the introduction of new subjects are contributing to bring about a new order; what I should like to impress is that these

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improvements are only steps and are not ends in themselves. The final result must be a kind of training institution that differs radically from the present system both in its constitution and its processes. We are coming, as I have said, to a new conception of the function of education.

3. A SCHOOL MAN'S OUTLOOK TO THE RURAL SCHOOL

The following sensible and practical vision of the part that the school should play in the life of the rural community is by Fasset A. Cotton, formerly Superintendent of Public Instruction of Indiana and now President of the State Normal School, La Crosse, Wisconsin:

“The relation of rural schools to rural life is the greatest educational problem of the present day, and as yet few have realized its stupendous importance. Upon its solution depends in large measure the future welfare and stability of our people.

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This is no idle statement. A study of the factors involved will show that it is true. To arrive at conclusions of any value, at least three phases of rural life must be studied: material and commercial progress; social life; and the schools.

“The change in farming methods is one of the marvels of the century. With forests cleared and swamp lands redeemed, the steam plow does the work of many men. The soil is prepared, planted, cultivated, and the harvest is gathered by machinery. The sickle, the scythe, the cradle, and the flail have given way to the mower, the self-binder and header, and to the steam thresher. The dairy, from milking to butter-making, has become scientific. Chicken-raising and stock-growing have become matters of intelligence instead of chance. Good roads, steam railways, interurbans, rural routes and telephones, have all but eliminated time and distance, and have brought the farm into close touch with everyday life in the commercial world. Easy transportation and the knowledge of market prices have brought the farmer a

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fair return for his products. While this progressive spirit has in a way touched all farm life, this does not by any means tell the whole story.

“It is still a far cry from the small hill-country farm to the wide western plains where farming is done on so large a scale. The difference between what may be called domestic farming and commercial farming is tremendous. It is the difference between the small farm owned and occupied and cultivated by the owner for a living, and the landed estate owned by a syndicate or a wealthy individual and farmed for commerce. More and more as the years come and go, must millions of our people get their living from the land; and more and more must domestic farming become a dominant factor in the life of our people. It is with this phase of farming rather than with commercial farming on a large scale that I am interested, and it involves at once the question of social life and education of the family. After all, it is the family that lives on the farm that makes the problem an interesting one.

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“Before any reliable conclusions are reached, certain mistaken notions must be corrected. Doubtless the stories of farming by machinery and the great results of commercial farming are responsible for these. To the unthinking, farming has come to be one long holiday picnic, when everybody rides. Nothing can be further from the truth. Even with the most approved machinery, there is plenty of work for head and hand on the farm; and when it is realized that the use of all this up-to-date machinery is by no means general, and, moreover, that its use would be impossible on small farms, it will be apparent that there is still work to do.

“It looks as though the same forces that brought farm life into touch with the commercial world might easily bring it into touch with the social world; and they might make possible the pleasures, comforts, luxuries and culture of city life with none of its unpleasant features. But it must be admitted that this possibility has not been very generally realized. In many instances, the social life of the people has not kept

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pace with material prosperity. Big barns filled with grain, wide fields over which blooded stock roams, and the latest farm machinery, have often kept the dwelling-house small and barren enough of comfort and beauty. And so it may be fairly stated that the home interests have not always kept pace with the material interests of the farm. The mothers and daughters who have borne their share of the burden of toil have been the larger sufferers. Under existing conditions, it is not strange that farmers' children are attracted to city life, and that they leave the farm. Life is too hard and the social advantages are too few and far between. It has been suggested that the custom of European farmers who live in villages would solve the problem. It is thought that such local centers would relieve the isolation and furnish the much needed social life.

“The real solution of the problem in this country, however, lies in the coöperation of economic, social, and educational forces with the school as the center. There is a vital relation between country life and

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the country school that has not been seen. The country school has not even begun to fulfil its mission. Hitherto all schools have been alike,—city, country, and town. Their province has not been to educate, to develop boys and girls into men and women, but simply to impart facts of arithmetic, geography, and history. The country has had such schools, but they have never recognized their distinctive environment or let it make any difference in their mode of procedure. They have never realized that their problem is a distinct one, nor that the means are peculiar. The farmers could not solve the problem: they have their own work to do, and it is not their business; and educators have worshiped tradition so long that it has been almost impossible for them to look fairly and squarely at the nature, conditions, environment, and needs of a child and let these determine the process and means of education.

“Now, with the school as the center of township life, economic, social, and educational interests can work out the solution

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together. The school center is better than the village center. It is doubtful if the latter is possible. In the nature of the case, most farmers must live on their farms. Those whose circumstances would permit could build their homes in the school center vicinity, but the school, either the consolidated or the large district school, must be the center. The township school should be conducted under the ideal conditions mentioned above. The teachers should be well-prepared men and women, thoroughly in touch with the problems and interests of the township, and permanent residents of the community. They should understand the relation of education and agriculture, and should be able to create in the boys and girls a love for the land. The school should be the center of social life where the farmers' families could assemble frequently to hear lectures, to enjoy concerts and high-class entertainments, and to discuss problems of vital community interest. The teachers should be capable of directing all of this life and of taking part in it. The school center should be the meeting-

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place for farmers' institutes and clubs, and should be the political center of the township, where all civic questions could be discussed. What phases of life the principles of centralization shall include, the community will easily decide. Good roads from every direction will center here, and convenience will shortly locate all residences upon these direct lines. Of course, the natural conditions of the township must determine the center or centers, for hills, streams, and size of the township may make more than one center necessary.

“Three things, then, are fundamental in this problem: First: the coöperation of economic, social, and educational forces with the school as the center is absolutely essential. The one-room isolated school, unless a very large one, can no longer meet the needs of the people. Second: community life with its dominant interest, agriculture, must determine the nature of the work in the school and the mode of procedure. Third: the teachers must be well-prepared men and women, capable of dealing with the problems of life, willing to

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make the community their permanent home, and to take the solution of its economic, social, and educational problems as their life work."

4. THE NEED OF A RECOGNIZED SYSTEM

The work of education by means of agriculture is in danger of becoming scattered. It is being taken up in the public schools here and there, and the agitation for it is widespread; but there is yet little organization or system in it.

Schools and departments in colleges and universities

Old-line colleges and universities are also seeking to have schools or departments of agriculture, often of secondary grade, attached to them. These, also, are no part of an organized system; and it is not always certain that their environment will be such as to insure satisfactory results without the guidance of some supervising authority or administrative method.

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In normal schools

Normal schools, more or less independent of general supervision, are also beginning to teach agriculture. They will prepare teachers for the public schools.

Separate schools of agriculture

There is a rapidly spreading demand for special or separate schools to teach agriculture, and many states have already established them. These schools are mostly outside of any school system and are unprovided with supervision. In part, they are no doubt protests against the common schools, as the separate colleges of agriculture and mechanic arts were once protests against the established colleges and universities. In part, they are founded to provide better facilities and equipment for the teaching of the rural industrial subjects. In part, also, they are established to satisfy the desire of communities to have some institution, establishment, or feature in their midst; and the school of agriculture is now one of the institutions that are

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relatively easy to secure from legislatures.

These special schools will undoubtedly be of great value, and they ought to lead the way in a new kind of secondary education; but at the same time we must not forget that we have a public-school system that ought to be developed in these very lines, and it would be a pity to cripple this system by diverting attention elsewhere. We ought not to have duplicate systems of education. These special schools, of whatever plan of organization, should supplement the public-school system, providing facilities for such persons as desire to go further than the public school can take them or who desire quickly to acquire a working knowledge of particular parts of farm life.

In secondary schools

The special separate schools of agriculture cannot meet all the needs of country people for education in terms of their daily lives. A farmer has a right to ask that his son and daughter be given facilities for country-life education in his home

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school. The state should not make it necessary for him to send them away from home for the elements of such education. It follows that all public schools should be open to education by means of agriculture on the same terms that they are open to education by other means. New York has the basis for such a development in the act of 1908 for the encouraging of industrial and trade schools. I am convinced that this act marks a clear advance in industrial education in this country. This law recognizes industrial education as a part of the proper educational work of the state; and the principle that the initiative should lie with the people, and the maintenance be coöperative between the locality and the state. It provides that any public school that establishes such work and maintains it for a year shall receive \$500 from the state for one teacher so employed and \$200 for additional teachers. It limits such instruction to those who have taken the elementary school course. It provides for an advisory board to confer with the school officers in respect to the work. Now, train-

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ing in agriculture is only one phase of industrial education. Training in domestic or household subjects is another phase. These principles will probably soon be extended to the encouragement of education by means of agriculture and the domestic arts in all schools, both in town and country.

A statute of this kind provides a means whereby the state makes additional appropriation to the public schools. The schools need more funds. It is going to be a serious question whether the money appropriated to the more expensive of the separate special schools would not go farther if given to the public schools for approved work. The public schools are beginning to rise to the occasion.

In nearly all the states, some scheme or mode of introducing agriculture into the public schools is being agitated or tried. In many places, the work is now actually in the schools. The work should be guided and supervised by some competent authority or agency, as the state department of public instruction or the college of agri-

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culture, or, preferably, by both,—one on the side of administration and the other on the side of subject-matter.

When such work comes in the schools, the state departments of public instruction must develop a broad policy of industrial education, with a well-equipped bureau or division to administer it. This division should also have relation to the work in special schools of agriculture. Personally, I doubt the wisdom of separating the administration of agricultural education from that of other industrial education. The two lines should develop coördinately; and agricultural training should be in good part manual or “industrial.”

Relation of the whole

Time is now at hand when the agriculture teaching in all these institutions should be related, and when an organized system or plan should be perfected. The college of agriculture in each state should be a part of this plan, dominating at least the technical agriculture work, so that

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sound subject-matter and rational points of view may run through all the schools. The entire development of agricultural training could then begin to proceed in an orderly way.

Education of all kinds should be nationalized, by the development of a strong co-ordinating department at Washington. The United States Bureau of Education should be much enlarged, by increased appropriations. It could greatly stimulate country-life education if it had the funds and the necessary organization.

THE COLLEGE OF AGRICULTURE AND THE FARM YOUTH

WE may now ask what is to be the prospect for the person who is educated for country life in a college of agriculture. It is sometimes charged that the college educates "away from" or "beyond" the farm. If this is true, it must be because it either alienates the student's sympathies or gives him an unpractical or not useful training. A main question, so far as the student is concerned, is whether his sympathies really are in danger of being alienated.

1. OPINIONS OF STUDENTS

What, then, do these agricultural students propose to do with their education?

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The only way to answer this question is to secure statements from the students themselves. This I have done, and the summary results are given below. It will no doubt be objected that this method is unreliable in indicating the influence of the college, since a student may not follow his intentions; yet it is probable that the influence of a course of study may be better expressed in the intentions of students than in statistics of the occupations of persons who have been some years out of college, for the occupation is in very many cases a matter of accident or of circumstances rather than of choice. The student's ideals are developed or confirmed in the college course; if later these ideals are modified, it may be no fault of the course.

The students and their replies

The students of whom I asked the questions were members of the College of Agriculture of Cornell University. My only reason for choosing this particular college is because I am connected with it. Prob-

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ably the other agricultural colleges would give similar results. I have every reason to think that the replies express honest conviction. These persons represented three classes of students: four-year students, having entered with full university requirements and who were working for a baccalaureate degree; two-year students, pursuing general agricultural studies, earnest men and women, well grounded in common-school subjects, and many of them persons of maturity and strong native ability, and all of them taking regular university work; and two-year specials in the teacher's course for nature-study and agriculture, all of whom were women. Up to the time of the writing I had 179 replies to my inquiries. These replies may be roughly classified as follows:

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STATEMENT OF THE DESIRES OF 179 STUDENTS IN A COLLEGE OF AGRICULTURE

		Desire to go into farming	Desire to teach or experiment in agriculture	Landscape- gardening	Undecided or unexpressed
<i>78 students reared on the farm</i>					
35	regular students ..	28	6		1
43	special students ..	40	2		1
<i>69 students reared in town or city</i>					
45	regular students ..	25	11	7	2
24	special students ..	19	3	1	1
<i>14 American women students</i>					
5	regular students ..	2	3		
9	special students ..		9 (teach nature-study and agriculture)		
<i>18 foreign students</i>					
10	regular students ..	8	2		
8	special students ..	7	1		
<hr/>		<hr/>	<hr/>	<hr/>	<hr/>
179		129	37	8	5

While these specific replies are too few to furnish any basis of percentages, they nevertheless suggest the range of activities that appeals to a student body. They also

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indicate that the desire for an agricultural life appeals to many men of many minds, and that it is apparently not a passing whim or fashion.

Comments on the replies

The figures in the last column are most significant, showing that only five of the entire lot fail to express their wishes as to choice of life work. Moreover, two or three of these persons declare that they desire to pursue some kind of agricultural work.

The desire to engage in farming, as expressed in the first column, is most various in kind and is of different degrees of intensity. I made a note of such desires as are specifically mentioned by the respondents, with the following results:

Farm students

Desire to return to home farm	13
Stock and dairy farming	14
Horticulture	11
General farming	6
Poultry	6
Superintendent or manager	5

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Town students

Horticulture (mostly fruit and green-house business)	15
Stock and dairy farming	14
General farming	8
Poultry	4

Many of these persons who desire to take up direct farming occupations, however, have no capital with which to start. They will follow teaching or some other salaried work for a time, as they tell me in their replies, in order that they may accumulate the means to buy land and equipment. Of course some of them will never get back to the land after they are once engaged in another enterprise, but this will be their misfortune rather than their choice.

The figures are most suggestive as to the intentions of the town students. There are, of course, no sharp lines of classification as between farm and town. Some of the students have spent their time in both city and country, and are essentially towns-

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men, and I have so classified them. Some farm youths have moved to town, but these are essentially farmers, because they were reared in the farm atmosphere. Yet I think that there is sufficient line of separation to make the categories worth while. It is rather surprising that more than sixty per cent. of these town and farm youths desire to engage in practical farming. It is equally significant that all of those who wish to be landscape-gardeners are from the town. This is a reflection of the fact that the art sense is not yet developed in the agricultural country.

On the whole, this particular student body, so far as replies had been received, had set itself distinctly toward the development of agriculture, and seventy per cent. of the respondents would engage in practical farming if they were free and able to do so. One wonders what fortune the years will bring these young persons, and how many of them will find the opportunities to which they are looking.

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2. WHAT IS TO BECOME OF THE EDUCATED FARM YOUTH?

Having made this brief examination of the sentiment of a certain agricultural student body, it will now be worth while to ask what an agricultural education may be expected to accomplish for the farm boy and girl in general, and whether there is to be a place in the world for a person thus trained. This is the main question, so far as society is concerned. Are there careers for these college youth?

There is special reason for asking these questions, because it is still a frequent saying that college unfits a man for farm life, and also because there is no phase of educational work that is now receiving more attention than agricultural education. Many of the colleges of agriculture that have been in an undeveloped state are now springing into great activity. States are giving large sums for buildings and equipment, to supplement the proceeds from the funds of the Land-grant Act of 1862.

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What will this new educational activity accomplish for the farmer?

It is first pertinent to consider what education does for a man. It inspires him, sets him new ideals, makes him a more vigorous and accurate thinker, gives him a new fund of information, and develops him with power. Then the question arises whether the farm will continue to satisfy the educated man.

The two factors, then, are the college on one hand and the farm on the other. Can they work together harmoniously for one common object?

The part played by the college

It is undoubtedly true that there has often been a lack of articulation or adjustment between college and farm, in spite of all their efforts to come together. This lack is not to be regarded as a shortcoming, but rather as a stage in the progress of evolution of a new type of education. It requires time to work out an educational system that will adequately meet its ends, and probably in no other direction is this so

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true as in agricultural education: for agriculture is exceedingly complex; it rests on a multitude of sciences and arts, and it is handicapped by centuries of burdensome tradition. Agricultural education in this country, as an organized enterprise, is not yet half a century old; and half a century is none too long for the fitting of the ground and the planting of the seed.

The leading colleges of agriculture have changed radically within the last five or ten years. The colleges fully recognize their weaknesses; but I find that most of the critics of them are unaware of the recent work of these institutions. No institutions are now making more substantial progress than these colleges of agriculture.

The man of special parts has gone to college. For such men there are always special opportunities. In the last fifty years the commercial world has been upset and reorganized, calling everywhere for men of ability. The farm has furnished a remarkable share of these men, for the farm boy is industrious, frugal, able to turn his attention to many enterprises. We

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think it strange that the college boy has not gone back to the farm; it would be stranger if the men of unusual ability had gone back to the farm. To capable men the door of opportunity always opens: they enter.

Another type of youth who has gone to college is the one who cares for books more than for affairs. The college satisfies him. He is willing to remain in an inferior position if only he can have access to libraries and to the company of bookish men. This is not anomalous, nor even strange. Some men like cattle; some like steam engines; some like books. Of course the book man is not adapted to be a farmer. If he goes back to the farm, he becomes the "book farmer." He has missed his calling and he has had his day. There is a place in the world for this man; and this place he is now finding.

The college may take a man away from the farm because it opens the world to him rather than because it unfits him for the farm. Many of the men who leave the farm by the college route probably never would have made good farmers if they had

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remained; and it is to the great credit of farming that it has sent so many good men and women into the world. I hope that the open country will continue to contribute its due proportion of boys and girls to the cities and the professions.

Much of the teaching also has been bookish. It has been the avowed purpose of teaching to teach by means of books. The old colleges and academies rested largely on this idea. The common schools copied the colleges. The introduction into colleges of subjects that have relation to affairs has changed all this. The mechanical engineer is not educated primarily in books and mere lectures, but in machines and engineering problems. The teaching of agriculture also is similarly changing. More and more, the students are studying cows and corn, not studying more or less relevant subjects about cows and corn. The professors are men of affairs: they are "practical." The consequence is that students are put in touch with the actual vital problems of the farm and the open country. The college and the farm are now beginning

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to articulate closely. The agricultural subjects are gradually being systematized into educational form, so that they become a means of developing real power.

Again, the student usually receives no training farmward until he enters college. At that age his sympathies are likely to be set toward other enterprises. The common schools have not trained countryward. So far as they train for college, it is mostly in the direction of "arts and sciences" or "letters." If the youth is to be trained countryward, the training should begin before he is sent to college. These remarks are well illustrated even in the arithmetic, which presents chiefly store-keeping, middlemen, and partnership problems; yet there are hundreds of indigenous arithmetical farm problems, the figuring of which in the public schools would revolutionize agriculture.

The agricultural college is now teaching from the farm point of view rather than from the traditional academic point of view. It is near the load. It will reach many persons rather than few. It is ask-

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ing the common schools for help. It is fostering an indigenous agricultural sentiment.

The part played by the farm

We may now inquire what the farm does to help the farm boy. A farmer complained to me that his son had not come back to the farm from college. He had worked hard to retain the farm in order that the son might have it. It was apparent why the son had not gone back: the farm was not worthy of him. There was nothing on that particular farm that could hold the attention of a young man whose sensitiveness had been quickened and whose ambitions had been stimulated. I should have thought the boy's education a failure if he had been content on that farm. The father, remaining on the farm, had not realized all this. He had never thought that the son's point of view on most questions would be greatly changed.

Often the college man is no longer content on the farm because of lack of congenial associates. There is no one in sympathy with his new attitude of mind. He is aware

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that he is a subject of silent curiosity and sometimes even of ridicule. Often there is no opportunity allowed him on the farm to work out the new methods and to express his new ambitions. We have assumed that the whole burden of responsibility rests on the agricultural college, but it really rests in part on the farm. The following statement in one of my replies is pathetic: "My expectation is to go home eventually, provided I can secure permission to make some few improvements that are essential for successful farming—for example, a silo."

It is wholly unreasonable for a farmer who has taken no pains to train his son for better farming to expect that the college of agriculture can change all this misdirection after the young man has reached maturity and can send him back to work under the old conditions. Farming has sent more boys away from the farm than colleges of agriculture ever have sent away.

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Back to the farm

The character of farming is changing rapidly. It is coming more and more to be an efficient, profitable, and attractive business. With marked exceptions here and there, in the past we have not given much consecutive thought to the business—not nearly as much as the merchant gives to his business or the doctor to his. It has been such an “easy” business that untrained men could succeed in it. The change in economic and social conditions is breaking up the tradition. Farming is becoming more difficult, and the old methods must go.

The mere growth of our population will make more intensive demands on the farm. We have been skimming the surface of our farms and sending the produce abroad. From now on, we must expend all our energies to feed and clothe our own people from lands that are no longer new. This will demand great skill. The ignorant and rule-of-thumb farmer will be forced out. In the future only the well-informed and

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efficient-thinking man can succeed; that is, only the educated man.

The country is to offer other advantages to the educated man than merely to be a good farmer. There are good opportunities for leadership on public questions—probably better opportunity and with less competition than in the great cities. The very fact that city representation is increasing in the legislatures should make the able country representative more of a marked man. The growth of the institute movement, of the grange and other rural organizations, gives fresh opportunity to develop leadership of a high order.

It seems to me that, by the very nature of the progress we are making, the college man must go to the farm. In fact, college men have been going back from the beginning of the agricultural education movement. Statistics show that a very large percentage actually have returned to farming, and this in spite of the fact that cities have been growing with marvelous rapidity, and that the whole system of agricultural colleges and experiment stations has

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been developing and calling for men. Considering the limitations under which the agricultural colleges have developed, without sympathy, with the indifference and sometimes the opposition of educators,—the very men who should have known better,—with wholly inadequate funds, it is little less than marvelous what they have accomplished within a generation. It is probable that the proportion of students of the leading agricultural colleges who now engage in agricultural pursuits is greater than that of students of colleges of law or of other professional colleges who follow the profession for which the college stands. No one now questions the value of education to a lawyer or physician; why question its value to a farmer? The educated man will go back to the farm if he is fitted to be a farmer.

Should all the students become farmers?

We may now consider another phase of the subject, whether it is really desirable that all the students from an agricultural college shall engage in agricultural pur-

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suits. The first great contest of the agricultural college was to convince the public, particularly the agricultural public, that higher education is needed for agriculture. That contest is now merely a memory. The second epoch is now on—whether agricultural and country-life subjects can be made the means of educating a man broadly, independent of the particular vocation that he is to follow. In other words, shall agricultural education be severely technical and professional or shall it be broadly educational? It is evident that these subjects are considered to have excellent training and disciplinary value from the fact that most of the states, territories, and provinces in North America have now taken some kind of official action looking toward the introduction of agricultural subjects into the common schools. The common public schools do not teach the professions and trades. The result of good industrial education is to put the pupil into contact with his own problem, to place him near his work, to develop his creative and constructive instincts, to give his

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lump. If there is an agricultural problem, these institutions are to make the heaviest contributions toward the solving of it. Now and then, pieces of this great body of work are hit upon by a magazine writer as "discoveries," and he runs wild about them; but the real advance is the result of small accretions. With all the awakened interest and the exploiting of individual instances, the townsman is not yet aware of the tremendous rise in the tone and efficiency of the entire agricultural industry, which may well be likened to the gradual elevation of a geological stratum of continental extent. At the same time, the agricultural population is retaining its old-time vigor, independence, and native philosophy. The student who enters this field will most assuredly not succeed unless he has good talents and is well trained and properly estimates the problem; but it is nevertheless perfectly evident not only that educated men can succeed in agricultural arts, but that in time this type of man will be the only one who can hope for the best results.

COLLEGE MEN AS FARM MANAGERS

“**I** HAVE a farm of about two hundred acres near — that came to me from my father. It has fairly good buildings, is near a good local market, and should be a good dairy farm. The present tenant, who is honest and faithful, runs it in the old way; and although it is no expense to me, and sometimes turns a fair profit, the place is not my ideal of what a farm should be. It seems to me that I ought to change superintendents, and I thought that among the graduates from your college there might be some good young man whom you could recommend. I pay my man \$30 per month the year round, and he has a small garden plot and a cow, and gets his firewood on the place. I would be willing to pay a little more than this for a man who was scientifically trained and has had experience, or I might let him work the place on shares.”

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1. THE PROBLEMS INVOLVED

This kind of communication is typical of many that come to me with requests for college men to take charge of farms. Very often it is a worn-out or run-down place that is in need of a manager, and the owner is willing to let the man have half the earnings if he is successful in bringing it into a profitable condition. In some cases, the owner is not able to find any one who knows the place to rent it, and he is obliged to look abroad for a manager.

There is such widespread misunderstanding of the problems involved in these questions that I cannot refrain from inviting my reader to a discussion of the merits of the case. There must be a complete readjustment of ideas in respect to the remuneration that educated men are to receive in agriculture, and it is time that we face the question. I understand, of course, that a graduate of any institution may be glad to work for a time merely for experience, but of this I am not now speaking: I

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am considering the remuneration for **man-**
agers.

Outlook of students on the question

In order to ascertain the expectations of students themselves as to their value to an employer, I addressed a letter of inquiry to the several hundred students in the Collège of Agriculture at Cornell University. I asked what kind of position or employment the student desired on graduation, what wages or salary he thought he would be fairly worth, and why he put the value of his services at such figure. I had 135 replies, coming from regular four-year men, one-year or two-year specials, and three-months' winter-course students.

Of this number, forty-two desired to become farm managers, eighteen of them being four-year men, thirteen of them specials, and eleven winter-course students. Most of the men, in all classes, were brought up on the farm, and the others had had more or less farm experience. The sums that they specify in every case are for the first year of service, with expecta-

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tion that promotion may come if they are successful. These sums are not merely what is blindly hoped for, but are suggested by what college-mates and others before them have been able to secure in the way of remuneration in various kinds of business.

The pay expected by the eighteen four-year men on graduation, for farm managership, ranges from \$700 to \$2000 per year, and most of the men expect to receive more or less subsistence in addition. The average salary for the eighteen is \$977. It is interesting to compare these figures with those of seventeen four-year men who desire to become teachers, or to enter government service, in which salary schedules are already established. The range of salary expected by these persons is from \$600 to \$1500, with an average of \$987. In these cases, no subsistence is expected in addition to salary, except such as may be included in the traveling expenses of government agents. The pay expected by those students who are preparing to be farm managers on the whole exceeds that

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expected by those who desire to teach or to enter the public service. Those who desire to teach or to engage in government work usually look to the opportunity to undertake investigation as the chief ultimate reward, although many of them expect to engage in the profession only temporarily, until they can secure means to purchase or equip a farm. All the farm-manager students expected eventually to manage or work farms of their own.

Of the one-year and two-year special students, thirteen desire to become farm managers, at pay ranging from \$420 to \$1000, and an average of \$720. They expect, as do all farm managers, that a good part of the daily supplies can be got directly from the farm without money cost to them. Of these special students, nine would be teachers or experimenters, with salaries ranging from \$600 to \$1500, with an average of about \$1000.

The eleven winter-course men who would be managers of farms, desire pay ranging from \$480 to \$1000, with an average of about \$700. Some of the winter-course stu-

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dents are properly high-price men because they are mature and have had much practice, and they come to college to supplement their experience-knowledge.

These salaries are all within reason, and they must be paid if good men are to be secured. The modern farm business must compete with the public service and the schools and with commercial organizations if it is to secure men of equal qualifications. Those farms that cannot pay such sums are not expected to compete: they are not in the managership grade; they must be run on the family proprietorship plan, and of these I am not now speaking.

Students' replies

The replies to my question as to the reason for stating the given figures of value of services, fall under six categories:

1. The student considers himself to be worth to his employer the full amount of the pay that he mentions.
2. One cannot afford to give his services for less than these figures after hav-

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ing gone to the expense of a course of special training and having lost the money value of his services in the effort. If farm managerships cannot pay these wages, it is not worth while to train oneself for them.

3. Farm managers should receive as good pay as their classmates of only equal ability who teach or enter government service, or who engage in other professions or occupations.
4. The amount of investment in a thoroughly good farm should demand such a proportion of the working capital to be expended on manager-ship.
5. The men would expect to earn similar amounts if they had good farms of their own.
6. The manager must have sufficient remuneration to enable him to live in a way that befits an educated and cultivated man.

The reader may be interested to read some of the answers on this point ("why do

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you put your services at this figure?"). These are some of the replies:

"An expert in other branches has a right to expect a good salary, so why should not a man who has spent four years specializing in agricultural studies and practical work?"

"I think that the above figures [\$1000 to \$1200] are about right because a person, after four years' training, ought to be in a position to earn that amount. Even if an individual did not study at a college, but started immediately in some commercial enterprise, it is quite probable that he would be making as much as this and perhaps more. Why then should any one with special knowledge of any sort be his inferior in wage earning, if the branch which he has taken up is a profitable one?"

"It requires at least \$3000 (even to a laboring student if we take his time into consideration) to obtain a college education. This includes the money actually expended and also the value of four years at ordinary wages. To this we must add the gain to mental efficiency also. I have always lived and labored on a farm and am acquainted with the practical side. My vacations are also spent there. I am taking as general a course as possible. My object in

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becoming a superintendent is not only to enable me to purchase a farm of my own, but to become as efficient as possible as a farmer. With this end in view, it will be to my advantage to work as conscientiously for my employer as it would be for myself alone. Taking these things all into consideration, I think \$1000 would not be too high a salary to demand as a beginning."

"Because I think it would be more profitable for me to run a farm of my own if I could not get \$1000 a year as superintendent."

"Because I think I can earn it [\$1200 to \$1500]. Besides my course here in college, I have lived and worked all my life on a farm in a good agricultural region of New York, and I think I can earn this much by running a farm for myself."

"Because I was earning half that much [he asks for \$750 the first year, \$1500 the second or third] on a farm before coming to college."

"I do not know whether I am worth it [\$1000], but I am sure I can get it."

"Because I think I can make a dairy farm yield \$45 to \$50 per cow per year, in addition to expenses and interest on investment."

"I have had five years' practical experience on an up-to-date farm paying \$3000 per year; have had a business-college education; am now

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in college here; know what work is, and am not afraid of it. I am satisfied I can bring a good farm to a paying basis on that salary [\$1000 to begin with].”

Winter-course students

From the various winter-courses of twelve weeks a considerable number of men go out as managers, although the larger part of them return to their own places. The dairy-course winter students go into the creameries and cheese factories. They are factory-men. The value of instruction to these men is somewhat definitely indicated by the increase in monthly wages as soon as they are out. Following are extracts from correspondence with the dairy-course winter students:

A young man who could have done no better than earn ordinary farm wages took the winter dairy-course, and on leaving the dairy school, he secured a position as operator in a small cheese factory at \$50 per month. The next year his wages were increased to \$75 per month, and he has been offered \$85 per month for the year to fol-

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low. Another student writes that when he took charge of his creamery, just after finishing his twelve weeks' course, the patrons were badly discouraged. They were not making as good payments as other creameries in the vicinity. In a single season this creamery gained steadily, month after month, until in August the patrons were receiving the leading price for butter-fat. Another student writes that his wages is \$13 per month more than before he took the winter dairy-course. Another student has had his wages increased one third within a year. Another receives \$20 more per month. In another case the salary was more than doubled.

Managers are not "hired men"

These various cases, chosen as representative of many, are given only for the purpose of establishing the fact in the mind of employers that well-trained men command more than ordinary farm wages, whether in the region of superintendents and managers or in that of factory-men. It is not to be expected that college men can

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afford to become mere month hands on farms, except only temporarily when learning the business. Of course these facts are recognized by good business men, and the demand for farm managers from the colleges, at good remuneration, is greater than the supply; but the general public does not yet seem to realize them.

2. CAN FARMING PAY SUCH SALARIES?

My reader will at once ask whether agriculture can pay such salaries or wages as these; and thereupon we come to the essence of the matter. The truth is that the college graduate has failed to go back to the farm in many cases because the farm has not been worthy of his efforts. We must remember, also, that the number of graduates has not been large.

The economic question

We may first consider the plain economics of the case. One of the common errors

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of city men who go into farming is in over-capitalizing in buildings, on which they expect a manager to make interest. Even an expensive country house that has nothing to do with the farm is often included. Over-capitalization in barns is nearly as bad. As much as \$300 per cow has been expended for barns, and for only fairly good cows at that. This makes a tax of about \$30 per cow per year. If one is expecting to sell pure-bred stock, he may sometimes secure a profit on such buildings because of the advertisement that they furnish, but not because of their direct efficiency in the business.

On the other hand, there is often too low an investment in productive capital. If the total farm capital is wisely invested, one may expect a good manager to be worth at least five per cent. of it. The average farmer, according to Warren, probably makes a salary of about seven per cent. above interest and business expenses, besides having the use of a house and such products as the farm furnishes. If wisely invested, a capital of \$15,000 in land and

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equipment may justify the hiring of a manager for \$1000 per year.

The farm itself has a responsibility

In a larger way, however, the difficulty has lain with the opportunities that have been opened to a well-trained man. It is natural and right that a college graduate should enter the line of work that pays him best and is most attractive to him; and it is the proof of the value of an education by means of agriculture that it fits a man as well as other education does. If the college man were content to accept the low remuneration of the hired man or the shareworker or the ordinary foreman, it would mean that his course of study had developed neither power nor ideals.

The farmer himself must meet the situation. The institutions are beginning to do their part. The leading agricultural colleges are now so well established, and are teaching in such direct and applicable ways, that they are creating a body of ability and sentiment touching country life that has never been known before. This ability

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and sentiment is bound to express itself. The influence of these colleges and experiment stations will surely remake agriculture and redirect it.

This redirection will not show itself in increasing the productiveness of the earth alone, although this must be the fundamental effort and result. It must consist as well in reorganizing the business or commercial interests of agriculture, and in a radical change in the ideals and modes of living. We shall be able to increase the profitableness of farming when we have learned to apply our science, and to organize it as a part of good business systems. We are now in the epoch of the admiration of scientific fact itself, as if the mere knowledge of the laws underlying good crop and animal production can make a good farmer.

The only salvation for agriculture is that it rise to meet the college man. This is not because the college man is infallible or the college final, but merely because his practice is to be rational, his abilities well directed, and his ideals cultivated. It does

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not follow that all farmers must be college-bred, but it must be true that the well-schooled man, other things being equal, must have the advantage in the long run.

I do not mean by these remarks to imply that college men have not returned to the farm, for this would be distinctly untrue; but I must urge that it is as fairly incumbent on the farm to bring the young men back as on the college to send them back. Education by means of agriculture is active and constructive: if the farm is to attract the college man, it must be something more than passive and traditional.

Neither must it be inferred, on the other hand, that the farming business is not now rising; for this also would be a great error. But, except in isolated instances here and there, the business has not yet evolved to the point of full satisfaction to a college-trained man. The present evolution is being forced by great economic changes and large movements of populations, and some of the conspicuous non-adaptations of farming (of which the so-called "abandoned farms" is one) are evidences of it;

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but there must be a conscious reconstructive tendency before the country will hold the well-schooled man in great numbers.

The reconstructive movement

This constructive tendency must arise largely from the college man himself, using the term college man broadly for all those who have been strongly influenced by the college point of view, whether actual students in colleges or not. There will soon be enough of these men to create public sentiment and to set new standards in country living. They are beginning to be felt in agricultural societies and in the gradual redirection of rural institutions. It is not essential to this sentiment that all these men live on farms. The point is, that a new ideal of country life is rising as the result of facts that have been discovered and the new purposes that have been set in motion. What I have in mind is something very different from the kind of wonder-farming that is pictured in some of the current book and periodical writing, and which is founded chiefly on the "discover-

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ies-of-science" notion. I hope that we may have vision of something more real and fundamental than this: we look for something structural.

3. HOW SHALL THE INEXPERIENCED COLLEGE MAN SECURE A FARM TRAINING?

I have been speaking of college men who are well qualified, by experience and study, to become farm managers. These men are comparable, in experience, with graduates of law schools who have had some years' experience in a lawyer's office or with graduates of medical schools who have had hospital practice and more. Many of them have had farm apprenticeship, and have the age, business training and judgment that fit them for independent work.

There are other agricultural college men, however, of equal ability, who have not had farm training. What opportunities shall be provided for such men, in our scheme of education, to enable them to acquire experience? Here the farm itself

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must coöperate with the college, and farmers carry a natural responsibility to contribute to this end.

The graduate of a college of law reads law for a time before he enters practice; the graduate in architecture enters an architect's office; the graduate in medicine engages in hospital service; the graduate in mechanics enters a shop to learn the business; yet it is expected that the graduate in agriculture will be able at once to assume full responsibility for a big business, and he is censured if he makes a mistake. The trouble is that there are yet no adequate opportunities in this country for the graduate in agriculture to learn the business or to test himself, if he needs such test, as there are for other students. Farmers do not take students on such a basis. In some of the European countries, provision is made for this farm training on actual farms.

Most farms do not properly instruct the boys even before sending them to college. Farm practice should be learned at home, not at college. The net result is

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that while much is expected of the student in agriculture, little opportunity is afforded him in the way of any training that fitly supplements his college course. The agricultural colleges cannot do their best work for the farms until the farms come to their aid. Of no college is so much demanded as of the agricultural colleges, because they are called on not only to educate young men and women, but also to find the ways of making the farms produce the money that will enable the young people to go to college. They are not only educational, but economic and social agencies.

Persons seem to expect more of graduates of colleges of agriculture than of those of other kinds of colleges. They seem to think that these men will be able at once to do all kinds of farm work, tell just what the soil "needs," know what to do with animals in health and disease, and in particular be able quickly to restore a run-down farm to profitableness and to be willing to do it "on shares." Persons do not seem to realize the fact that agriculture is a name not for one occupation, but for a

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series of many occupations, and every one of these occupations should require special training. The average college graduate is not yet a mature man; he may not have had much practical experience with more than one kind of farming, and of course this experience cannot be gained at college; his judgment must be developed and proved.

"In contrast with these remarks, I ought to say that certain other persons expect too little of these college men; or, in other words, they do not give them sufficient freedom and opportunity. In many cases they are given the title of manager, but not the power of manager. They may have no more opportunity for initiative than a good hired man. The matter is all the worse when, as very often happens, the employer is not himself a thorough farmer. It is not to be expected that an energetic young college man, who wants to practise what he has learned, will be content or will work to best advantage if he is obliged to proceed under minute daily orders. He expects to assume responsibility, and he should be allowed this privilege just as rapidly as he

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shows himself to be capable of it. Persons who employ a manager must be prepared to give up the month-hand idea when they engage him.

There is still another phase of the subject to be mentioned: it takes time to bring a run-down farm into profitable productiveness, and it is very frequently the run-down farm that the employer desires to put in the hands of a manager. No man is able to overcome seasons, or to change the underlying processes of nature. The problems must be worked out gradually. Farming is not the making of good crops in some one year: it is securing the average performance of a piece of land through a series of years. A run-down soil cannot be renovated and revived in the way that we repair a house. I am convinced that the time element is not enough considered by many persons who employ managers, and, as a result, the manager may be discharged before a rational course of action can come to natural maturity.

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4. REVIEW

I have made the discussions in this chapter because I am convinced, from a considerable experience, that these things need to be said in order to put the subject before the people on its merits and to correct misapprehensions. In other occupations and professions there is a form of experience and custom by which we determine salaries and wages, and measure the performance of the man. In the reorganizing of agriculture, we yet have no such standards.

A course of college instruction in agriculture, however complete, cannot be expected to do more for a man than a comparable course in law or medicine or mechanics can do for its students; perhaps it can do even less, so far as practical results are concerned, because every farm business is a very local problem. Yet a man should be much better prepared for practical farm-manager work by a college training than the same man would be without it. The competitions and complexities

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of agricultural work are now so many that the very best training is required to enable a man to meet them with any degree of success. Untrained men are hopelessly handicapped, and the disability will become more apparent as time goes on. The college man needs training in business after he leaves college; and he must learn the particular problems of the one enterprise that he is called on to handle. It is time that he receive help, coöperation, and encouragement at the period when he is trying to get a hold. The farm must actively coöperate with the college in the training of farmers.

I hope that I have been able to indicate, although imperfectly, a type of obligation to the student in agriculture that is seldom discussed, and to suggest to my reader that we need a redirection of our attitude toward the value of the services of these young men and the kind of encouragement that they should receive.

**THE COLLEGE OF AGRICULTURE AND
THE STATE**

THE natural centers of free and spontaneous leadership on rural questions in the various states are the colleges of agriculture, that draw their support conjointly from the state and the nation. If any of these colleges are not taking the leadership, they are not meeting their opportunity or carrying their natural responsibility.

These institutions should in the nature of the case be the great leaders in country life, because their work is founded on scholarship and is (or may be) wholly free from political or partisan domination and control. If any of them are in educational bondage, the fault lies not with the system.

If the colleges have not met all expecta-

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tions, it is largely because their facilities have been almost trivial as compared with the work they have been expected to do. For years they have been praying for funds and freedom to enable them to do their work. Whether they will in the future accomplish all that is expected of them will depend as much on the people as on the professors; in fact, in the end the people have control.

These colleges are expensive. They are the most expensive of all colleges, because they must do so very many things, be prepared to give advice on every conceivable subject of country life, have so much land, so many different kinds of live-stock, such extensive orchards and grounds, reach so many special industries, and give such personal and practical instruction to their students. This is exactly the opposite of the prevailing notion, at least until very recently. There are still some persons who think that a college of agriculture should be practically self-supporting, because it engages in farming; yet I usually find that such persons have difficulty enough in

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making a farm pay as a farm, without asking it to support teaching and experiments in the bargain.

These colleges represent the state. Their general purpose is to aid in developing the resources of the state, in its materials, its affairs, and its people. Their special range is the open country. Their primary field is to extend those industries and interests that rest on the producing power of the land. Their work is constructive. They should strongly influence, and perhaps even dominate, the agricultural and country-life work of the public-school system.

Obligation on the part of the people

It is not merely a set of institutions, competing with other institutions, that we are founding when we establish a system of colleges of agriculture. These colleges are only means or agencies of expanding the welfare of the commonwealth, and they should be thought of as a regular part of a state program. I hear it said that agricultural college men are "never satisfied"

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with appropriations, as if the appropriations were requested for the purpose of self-aggrandizement or merely to enlarge an institution. I resent this attitude.

Ideally, the responsible officers of a college of agriculture should not be obliged to request appropriations. The state government, or other organization representing society, should acquaint itself with what things need to be done for agricultural education in the interest of the state itself and then place the necessary funds in the hands of those who are capable of using them wisely and hold these persons to strict account. A college of agriculture should not be obliged to secure the funds with which it may serve the people; it should be allowed to devote all its efforts to serving the people. It is the duty of the responsible head of such a college to acquaint the people with the needs of their institution. The college should not withhold the knowledge of anything that is required. Having stated the needs and requirements, the question of how far the institution shall be enabled to do its work

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ought to rest with the people themselves. I am aware that this may seem to be utopian. I do not expect that such a condition will come all at once, but even a partial change of attitude toward constructive state work would solve more difficulties than we can now appreciate, and this change ought not to be difficult to secure; and the colleges of agriculture cannot do their best work until this attitude develops. This will come when government by influence begins to pass away. The attitude of the public toward these questions is wrong.

Different kinds of colleges of agriculture

The scope of any given college of agriculture must be determined by the size and nature of the commonwealth, and the character of other educational institutions that have already been established in the state. When the state has divided its work of higher education between a university and a college of agriculture, the development of the college will necessarily be unlike that of a college of agriculture that is a part of the university. . When the two are

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separate, it is the obligation of the state administration so to define the work of each that harmony and coöperation will result. Hostility between the two lessens the efficiency of each. It is particularly important that neither one of the institutions should become possessed of the idea that its work is in the nature of the case more important than that of the other, either because the one may represent what is conceived to be the broader education or because the other may represent what is thought to be the more practical and necessary. The province of educational institutions is to fight ignorance, not to fight each other.

There will necessarily be colleges of agriculture of differing kinds and grades. In a small state, the college will naturally be less extensive than in a large and wealthy state, but it may be none the less effective for its commonwealth. All the colleges, whether separate or connected, should, of course, be equally free to develop a wide range of subjects. Some will become essentially agricultural

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or country-life universities; we need a few of this type.

The teaching of agriculture of college and university grade ought not to be confined to colleges of agriculture. All universities, at least, on their own account and for their own best development, will in time have departments of agriculture, if they are real universities, as much as they have departments of language or of engineering. They cannot neglect any fundamental branches of learning. There may be need, also, of a kind of agricultural work that can best be done in an institution that is independent of direct state support, and that is not at once responsible to popular will.

I propose now to sketch some of the directions in which an institution of the agricultural-university class may develop. I am doing this because the public has not had its imagination directed to this kind of an educational equipment.

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1. SCOPE OF A HIGHLY DEVELOPED COLLEGE OF AGRICULTURE

While a college of agriculture is concerned directly with increasing the producing power of land, its activities cannot be limited narrowly to this field. If it is a large institution, it should stand broadly for rural civilization. It must include within its activities such a range of subjects as will enable it to develop *an entire philosophy or scheme of country life*.

On the production side, a first-rate college of agriculture deals with all crops, the means of growing them and handling them and of caring for them in health and disease; and with all domesticated or controlled animals, the means of rearing them and handling them and of caring for them in health and disease. The crops include all plants reared by man from the soil, or controlled and used by him, as all grains, all forage, all fibers, all timbers and forests, all fruits and garden vegetables and flowers, and whatever else in the vegetable

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kingdom he produces or improves by foresight and care to supply the wants of his fellowmen. The animals include all tamed mammals and birds, all fish that are reared and bred, the bees, domestic pets, and all others that contribute food, fur, pelts, and other products for the maintenance and comfort of man.

Aside from this, such a college stands for the relations of the man to his community and to his time. All civilization develops out of industries and occupations; and so it comes that agriculture is properly a civilization rather than a congeries of crafts. The colleges of agriculture represent this civilization, in its material, business, and human relations. Therefore, they are not class institutions, representing merely trades and occupations. The task before the colleges of agriculture is nothing less than to direct and to aid in developing the entire rural civilization; and this task should place those who make them within the realm of statesmanship.

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Three great lines of work

The colleges of agriculture have three proper lines of work: the regular or ordinary teaching; the discovery of truth, or research; the extending of their work to all the people. I mention these in the order in which they have been recognized. These colleges are founded on the Land-grant Act of 1862; the experiment station side was added in 1887; the extension side is not yet regularly recognized by Congress, although it soon must be acknowledged, but it is established in most of the colleges to some degree.

All progress and increased efficiency is conditioned on knowledge of the facts and laws of nature. It is impossible to have a good college of agriculture without careful research work as its basis. Therefore, every effort must be made to secure able investigators and to enable them to pursue their work with perfect freedom, and not to hold them rigidly merely to problems of immediately so-called practical importance.

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The extent of special knowledge about every crop and every kind of animal has now come to be so great, and so many persons are asking definite questions and deserve such explicit and careful replies, that teachers are becoming more and more cautious about giving advice. This calls for a greater degree of specialization and consequently many more teachers and experts, each teacher teaching only that which he personally knows.

Crops and live-stock

There are nearly one hundred persons on the staffs of certain colleges of agriculture, and yet there are not half enough to make it possible to answer anywhere near all the questions that are asked by farmers in person and by letter. There must be specialists in cereals, potatoes, hay and forage, the different kinds of fruits, the different kinds of vegetables, the different kinds of flower crops, forest crops, nursery crops, in cattle, sheep, horses and mules, swine, bees, fish and other aquatic animals, all the different kinds of poultry. New

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varieties and types of plants must be bred to adapt crops exactly to special conditions. And all these specialties must rest on the fundamental sciences of physiology, physics, chemistry, meteorology, biology, and the others, all of which must also be represented by strong teachers. Every precaution must be taken to develop these fundamental sciences coördinately with the application work on the farms. It is now time for the colleges of agriculture to stand firmly for a high-class curriculum, even though all the people are not ready for it.

These subjects must be developed both as a means of teaching students and for the purpose of developing the agricultural productiveness of the state. In order to illustrate the relation of such effort to the general economic welfare of the state, I have chosen examples in New York state. In other states, other groups of subjects would come to the fore.

Particular examples of crops and live-stock

Nearly all the most important field crops of New York have been neglected, and no

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crops have received the study that is required to enable the grower to get the most from them. There is always a tendency to study local crops and specialties, to the relative exclusion of the great underlying staples. I cite hay and pasture, live-stock, forests, and fish as examples.

Grass is the fundamental crop of the state, as it is of most of the northern states. Of the 15,599,986 acres of improved land in farms in New York, 5,154,965 are in hay and forage, and 4,366,683 acres are in all other crops. The remainder, 6,078,338, is probably mostly in pasture. The improved farm land is, therefore, approximately

One-third in hay

One-third in pasture

One-third in all other crops.

The value of the grass crop is no less striking. The hay crop is worth as much as all the dairy products. It is worth nearly as much as all other crops combined. It is worth over five times as much as all the orchard products. We have no estimate of the values of pastures, but the hay and pasture crops are undoubtedly worth more

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than all the animals and animal products sold, and are worth more than all the other plants or plant products. They constitute considerably over one-third of the total products of New York farms. The value of hay has increased 66 per cent. since these figures were taken by the last census. In spite of these facts, New York and other states have done comparatively little to aid in grass production. There is as much opportunity for improvement in grass production as there is in fruit production. There should be at least one man to give his entire time to a study of the hay question. He should conduct large numbers of coöperative experiments and should study the great hay crop from seed-sowing to marketing. This is largely an extension enterprise but will, at the same time, result in much increased knowledge. One man should devote his entire time to the pasture problem. He should make a study of present pasture conditions throughout the state and should try the new kinds of grasses, as brome grass, in the different regions. There should be coöperative

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pasture experiments in which different mixtures and treatments are used and in which the results are measured by pasturing each area separately. Both of these lines of work would soon require a larger number of persons working on them, if the situation were met adequately.

There is no point in developing meadows and pastures unless *live-stock* is produced to consume the crop. In fact, the possibility of developing them depends to a great extent on the animals themselves. The northeastern states need to give new and greater attention to the general live-stock interests, not only for the profit that may come from the stock itself, but also that better forms of diversified agriculture may be established and that fertility of lands may be maintained. When the fundamental crop is by nature grass, a highly developed animal husbandry must be a necessary part of the agriculture. Such crops and such plans of farm management must be encouraged as will make it possible to feed the live-stock profitably. The East has lost its supremacy in sheep. In

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1850, there were about three and a half-million sheep in New York. There has been a continuing and marked decline in the number, until in 1900 there were less than one million; and yet all the natural conditions for a good sheep husbandry are present. The rearing of horses should be an important part of farm business in the East. More swine and more beef cattle are needed. Not only this, but poultry and dairy interests should have increased attention.

Another great cropping interest that needs to be developed is the *forests*. Timber is as much a crop as corn or potatoes. It should be planted, cared for, and harvested. In the last census year, New York led all the states in the value of farm-forest products. The value was about \$7,500,000 worth. More than one-third of the state is in timber or woodlots. Very little of this vast area is yielding anywhere near a full crop. The ordinary forest is half waste. Nearly every large farm in most parts of the northeastern states has its woodlot, as it has its meadow, its pasture, or its wheat

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field. Farmers should raise the larger part of their farm lumber and timber, as they should raise their own meat and butter and fruit and silage. It is all the more remarkable that the farm forests do not receive attention since they exert great influence in maintaining the sources and controlling the flow of streams, in preventing floods, in protecting game, and in making the country attractive. Their value extends far beyond the particular farm on which they stand. The proper destiny of much of the so-called "abandoned" farm land is to grow forests. Much of the remote and agriculturally unprofitable land should be owned by townships and counties (or by the state), and be used for forest. In time these lands should return a fair revenue to the communities.

We think of farming as a dry-land business. It is a fact, however, that an *acre of water* may be made to yield more food than an average acre of land. There are tens of thousands of acres of fresh water in many states, and great expanses of salt water. In time we shall cultivate these fresh waters

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and the sea shores. The man who owns a lake or pond, or has the use of one, will in the future find it to be valuable agricultural property. We shall breed domestic varieties of fish as we do of pigs or poultry. Some of the European peoples are doing this now. We are still stocking lakes and streams largely with game fish for sportsmen. As competition increases, however, ponds must be stocked in the same spirit as pastures are stocked. We have passed the hunting stage with cattle and sheep. We shall come to a scientific development and utilization of water fields. We shall not allow people to poison and pollute the ponds and lakes any more than the wheat fields. After we stock the ponds and streams with young fish, we shall provide ways whereby the fish may live and thrive, as we till and fertilize corn or any other crop. This means the development of natural fish forage and also such control as will maintain the balance of nature. We know practically nothing about fish forage and the means of growing it in streams and lakes. We have estab-

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lished experiment stations for land crops, but not for water crops. Whenever waters are impounded, the possibilities of making them breeding grounds for food fish should also be considered. It is probable that other aquatic animals than fish, or semi-aquatic ones, will be regularly grown under control in time; and it is not too much to expect that we may find new uses for much of our marsh land. There are many aquatic plants that are of value; but all I aim to do at present is to challenge attention to an undeveloped line of agricultural effort.

In developing all our great agricultural interests, we are also providing the very best means of educating students through the knowledge that is gained; and to educate young men and women by means of the common affairs of country life, is the primary object of a college of agriculture.

Household subjects

But the kinds of crops and of animals and the fundamental subjects in sciences and language and arts, do not cover all the teacherships that a good college of agri-

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culture must have. While the home is the center or pivot of our civilization, it is the last thing to be taught in schools. We have worked out better plans for feeding and rearing live-stock than for humans. The federal government may investigate diseases of sheep in the various states, but it may not investigate diseases of men and women. The whole range of household subjects must be taught, and if so, there must be specialists in food, sanitation, nursing, house-building, house-furnishing, and similar subjects; and all these departments of knowledge must be housed, equipped and maintained. It is probably more important that we now attack the home side of country life than any other phase of the work.

The mechanical side

All the manufacture phases of country life must be developed. The dairy departments of the colleges represent one of these phases. All the subjects relating to the canning, drying, and preserving of fruits are practically untouched in the colleges,

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and yet nothing is more important to the development of our fruit and vegetable-gardening interests. The curing of meats and home manufacture of animal products must be taught; and also the whole great question of refrigeration and storage.

The whole subject of mechanical power and of the best use of machinery must be developed on the American farm. With all our knack for invention, we are not the foremost people in the application of small power to farm work and housework. The necessity of economizing human labor must itself force the use of gasoline and other engines, small water power, electrical power, and others, on thousands and millions of farms; and the use of such machines will set new ideals into the minds of men. With the development of long-distance transmission of electric energy, it will be increasingly possible for such power to be diverted to farm uses; and yet we do not seem to be giving much attention to this subject, although the development is coming in Germany and other countries. Every good farm must in time have its own

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power; but we must first train up a race of mechanic-minded farmers. Even the common farm machinery is not usually understood by those who use it, nor, with all our invention of machines for the easier and more wholesale farm practices, have we yet developed farm machinery to anywhere near its possible extent of perfection or necessity. The burden of household labor is to be solved in part by better mechanical contrivances. Colleges of mechanic arts cannot be asked to develop this subject for the farms, for they have their legitimate professional work; and, moreover, the problems of farm mechanics are largely agricultural. The subject must be developed as part of a constructive philosophy of rural life.

Engineering questions

Similar remarks may be made of some of the applications of engineering. The lay-out of the farm, the running of levels, drainage, irrigation, the making of farm bridges, the construction of farm roads and of highways, and the development of a

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rational point of view on engineering problems as they affect country life, are all of the first importance. The engineer is to exert tremendous influence on the development of our rural civilization, playing a part that we little realize to-day. The whole system of highways and byways will be evolved, as one part of the development of our natural resources. This evolution must depend in good part on the attitude of the farming people. I am afraid that we are in danger of making the mistake of developing our highways only from transported material, as we have continued to be in error in depending for fertility on *material mined in some other part of the globe*. The best philosophy of farm life is to develop the business directly from native home resources; this must be equally true of roads, at least of the greater number of them. What we now very much need is knowledge of how to build serviceable highways with the dirt and other material of the neighborhood. A good-roads school could well be added to a college of agriculture. A course of at least

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three months might be offered to all highway commissioners and overseers in the state, in order that they might be able to carry out the instructions of engineers and properly to care for the roads under their charge; and laws should be so framed as to allow any township to send such officer to the school. The instruction should include not only simple road-making questions, but such economic and general questions as the relation of highways to local taxation and agricultural affairs, the proper distribution of highway service, and the general development of the community and state. A state cannot afford to expend large sums for highways until the local officers are properly trained for their duties. The whole subject is broadly an agricultural question, and the instruction should be sympathetically tied to other agricultural instruction.

Farm architecture

The point of view on the proper kinds of buildings for the rural country must be radically changed before such buildings

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can be perfectly adapted to their uses or country life be wholly attractive. We are so accustomed to our buildings, both in country and city, that we do not think to challenge them; and yet there are relatively very few buildings in the world that are either good to look at or are well adapted to their ends. All architecture is either good or bad, whatever the building costs: it must have good proportions and exactly meet the needs for which it is constructed. Certain boxes appeal to us in their attractive shape, yet we forget that shape and proportion are the first considerations in the good looks of buildings. All the sanitary waterworks and other conveniences of modern residences must come into country districts, and this will call for new plans of buildings. How to build a house to save steps, to cause it to be sanitary and cheerful, to insure good construction, to make it comfortable and durable, are questions of careful planning; and the more we build by merely copying other buildings or depending on the wit of the carpenter, the longer will we continue

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to be held by tradition. The silent and continuing influence of the building in which it lives, has a powerful effect on the child. The proper building of barns, dairies, stables, creameries, poultry houses, and all the other constructions of the farm, must now receive expert attention. The experts cannot be practising architects, because the fees in farm-building are insufficient; the regular architects do not study these questions. The experts must come from the colleges of agriculture or other public institutions. Within a generation, the greater part of all the farm buildings in North America should be rebuilt. Who is going to direct the work?

The farms of a college of agriculture should have a number of model farm houses of different cost, with the grounds properly laid out and planted, as examples to the people of the state.

The landscape

Related to this is the development of the landscape features of the open country,—the proper subdivision and lay-out of

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farms, the placing of buildings for best effect, the plan and planting of all yards and roadsides and school grounds and church grounds, the preservation and improvement of scenery. All this is necessary to make the country as attractive and as satisfying as the city. It is also an economic question. Plans are already under way in a few of the states for the parking of the entire area of the commonwealth in such a way as to make all parts accessible, to develop what is best in every part, to preserve all good natural features. This idea will extend to every part of the country in time, developing local patriotism and increasing the values of property. Scenery as well as soil can be capitalized, and made to yield a profit. The increase in values of farm property is coming largely as a result of good roads and general improvement, rather than merely from better farming.

The leadership for this general improvement work should be expected to come from a college of agriculture. I would not appropriate the professional work of the

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landscape architect; but he does not look for clients among the working farmers, and he could not secure fees enough to make it worth the while to devote his life to strictly rural work. Yet all the persons on the land are entitled to a developed point of view on surroundings and scenery.

Farm management

All the technical special work can be tied together by a department of farm management, which develops in the students' minds a business philosophy or system. There is great need of information on the planning and lay-out of farms. Even in so simple a matter as the arrangement of fields, there is need for much study and experiment. The whole cropping scheme on the farms should be overhauled. Special investigations should be made of farming systems for hill lands, now that the older farming is being driven from these regions. The entire subject of farm accounting must be attacked in a new way. The ordinary bookkeeping will not apply. In visiting practically every farmer in one

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of the counties of an eastern state, not one man was found who knew how much it cost him to produce milk or to raise any of his crops.

If the different courses in a highly developed college of agriculture are not tied together, the student is likely to lose himself in details and to fail to construct for himself a business plan that will work.

The human problems

The people themselves and the affairs whereby they live must also be studied. These are economic and social questions, concerned with the whole problem of how the people organize their lives and their business. On the economics side are the great questions of taxation, distribution of products, marketing, business organization, and the like. The whole relation of the man and woman to the community in respect to social intercourse, schools, churches, societies, the broad influence of telephones and roads and machinery on rural life, the social results of immigration, the scheme of rural government, the poli-

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cies of coöperation in a thousand ways, and, in short, the structure of rural society, constitute a special field of inquiry. For cities many of these questions have been studied with care, and measures of relief have been set on foot when they were found to be needed; but in the country these great human problems are practically untouched. There is as much need of an agricultural application of economic and social studies as there is need of an agricultural application of chemistry; in fact, there is greater need of it, for at the bottom all civilization is but a complex of these human questions.

Training teachers

If the public schools must teach persons how to live, the effort will call for a complete change in their methods and point of view. New teachers must be trained. We cannot expect any very great progress by merely adding new work to old methods or asking present teachers to take on a new philosophy of service. The whole school system must be redirected and recon-

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structed from the bottom up. This means that in rural districts, pupils shall be educated by means of rural subjects as well as by other means. Of course, all this new effort will come slowly (we could not assimilate it in any other way), but we must prepare for it, nevertheless. At least a few of the colleges of agriculture should be enabled to establish normal departments so that they can contribute to prepare teachers to handle the agricultural work in the public schools. There is no greater work now before these colleges.¹

The outside or extension work

What I have thus far said has referred mostly to the inside or so-called academic work of the colleges of agriculture. I now call attention to the outside or extension work.

¹I have stated my convictions as to the means of training such teachers in a pamphlet "On the training of persons to teach agriculture in the public schools," published by the U. S. Bureau of Education, Washington, 1908. This also suggests the relationship between training-schools and the colleges of agriculture. A discussion of the point of view in teaching may be found in "The Nature-Study Idea" (third edition; Macmillan).

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By extension work, I mean all kinds of teaching with the people at their homes and on the farms. The three great phases or sides of agricultural college work, as I have said (page 228), are the experiment or research, the regular college teaching, and the outside teaching. The college teaching must be founded directly on the knowledge gained in research, and the extension work must be founded on both.

A college of agriculture cannot serve the state as it is capable of doing without engaging in many kinds of extension work. It ought to serve farmers who cannot go to college, or who do not know what a college is. The college must be taken to the people. All state colleges should become a real part of the machinery of society (or the state), participating directly in all work for the good of the people, so far as such work comes within the range of their subject-matter. The agricultural colleges, thereby, may express the needs and the ideals of the people on the land.

Although much extension work of an agricultural nature has been done, it is

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nevertheless weak and fragmentary as compared with what needs to be accomplished. A broad system or plan, national in its scope, is now needed, to rouse the entire open country and to set at work the ferment of new ideas and new practices.

I am not to be understood as saying that extension work with farm people is the exclusive province of the colleges of agriculture. Other colleges, universities and schools may engage in it with satisfaction to themselves and the people, if they are equipped for the work; and it is always well to have several points of view on the same line of effort. The regular colleges of agriculture are the institutions that are at present best qualified or equipped for this form of extension teaching, and it is to be expected that they will always hold the leadership in the agricultural phases of the work. In extension teaching for farm people, we need a coöperative effort, conducted on a wide and comprehensive plan, between the technical and the so-called liberal sides.

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Kinds of extension work

Extension work in agriculture includes all effective personal acquaintanceship with the farmers of the state; all inspection of farms that is not legal and police in character; the giving of advice by correspondence; publication of an educational nature; coöperation with societies and organizations; advisory and coöperative work with schools; the organizing of boys' and girls' clubs in schools and country districts; the conducting of reading-courses for farmers, farmers' wives and rural school-teachers; experiments or demonstrations on farms; running of "farm trains"; holding of "farmers' weeks" and other conventions; lectures, itinerant schools, and the like; and all species of helpfulness and advice to the people on the land. The extension department of a college of agriculture should be a means of arousing the country people, and then of helping and guiding them. It will be effective in proportion as it works

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harmoniously and full-heartedly with all other agencies for rural progress.

Lectures and traveling teachers

The best vehicle for much of the extension work is a public lecture-service, and this service will naturally develop. This raises the question as to the proper place for farmers' institute service. Historically, the institutes have developed in different ways, some of them issuing from colleges of agriculture, some of them from state departments of agriculture, and some of them from a separate or special organization. If they were to be developed anew to-day, they would naturally issue from the colleges of agriculture, if the colleges in the different states were capable of handling them, because they are educational agencies and because the extension enterprise of the college must on its own account develop similar work. There is a popular impression that farmers' institutes will soon have served their purpose and will naturally discontinue. I doubt whether

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this is true. It certainly will not be true when they constitute part of a well-organized extension-teaching scheme. The nature of their work will change from year to year, as any other living work changes; but it will always be necessary to instruct the farm people at their homes. It will be increasingly necessary to substitute demonstration and laboratory work for much of the lecturing. We must develop a new type of institute man, unlike the college professor on the one hand and the so-called practical farmer on the other. These men must be trained for this kind of public work, as carefully as other men are trained to be chemists or engineers. They should live for at least part of the year on the land, and they should also be connected with an institution that can keep them in touch with the best and latest information. In other words, they should be farmers as well as students, and students as well as farmers. The regular college or experiment-station specialist will be called on here and there when expert knowledge of a particular kind is wanted, but his main

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effort should not be diverted from his regular work. The institute teacher, in all the states, will then be chosen with the same care that a college or experiment station chooses the members of its staff; his teaching will be as carefully watched and supervised. Under these conditions the institutes will endure.

Teaching on farms

I regard certain kinds of demonstration work on farms as of the greatest teaching value, if it is conducted by a good teacher. Our educational methods have been greatly improved by the introduction of the laboratory, whereby a student is set at work with a personal problem. The laboratory work may be the actual observation and study of a plant disease or an animal disease, of a rock, a soil, a physical phenomenon, the making of a school-garden, the making of cheese or butter, the feeding of a cow or horse, the incubating of eggs, work in an orchard or greenhouse, the planning of grounds or buildings, or whatever other actual work that it is worth

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while to do under the guidance of a teacher. Now, a man's farm is his laboratory. No one may direct him how to manage his farm; but a good teacher coming to his place may set him into new lines of thinking and put him in the way of helping himself. In a moment of my younger enthusiasm I once wrote that every farm in a state should be visited at least once each year by a good teacher. My maturer judgment leads me to expand the statement to the effect that every farm in every state should be considered as one part in an underlying fabric of human evolution, and that in the interest of society every farm should ultimately be known to some one who represents society, to the end that that farm may be made a more effective unit in the great plan.

Whenever an agricultural problem is worked out in the laboratory, its application should be at once widely demonstrated in the field under actual farm or garden conditions, and this of itself will require a large corps of high-class men. This will relieve the continuing demand for local

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experiment stations. Field laboratories will need to be established in the localities until the application of the problem to the locality is worked out. I think (as I have said on pages 6, 73) that some of the aid rendered to special communities and interests, however, should be paid for directly by the communities themselves so far as the services of the expert or agent are concerned.

Teaching on farms I consider, therefore, to be essential to rural progress. Whatever has thus far been accomplished in this kind of teaching is the merest beginning of what a state would profit by. This kind of teaching will be most effective when it can follow or be made a part of the survey or inventory work that I have advised (page 32).

Local leaders

If a college of agriculture is to extend itself over the state, it will need to have local agents or representatives, who will keep the institution informed of the needs of the locality and be prepared to give

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advice and to look out for the agricultural welfare of the people. This agent should be to agricultural interests what the teacher is to educational interests and the pastor to religious interests. This type of local leader has already been set to work in Canada, and beginnings in an experimental way are also being made elsewhere.

2. THE WORK IS UPON US

All this may seem to be far away to the philosopher and the dreamer, but the plain people are now ready. Every college of agriculture receives requests and demands from the folks on the farms and in the rural schools that it cannot adequately meet; and something must be done to meet these calls if the rural problem is to find solution and if farming is to escape from tradition.

The institutions are even now well devoted to working out many such welfare problems as I have sketched. The ideals are the product of a few far-seeing persons

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who have not been in bondage to educational tradition or pedagogical theory and who for twenty-five and fifty years have been trying to make education meet the plain needs of life. These purposes have been placed into the institutions by persons who have seen the farm problem rather than the college problem.

These colleges of agriculture are forcing a new definition of education. The institution does not passively accept students who come: all persons in the commonwealth are properly students of a state educational institution, but very few of them yet have registered; nor is it necessary that any great proportion of them should leave home in order to receive some of the benefits of the institution. It is the obligation of such an institution to serve all the people, and it is equally the obligation of all the people to make the institution such that it can exercise its proper functions; and all this can be brought about without sacrificing any worthy standards of education.

The work of these institutions, therefore, is not to be judged merely by formalities

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of entrance and curriculum, but by the character and spirit of the enterprise. They must of course maintain standards of administration and scholarship as high as those of other institutions, but they must be allowed to work out their proper contribution to educational progress.

The results of scientific work are beginning to be apparent in the attitude toward country-life questions. The investigations have challenged all the old ideas and methods, and all practices are now in the process of becoming rational. The extent of scientific investigation in the interest of agriculture is unparalleled in its scope and organization; this world-wide effort is bound to work itself out in wholly new and more effective schemes of life; and when the scientific or truth-seeking spirit becomes dominant in country life, it will mean the end not only of blind haphazard in farming but of patronage and "influence" in government; for it is as necessary that rural government (and all government) be scientific as that agriculture be scientific. There can never be a good

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country life until the government of the open country is founded on fact, evidence, and reason, and is propagated with the vigor and confidence of men and women who have arrived at some degree of mastery of their conditions.

It is the research and educational institutions devoted to agriculture that are bringing this new time to pass. They are setting forth new ways of attacking the countryman's problems,—the direct way of first determining causes and then working out a line of action. This will contribute directly to self-government in all the localities because it encourages self-action. The ordinary political means of encouraging self-government are secondary and often only factitious and temporary. A college of agriculture is not merely an institution of learning, in the old meaning; it must have within it such a sense of service, such a range of subjects, and such an integrity of organization as will enable it to attack all distinctly rural questions and to bring a united policy to bear on the whole problem of rural civilization.

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The college of agriculture cannot, of course, attack all the problems of rural communities directly, but it can set forces and activities in motion that will go a long way toward solving many of the questions not immediately within its sphere. The very difficult farm-labor problem is a case in point. The stringency in farm labor should be alleviated by various forms of public action; but the final solution of the difficulty lies in such a redirection of country life as will enable the situation to take care of itself. It cannot be expected that labor may be found in enormous quantities for very brief periods in the year and imported bodily into country districts; nor that the individual farmer may look for satisfactory results from hired help that is brought in from the outside and that has no connection with the life or interests of the rural community. The present scarcity of farm labor is in large part a symptom of an imperfectly developed rural society, and the correction must come slowly through a process of education.

The public begins to realize the situation

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and to appreciate the contribution that industrial education is making to the common good. The people on the farms are beginning to lend a hand: I would have them still more completely realize their responsibility and thereby actively help the work to grow in the interest not only of farming but of the national welfare.

• It is incumbent on all good citizens, everywhere, to help forward the rural civilization as actively as the urban civilization, for both are equally in need of the best service of every man and woman. The commercial and social isolation of the farm is passing. The country town is no longer the market and the center of interest. The farmer is rapidly becoming a citizen of the world. All his problems must have a larger treatment than they have ever had before.