Farmers in a Changing World—
A Summary

by Gove Hambidge

THERE was a small band of men and women on a little ship, journeying toward an unknown future—an unknown land, in fact, where they dreamed of building a new, freer life. The ship was small and frail; it hardly crawled along the interminable sea; it wallowed in calms and was nearly smashed by storms. To the courageous little band the possibility of ever reaching the new land must sometimes have seemed remote. Often they must have thought longingly of the familiar, comfortable things they had left behind. The future must at times have seemed dark, and the days through which they were living bitter with uncertainty and hardship.

They did not give up. They did not turn the ship back. They did reach the new land. Their descendants conquered a continent and built a civilization.

This was more than 300 years ago, and the circumstances are different today. Yet we, who inherit what these people won, are also on a journey toward an unknown future. We also often look back longingly to the old familiar ways. To us too the future sometimes seems dark, and the days through which we are living filled with uncertainty and hardship. We too have dreams which at times we think we shall never attain.

Men have been through such experiences uncounted times in human history. It is true that today the circumstances are different. The circumstances are always different.

But the human beings who must deal with new circumstances are not essentially different. Courage, toughness of mind and body, fear of change and of the unknown, and a certain indomitable idealism that in the end conquers fear—these are still the heritage with which human beings face new conditions and problems. And the ends we strive for are not so essentially different. We no longer have the frontiers of a continent to conquer; that much has been done by the men and women of courage who were our forebears. But who will say there is not work for every man and woman on the frontiers of a better civilization?

This volume may be considered as a log book of a journey toward a future that must always remain inscrutable to human beings. Like its predecessors in the present series of Yearbooks of Agriculture, it is essentially a record of exploration.

The Yearbooks for 1936 and 1937, both entitled "Better Plants and Animals," told what scientists are doing to create improved forms of life for human use. "Soils and Men" (1938) told what is being discovered about soils and what these findings mean in human terms. "Food and Life" (1939) was a record of explorations in human and animal nutrition, where many new trails have been blazed in recent years.

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"Farmers in a Changing World" records explorations along the social and economic frontiers of agriculture.

The year 1940 marks the end of a decade that has seen more swift and far-reaching changes in agricultural viewpoints and policy than perhaps any other decade in the history of the United States. Yet this decade does not stand alone as something cut off from the past. It simply felt the cumulative effect of the longer period of change, beginning near the turn of the century, during which agriculture has been virtually revolutionized by modern science.

That agricultural policy had to keep step with new needs resulting from profound disturbances throughout the world everyone will agree. Everyone will also agree that the needs have not been fully met. This is reason enough why the situation in agriculture should be summed up and reexamined as a whole at the close of so eventful a decade. From such a summing up and reexamination it is possible that we may be able to detect certain mistakes, discern trends and forces a little more clearly, see a few steps along the road ahead of us, and gain a little more wisdom. And more wisdom is the most fundamental need.

Most though not all of the 54 articles in the book were prepared by workers in the Department of Agriculture whose job it is to conduct research in agricultural problems and to carry out laws relating to agriculture passed by the Congress of the United States. There is a sprinkling of articles by writers who are not in the Department—mostly specialists in various branches of social science.

A certain unity of viewpoint will be evident throughout most of the book, but there are also a good many differences. The book does not represent official policy; it makes no claim to final wisdom; it simply explores agricultural problems, and the reader will sometimes find official policies treated with skepticism, controversial viewpoints defended, and things discussed that do not enter into any policy. It would have been possible to avoid such differences. But the great merit of democracy, we Americans believe, is that it not only permits but encourages the expression of different viewpoints. We think this is essential if social and economic problems are to be dealt with intelligently. The Yearbook might well have gone further in that direction than it has, but it would take more than one volume to give all the facts and viewpoints on such a wide variety of subjects.

Keeping these conditions in mind, the reader should discount or disagree with whatever he wishes in the book and bring his own thinking to bear on the points at issue. If there were complete understanding and agreement on all the problems in modern agriculture there would be no need for books about them; and if this were an autocracy instead of a democracy, there would be no need for discussion—problems would be settled by decree. In fact, there are few other countries left in the world where such a book as this could now be published.

**SOME FUNDAMENTAL TRENDS**

It goes without saying that such a book reflects the conditions of our time. A historian mulling over it in the future will no doubt think some of the material as quaint as beaver hats and tight breeches seem to us. He will smile at some of the problems his ancestors took
so seriously. But this will be only because, in his day, those problems will have given place to others that are crucial in their turn.

Whether or not any specific policy developed during the past 10 years will continue during the next 10, certain trends or viewpoints have emerged during this decade that will almost certainly continue to influence policy. Different people would see these trends differently. To the editor who has had to view as a whole the large amount of material in this book a few viewpoints seem particularly fundamental.

1. Most important of all, of course, is a remarkably widespread recognition of the fact that we do face profound changes and that we must do something to adjust ourselves to them. The symptoms of these changes are discussed again and again in the pages of this book. Among them are mechanization, vast dislocations caused by war, disruption of foreign markets, change from debtor to creditor status as a nation, soil damage on a large scale, the end of the frontier of free land. It is clear that the world we live in is far less "safe and sane" than the world of our fathers and grandfathers. Many things they took for granted we cannot take for granted. Agriculture is not in a mood to shirk the need for strengthening our economy to meet this less safe and less sane world, and this feeling of urgency has had a powerful effect on policy making in recent times.

2. There is a sharpened recognition of the interrelationships in the modern world. This shows up in a great many ways—perhaps most notably in widespread reiteration of the fact that the agricultural problem is only part of a more inclusive national economic problem. More and more people realize, for example, that the well-being of agriculture depends to a large extent on the amount and the steadiness of employment in industry; that city and country are linked together in a thousand ways; that events on the other side of the earth profoundly affect farmers in the United States.

One of the powerful practical results of this recognition of interrelationships is a trend toward broader planning in the solution of economic problems. It rests on some such basis as this: What seem like separate problems are often found to be only parts of some larger problem; you cannot solve the parts by themselves; you have to work toward a solution of the whole problem; and this cannot be done without comprehensive planning. This kind of reasoning is back of the effort to work out procedures for soil conservation that begin with the individual farmer and go on up through the community, the county, the State, the region, to the Nation as a whole.

The reader of this book will note a fundamental conflict in agricultural thought which cannot be resolved until we reach sufficient maturity in our thinking to consider agriculture and industry as a single unit. The conflict can be simply put: On the one hand we push forward agricultural efficiency, with the inevitable consequence that fewer people are needed for production; on the other, we advocate inefficiency, or at any rate tolerate it, by an extension of subsistence farming as the only way to take care of those who are displaced by improved techniques. M. L. Wilson frankly recognizes this dilemma in his article, Beyond Economics. To the extent that it is unresolved, we can only acknowledge that men are the slaves rather than the masters of their own machines.
There is an increased awareness of what might be called the human aspect of agricultural problems. This too shows up in many ways, but most strikingly in the attention given to the so-called disadvantaged groups among our farmers.

Hitherto the problems of commercial farmers have almost completely dominated agricultural thinking and policy. These problems still bulk very large, as they should, but they no longer tell the whole story. In the last few years Americans have become aware of a rather startling fact: A third to a half of the farm families in the United States contribute little to our commercial supply of food and raw materials. They have little to sell; they are unable to compete in the commercial market; they live for the most part in great poverty; many of them are homeless migrants. They seem to have little economic function. But they produce relatively more children than any other group, and as a consequence an increasing percentage of the American citizens of the future will be exposed to a childhood background that is in many cases appalling.

The analogy of this growth of functionless human beings in society with the growth of functionless cells in the human body produced by cancer is inescapable, and we have been forced to give attention to it for much the same reason that medicine has been forced to give attention to cancer. But these are not cells that can be cut out with a knife or killed with lethal rays. They are men and women and children—individuals and families with the same needs, longings, and possibilities as the rest of us. Together, they are the reverse side of the picture of wonderful technological progress that has enabled fewer and fewer farmers in the modern world to do the necessary work of production.

There is a marked tendency to enlarge the meaning of science by bringing it to bear upon social as well as physical or biological problems. Time was when the Department of Agriculture was mainly a conglomeration of bureaus engaged in research in engineering, chemistry, genetics, microbiology, and the application of these "natural" sciences to farming. The result was a steady, sometimes amazing, increase in efficiency. But this achievement, notable as it has been, did not serve to keep agriculture out of trouble. It became glaringly evident that science, in the sense in which the term has been commonly used, is not sufficient to insure a sound agriculture.

Economics entered the picture long ago in response to the imperative need for orderly economic information. Now sociology, anthropology, psychology, political science are all beginning to come in.

What does this mean? It means a recognition that our idea of science was much too narrow. All of our attention was concentrated on the science of material things. But the greatest discoveries about gasoline, steel, rubber, fertilizers, bacteria, insects, however much they contribute to better production, tell us little about how to live wisely. In fact, they often complicate living enormously—individual living and social living. Seeing the effects of this complication, we have come to realize that there are other great areas about which we are badly in need of scientific knowledge. We need to know a great deal more about such vital problems as what kind of environment human beings need for their best development; how to create such an environment;
why we human beings so often make a mess of our affairs in spite of all our great achievements; how to stop making a mess of them. The scientific viewpoint, with its insistence on facts and on discovering the true causes of effects rather than relying on authority, opinion, prejudice, superstition, and brute force, has been the most powerful problem-solving tool man ever had, and it remains the most hopeful. Can we apply it to a much wider range of problems? Can we use it to learn about human life and human relationships, as well as about things? If we can, our present civilization is only a crude beginning of what is possible.

(5) There is a tendency to put a new, conscious emphasis on all that is denoted by the word "democracy." This is the result of the impact of world events on American thinking. Democracy is fast disappearing in many parts of the world; we are the more determined to cling to it ourselves. It is being bitterly attacked from many quarters; we are the more determined to make it something worth defending. We ourselves seem to be faced by certain urgent necessities—for broader planning, for more effective administration—which elsewhere seem to have hastened the downfall of democracy. We believe democracy can meet the challenge without being weakened in its fundamental tenets.

In agriculture, this tendency is evident in an increased effort to root policies and programs in the soil of our own native traditions and ways. Americans are reexamining their origins and looking into the meaning of democracy more intensively than at any time since the Republic was founded.

SUMMARY OF THE YEARBOOK

As in the case of previous volumes in the series, the Yearbook will be summarized in the pages that follow.

The book is divided into 7 parts. Part 1, The Farmer's Changing World, is a history of agriculture in the United States from the colonial period through 1939, with special emphasis on changing needs and conditions that have shaped national policies during these centuries. Part 2, Agriculture and the National Welfare, deals with relationships between producers and consumers, agriculture and industry, farm people and city people. Part 3, The Farmer's Problems Today and the Efforts to Solve Them, is a comprehensive survey of current agricultural problems and current efforts to solve them. These problems fall into several different groups—soil conservation and land use; farm management; foreign and domestic markets; credit, insurance, and taxation; rural standards of living; tenancy and labor. Part 4, Farm Organizations, reports the viewpoints and recommenda-

1 An illuminating point may be noted here. The physical and biological scientist rejects opinion, prejudice, superstition, and brute force out of hand. He would dismiss as sheer superstition, for example, the idea that you must carry a rabbit's foot in your pocket to come out well in your undertakings. The social scientist considers opinion, prejudice, superstition, and brute force as facts which we have to study and with which we must deal, since they have enormous effects on individuals and society. He would say: "Certain people believe in the necessity of carrying a rabbit's foot. How many people? Where did the belief come from? Why do they hold to it? What effect does it have on their behavior and attitudes? Does the belief make it difficult for them to understand important facts? Should it be changed? How can it be changed? What will be the effect on their behavior and attitudes if it is changed?" The example given is trivial, but there are many similar situations that are overwhelmingly important. The social scientist has the same attitude toward these situations that a physicist would have toward a problem in physics.
tions of three national organizations of farmers in the United States—viewpoints that are sometimes opposed to, sometimes in favor of, specific policies. In Part 5, What Some Social Scientists Have to Say, a few representatives of different social sciences view agriculture as a whole from their particular angles. Part 6, Democracy and Agricultural Policy, deals with the relationship of policy making to democratic processes. Part 7, Essentials of Agricultural Policy, is an attempt to sum up what has gone before in terms of today’s and tomorrow’s policies.

**Part 1. The Farmer’s Changing World**

How simple the farmer’s problem would be, Elliott points out in the first article in this section, if there were no such thing as change in the world—no changes in soils, cultural practices, markets, population, birth rates, and a thousand other things.

But the principal fact the farmer faces is that all these things do change. There have been enormous changes in a comparatively few years, and he has had to adjust himself to them.

For instance, in 1920 farmers had to feed a total population of 105 million people (excluding exports for populations abroad); now the same number of farmers feed 132 million here. Around 1920, people used 27 pounds of citrus fruits a year per capita; now their habits have changed and they use 47 pounds. In 1919 farm income was 16.9 billion dollars; in 1932 it was 5.3 billion. In 1919 farmers received 4 billion dollars for exports; in 1932, they got 590 million. Twenty years ago there were 26 million horses and mules to be fed on farms; now there are fewer than 16 million. Since 1900 machinery has greatly reduced the need for human labor in production. In the same period of time, farmers have come to demand a better standard of living in many ways, and this has meant a need for more cash.

Such changes have brought crucial problems—how to get greater stability and security within agriculture, how to adjust agriculture to the rest of our economy, how to conserve our soil resources, what to do about the large numbers who have succumbed in the economic struggle. Whatever approach we take toward these problems, we run some risk. But “neither policy making by explosion,” Elliott says, “such as occurs when the orderly processes of government fail, nor policy making by executive action, such as occurs when the experts and administrators make decisions without the citizen’s participation, is likely to occur in a society where democratic practice is reasonably in accord with democratic theory. . . . If we are to preserve the democratic process, it is absolutely necessary that the farmer play an important part and have a direct voice in the formulation of farm policy as well as in its execution.”

The main question is whether the farmer shall try to meet modern problems entirely by himself, as an individual, or whether he shall get together with others so that all may act as a group for certain desired objectives. Farmers have insisted during recent years on group action. The legislation they won is a sharp departure from previous policy in the United States. It raises issues that need to be thoroughly examined.
Old Ideals Versus New Ideas in Farm Life

Johnstone's primary interest as a historian is to trace out people's ways of living and their attitudes and institutions, and to discover why they lived and thought as they did. This is folk history. It helps us to understand ourselves. He digs into many sources to find out about such things.

There have been vast changes in the 150 years of United States history—from the sickle to the combine, the ox to the tractor, 4 million people to 132 million, a rural civilization to an industrial civilization, free land to scarce, high-priced land. These changes, Johnstone points out, "have profoundly influenced the very essence and character of rural living. Even the philosophies, the ideas of right and wrong, have in some cases taken on a wholly new shape and character."

The Republic was born in what has come to be known as the Age of Reason or the Age of Enlightenment. In the earlier feudal period, traditional ways of doing things were hardly ever questioned; they were eternally right and natural and could not be improved. In the Age of Enlightenment, intelligent people believed that reason could show us better ways. There was an aggressive search for these better ways. In agriculture, new methods of cultivation were developed. Washington and Jefferson were among those who put aside traditional prejudices and tackled agricultural problems scientifically.

Agricultural societies, based upon this spirit, soon sprang up in the new country, along with agricultural fairs and agricultural journals. Such things were new in the world; they were the beginning of a ceaseless agitation for progress and scientific improvement. Over against them was the natural inertia of tradition, which resists novelties. In 75 years after the Revolution, agricultural technology was improved more than it had been in the previous 2,000 years. Farmers accepted new mechanical devices readily; they were much slower to adopt scientific methods, which for a long time were labeled "book farming"; but by the time of the present generation, attitudes had so changed that most practical applications of science are readily accepted by all farmers in a position to profit from them.

Along with this spirit of progress, there was in the early days a strong belief that "those who labor in the earth are the chosen people of God," as Jefferson wrote, and that the cities were corrupt and decadent. Farmers alone were free and independent; farming was man's fundamental pursuit; it was the natural and good life. There was a dislike and disdain of the cities and all their institutions—including trade and banking. Partly this was because so many farm people came from a working-class or peasant background in Europe, whereas the dominant element in the cities came from the European upper classes. Thus the struggling American farmer also tended to link himself with the city laborer and artisan, who worked with his hands. These tendencies, and the conditions of frontier life, helped to develop a robust democratic spirit and a pride in the virtues of labor, industry, and thrift as settlement moved westward. Right and justice were "always on the side of the poor and humble."

Out of the general belief in the idea of progress, which the successes
achieved by a vigorous, colonizing people seemed to make a reality, came a strong belief that America was truly the land of opportunity. This attitude was strengthened by the sensational rise in land values along the frontier. It was not entirely fortunate that a boomer spirit developed as one aspect of this optimism. Frequently men took up land, not to farm it permanently, but to clean up on the rising market and go on to the next stopping-off place. The tendency of everyone to expect land values to rise indefinitely contributed to the heavy debt load that agriculture was later to bear, for farms were capitalized on the basis of expectations that did not always pan out.

Another element in the early background of rural America was a vigorous movement for self-education as a means of enriching life. During and after the Civil War this developed further, and local farmers' clubs and discussion groups sprang up in great numbers. Then came the Patrons of Husbandry and the Granger movement on a national scale. At the same time there was a growing agitation for more public schools, and finally for special schools and colleges to teach agricultural science. Education was a political issue in rural communities for a generation or more, until the Morrill Act of 1862 established the agricultural colleges. Education by then had become more than a means of attaining culture. It was considered the road to social and economic advancement. A "success philosophy" had begun to take root in this country.

During the past century, three forces, which Johnstone calls commercialization, urbanization, and technological advance, have been at work to change the character of rural life and along with it some of the most fundamental of the earlier habits, customs, and ideas.

Industrial development in the cities gradually took away the farmer's self-sufficient independence. As the cities grew in size, he had to produce food for increasing numbers of industrial workers—and he did it successfully. He also had to produce agricultural products to be sent to Europe to pay for the European goods and the capital needed for industrial development—and he did this successfully. But in the process he became more deeply involved in a commercial, specialized economy, more closely tied to markets and large-scale industry—which meant to cities. At the same time, his own demands grew; he wanted more of the conveniences industry produced—such things as a sewing machine, kerosene oil, a telephone. Instead of making almost everything for himself, he bought more and more things made in factories. He had to produce more cash products to buy these conveniences.

Thus farming came to be considered increasingly as a commercial pursuit rather than primarily as a way of living—which it was in the old view. Agricultural journals, schools, colleges urged the farmer to take the businessman as his model. There was a widespread drive to introduce bookkeeping and cost accounting in agriculture. The farmer was advised to charge a certain amount against his business as "salary," a certain amount as "interest on investment," just as businessmen did. As this viewpoint was more widely accepted, the whole picture of the farm enterprise changed. A farmer might succeed very well in maintaining himself, but he was not commercially successful unless he made a profit in business terms. By operating on
a business basis, he greatly increased his cash income—but also his cash outgo.

These developments inevitably brought other changes in attitudes. For one thing, farmers were no longer so inclined to identify themselves with those city people who worked with their hands; they became more conscious of their status as employers and commercial proprietors. The growing gap between the farmer and the city worker was widened by labor's agitation for shorter hours and higher pay, which offended some of the deepest convictions of the farmer, who had to work long hours on his own enterprise and whose economic return was more closely related than the average urban worker's to the amount of effort he put in. The farmer found himself faced with the business problems of the modern commercial world, and was forced to accept the methods of that world even though the frequent inequalities under which agriculture was practiced placed him at a disadvantage. He was usually in debt, and did not feel that he got a fair share of the national income as compared with the great, rich monopolies and trusts in industry. But in spite of this disadvantage, he had to become a businessman, and when he did, he became conscious of a "labor problem."

Agricultural education fostered the philosophy of commercial success. Although there was a group of educators, among them Kenyon L. Butterfield and Liberty Hyde Bailey, who emphasized cultural values in rural living, on the whole the educational drive was strongly directed toward economic advancement, based on scientific and technical progress. Farmers increasingly sought and applied the advice of technical experts, many of whom were not themselves dirt farmers. Meanwhile, the use of farm machinery increased rapidly, especially after the tractor came in to displace horses; by 1930, farmers were using some $3,300,000,000 worth of agricultural machines. Technical progress in other fields kept pace with these advances.

In brief, ideas and ideals that had become dominant in the United States through commerce and industry inevitably spread to the farmer. He also took more and more kindly to urban standards of living and urban tastes. The mail-order catalogs, the farm magazines with their urban stories and advertisements, and the Hollywood movies have been powerful forces in this development.

Thus a single century brought an almost complete reversal of many old customs and attitudes—highly commercialized farming in place of the old self-sufficient production; emphasis on cash crops in place of the products needed at home; dependence on world economic conditions in place of almost complete independence; acceptance of the desirability of commercial success in place of the older pride in thrift and hard work as the primary virtues; acceptance of urban standards in place of the earlier disdain for them.

None of these changes took place universally and all at once, or without conflict. Indeed, the outstanding fact, Johnstone points out, is that change has meant conflict and struggle. The older generation clings to tradition; old ways are deeply rooted in moral attitudes and ideas of right and wrong; adaptations to new needs and new conditions are made with great difficulty, and they are accompanied
by a sense of uncertainty and fear. Because we have been unable to adapt ourselves readily enough and wisely enough to changed conditions, we now have a sharp division between commercial farming and a large noncommercial group that barely subsists; and commercial farmers themselves have great difficulty in meeting the cost of modern living plus the cost of production by modern methods.

But though the lag between old ways and new needs is the chief cause of social maladjustments, the same persistence of the old that brings conflict with the new is also, Johnstone says, the great safeguard of society. For the most enduring of all are the ideals and desires based on fundamental human needs. And these ideals and desires outlast the particular forms and institutions that give them expression and effectiveness in any particular age. Thus, although in times of stress we tend for a time to confuse the temporary form with the essence, and although this loyalty to older forms causes maladjustments, it is in essence a loyalty to basic ideals that may be depended upon to survive changes in outward forms and institutions.

American Agriculture—The First 300 Years

In writing a history of agriculture in this country from the colonial period to the World War, Edwards traces the changing conditions and policies that most affected farmers.

The colonial period, he notes, covered almost two centuries, and its influence lasted much longer. It strongly stamped American habits and institutions. Two characteristics of this period were especially notable. (1) The colonies were predominantly agricultural, and the attitudes of the small farmer characterized the people as a whole. (2) Life was fluid because it was continually beginning over again on the frontier. Frontier isolation tended to make people narrow, but primitive conditions made them resourceful, self-reliant, practical, hard-working. These have been typical American traits.

Englishmen predominated in the 13 Colonies. They came mostly from a rural background where agriculture was not yet highly developed. Their farming methods were not suited to the wilderness, and at first they almost starved in spite of an abundance of wilderness food. Not until they had learned new ways from the Indians did they make a success of the new life. Agriculture in this country became a blend of European and Indian practices and has remained so ever since.

Since landownership was the key to individual success in England, it became equally important in the Colonies. Three ways of acquiring land were especially significant. (1) Under the manorial system, large tracts were granted to individuals, who were practically feudal overlords and collected quitrents from settlers. With such an abundance of land in America, this system was hard to enforce. Eventually manors became plantations and the owners made a profit from slave labor rather than land. (2) Under the New England system, a trading company took title to the land. Settlers were granted rights—usually to an area the size of a township—as a group, not as individuals. Through town meetings, the group acted as a corporation in dividing the land fairly among individuals, and some
of it was held in common. This system, designed to be like the Biblical commonwealth, developed group action, compact social communities, democratic institutions. (3) Under the headright system of Virginia and other southern Colonies, any settler had a right to 50 acres of land—equivalent to a dividend on a share of company stock. This system became highly corrupt and was eventually replaced by "treasury rights"—the sale of 50-acre tracts to individuals by the Commonwealth.

Agricultural tools and implements in the Colonies were extremely crude. Labor was scarce, since four freemen out of five were independent farmers. This led to various systems of unfree labor. Many people sold themselves as voluntary indentured servants for 5 to 7 years in order to get to America. Others were involuntary indentured servants for 7 to 10 years—paupers, vagrants, debtors, petty criminals "condemned" to the Colonies, or innocent persons shanghaied by professional kidnappers. Many of these "redemptioners," though poor, came of good stock, accumulated a stake for themselves, became independent and often prosperous. The trade in indentured servants was checked about 1700, and the importation of slaves from Africa then began in earnest. By 1760, slaves made up two-fifths of the population of the southern Colonies; in South Carolina they outnumbered the whites 2 to 1.

At first the colonists grew their crops in the clearings they found; then they began making clearings, using the Indian method of girdling and burning trees. Indian corn became the major crop because of its many advantages, but the European grains were also grown—wheat, rye, barley, oats, buckwheat, peas. Livestock was scarce; all animals had to be imported, and none but the better-financed settlements could afford an adequate supply. As the number of livestock increased, native annual grasses in the clearings proved inadequate for forage, and this led to the importation of timothy, bluegrass, clover.

Almost from the beginning, Edwards points out, there were laws regulating production and marketing, passed either in England or by the Colonies themselves. Some were successful, some visionary. Tobacco production was restricted again and again to prevent glutting the market and to insure the growing of food crops. There were price-fixing agreements for tobacco, official grading, destruction of surpluses. Rice growing was encouraged, and there were laws to fix the exchange value of the product, standardize quality, prevent deceitful packing. The growing of indigo was stimulated by premiums. Bounties were paid for hemp and flax, and growers were subsidized by various Colonies. There were likewise bounties for the production of naval stores, as well as official standardization. Extraordinary efforts, never very successful, were made to encourage silk production, including not only bounties but compulsory planting of mulberry trees. Cotton, sugar, spices, wine, and subtropical fruits were also subject to stimulative or regulative legislation.

Most of the colonial trade was overseas, but a sizable amount developed between the Colonies. New England quickly became a commercial and shipping center, trading especially with the West Indies and along the coast. The middle Colonies became a fur-trading and
grain-exporting region. The South contributed more than any other region to overseas trade, the chief product being tobacco. Several factors interfered seriously with the trade of the Colonies, including a long series of navigation acts, designed to assist in creating a self-sufficient economic empire, which prohibited the shipping of most products anywhere except to England, in English or colonial ships.

Small farmers, backwoodsmen, city laborers, mechanics were the driving force back of the Revolutionary War. In effect, they were revolting against the large landed and commercial interests that represented England in the government of the Colonies. They wanted more liberal land policies; paper money to pay off their debts; an end of absentee landlordism, property qualifications for voting, taxation without representation, expensive justice.

After the war the last vestiges of feudalism were abolished by “frontier ‘radicals’ like Jefferson.” Thereafter land could be held in fee simple. Probably the most important development relating to land was the formation of policies for disposing of the vast western area won from England. Fortunately the States with claims to western land ceded them to the Confederation and this enabled the country to develop as a federation of equal States instead of a system of provinces dependent on the older States. In 1785 and 1787 ordinances were passed that laid down the principles and procedure later followed in the disposition of public land. There were two divergent views from the beginning, one group favoring a cautious and the other a liberal land policy. Gradually the second viewpoint won.

Land policy came to center around three specific issues. (1) Graduation. The best land was settled first, leaving islands of poor land unsold. In 1854 prices were graduated downward on the unsold land. (2) Preemption. At first efforts were made to drive off squatters. Frontier farmers banded together, finally forced enactment of the preemption law in 1841. Settlers could then take up (preempt) land before it was surveyed and placed on sale. (3) Homestead. Conservative leaders as well as eastern landowners and manufacturers opposed a too liberal land policy. Pioneer farmers and land speculators joined forces with labor to have land distributed free to actual settlers; one of their slogans was “Vote yourself a farm.” Underneath the political struggle, says Edwards, “lay the conviction that equality of economic power was essential if genuine freedom and democracy were to thrive in America.” The bill for free homesteads was passed by the House in 1852, but it became part of the slavery issue and was not finally enacted until 1862.

The opening of new lands and the westward expansion between 1790 and 1850 was marked by one of the greatest migrations in the history of the world. In 1790 there were 4,000,000 people in the United States, of whom 94 percent were in the 13 original States; within 60 years there were 23,000,000 people and 32 States. “Land was the great magnet . . . available almost for the asking . . . an irresistible temptation.” The first great trek was into the Old Northwest (bounded by the Ohio, the Great Lakes, and the Mississippi) opened up by the Ordinances of 1785 and 1787. Settlers rushed in even before the surveys were completed. The same wave of migration settled western New York. After 1815, the migration increased, stimulated
by depression in Europe and our own Eastern States, the increasingly liberal land policies of the Federal Government, victories over the Indians, the use of steamboats on western rivers, the Louisiana and East Florida purchases. Ohio, Indiana, Illinois, Michigan were soon admitted to the Union.

The immense demand for cotton following the invention of the cotton gin in 1793 pushed planters westward into the Old Southwest, where a plantation aristocracy developed. In 1834 Alabama for the first time took the lead in cotton production away from Georgia, and in 1839 Mississippi led for the first time. The acquisition of the Louisiana Territory in 1803 increased the area of the United States by 140 percent. The westward tide moved into Texas in 1830, bringing annexation and war with Mexico. Before 1850 the Oregon Territory was acquired from England, and Mexico ceded California. Then came the gold rush to the Pacific coast.

The opening of fertile western lands caused a depression in eastern agriculture, made possible the development of industries and cities, had a liberalizing influence on American politics, and above all affected American psychology because of the feeling that the individual always had a chance to start life over again by taking up new land.

The virgin soil of the Old Northwest grew wheat well, and during the 1850's wheat production shifted westward to Illinois, Indiana, and Wisconsin. Corn, marketed in the form of whiskey and hogs, also did well in the new country.

Eastern agriculture went through two major changes by 1860. (1) Prior to 1810, methods were backward except in a few progressive areas, and production for home use was the rule—perhaps mainly because there was no large urban market. Then the growth of cities stimulated production for sale. As a result, better tools and more scientific methods were used, production became more specialized, land values rose, farmers began buying instead of making home and farm equipment. At the same time, young people began leaving the farm for the city. (2) Western competition also forced eastern farmers to specialize. By 1850 there were 7,000 miles of railroads, and shortly thereafter Western States were pouring wool, wheat, pork, beef into eastern markets. Eastern farmers perforce turned to the production of potatoes and other vegetables, orchard fruits, fluid milk, cheese, butter, hay.

Meanwhile, southern agriculture also underwent changes. The application of power to textile manufacturing in England and later in New England resulted in an enormous demand for cotton, and the invention of the cotton gin enabled American producers to meet this demand. More and more the South specialized in cotton, which became the largest export crop of the United States. This expansion revived slavery, which had been on the wane. As soil resources were used up in the eastern areas, growers moved westward, finally reaching the prairie regions of Texas. The Southeast had little to compensate for this loss, and its story, Edwards notes, would have been different had western migration been better regulated.

Of vital importance to farmers was the development of the transportation system, prior to 1860. The Colonies were tardy in road and bridge building. The completion of the Philadelphia-Lancaster Turn-
pike in 1792 started a boom in turnpike building by private companies, which charged heavy tolls—$12 a ton per hundred miles, on the average. Even with some State aid, however, this did not provide an adequate road system, and in 1808 Jefferson’s Secretary of the Treasury, Albert Gallatin, advocated public expenditure for a Nation-wide system of canals, turnpikes, and river improvements. The Cumberland Road (834 miles—$7,000,000) was the major result.

In 1815 a steamboat ascended the Mississippi and Ohio Rivers from New Orleans to Louisville in 25 days. This inaugurated a tremendous expansion. The Northeast and Southwest were bound together by river trade, and the favored cities—particularly New Orleans—grew rapidly. For a long time steamboats were the chief means of travel in settling the West. Coastwise traffic, however, became more important in the long run; by 1860 the value of commodities carried by coastwise vessels was six times that of exports abroad.

Canal building was begun partly to bring inland products to seaports for the steamship traffic. First big project was the Erie Canal, completed in 1825. Before the canal, it had cost $100 to ship a ton of farm products from Buffalo to New York in 20 days; now it cost $15 and the trip was completed in 8 days. Farm prices and land values went up; new cities were born; New York became the biggest American seaport. Other States began canal building, and a series of feeder canals was constructed in the Old Northwest. The whole development greatly stimulated western agriculture, but the cost of the internal improvements was enormous, more than the States could bear. After the panic of 1837, “it became part of the American credo that a public utility could not be built and operated successfully except by private enterprise.”

Then came railroads, to challenge the supremacy of canals and eventually win. Western railroad building did not get a good start until 1850, but by 1860 Illinois was the greatest corn State as a result of the opening of the prairies by railroads, and the flour-milling and stock-raising centers inevitably moved westward.

Edwards argues that after 1862, when the Homestead Act was signed, there were many major mistakes in United States land policy. In the first place, the act itself did not and could not do what its supporters had in mind. It offered 160 acres of land free to the settler. This was enough for a farm in the East and Middle West, including even eastern Kansas, Nebraska, and the Dakotas. But by 1862 these areas were largely settled. Homestead lands lay mostly west of the 100th meridian, in areas of low rainfall, where eastern farming methods did not apply; it was obvious to anyone who knew the West that 160 acres was too little for dry-farming or grazing, too much for irrigation. Moreover, there were two competing systems of land disposal in effect. The better lands often were purchased in huge blocks by speculative syndicates, which gouged the farmer. The administration of the land laws was also full of abuses, and fraud and graft were common.

Some of the subsequent land laws also had the effect of encouraging overexploitation of resources by large corporations and other interests. A movement toward conservation began in 1891, when the Timber Cutting Act and the Preemption Act were repealed, the policy of selling the public domain (except special lands) was abandoned, and
forest reserves were authorized. The old Forestry Office became a bureau of the Department of Agriculture in 1897. The Carey Act of 1894 provided for irrigation under State auspices; the Reclamation Act of 1902 put the Federal Government into irrigation. Laws passed between 1906 and 1920 reserved all mineral rights for the Government, permitted only carefully regulated leasing. Meanwhile 148,000,000 acres was added to the timberland reservation and Gifford Pinchot inaugurated an active forest conservation policy. Between 1904 and 1916 efforts were made to improve the Homestead Act by granting larger tracts on the inferior western lands that remained undistributed.

If settlement had been better managed as a public policy, says Edwards, there might now be more farm owners, fewer tenants, and far better conservation of national resources. But most people were not then thinking in those terms. The object, natural enough at the time, was to settle and develop the wilderness as rapidly as possible.

Edwards traces the main developments in farm machinery as a major influence shaping the history of American agriculture. Many machines, developed between 1830 and 1860, were being used by farmers before the Civil War—the mechanical reaper (most significant single invention), mechanical raker and binder attachments, the steel plow, the grain drill, the corn drill, the threshing machine. The Civil War was a turning point in mechanization. A million farmers were withdrawn from production to fill the biggest army the world had ever seen, and machinery had to be used on a large scale if those left on the farms were to do their job effectively. Thus between 1860 and 1910 there was a general displacement of man labor by horse labor, and additional machines were invented to be run by horses.

After 1910 another great period began, marked by the substitution of mechanical power for horses. In this development too, war (the World War) was a turning point because it demanded greater production by fewer hands (though the farm depression of the 1920's perhaps stimulated mechanization even more through the need to cut production costs to the bone).

By no means all of the increased efficiency of agriculture is due to machines, but they have been a major force in bringing more land under cultivation, making it possible to produce up to and beyond the market demand, enlarging farms, shifting production to level lands, reducing labor requirements, lightening farm toil.

Developments in transportation after 1860 were as important to farmers as those in machinery. When settlement on a large scale was to be undertaken the Federal Government was called on to further it; the same thing happened in the case of railroad expansion. By 1914 "the railroad mileage of the United States . . . exceeded that of all Europe and represented more than a third of the world's total"; it increased eight times while the population was increasing three times. This expansion would not have been possible without Government aid. After 1850 the Government gave more than 159,000,000 acres of land to the railroads and granted two railroads $16,000–$48,000 for each mile of line they constructed. State and local subsidies were extensive and varied. Altogether, perhaps three-fourths of the cost of railway construction was borne by public authorities.

Farmers favored this aid and in addition mortgaged their land to
buy railroad bonds, because the railroads promised to bring them unbelievable prosperity. When the extravagant hopes were not realized, the failure was attributed to grasping railroad barons. In fact, many serious charges could rightfully be made against the railroads. To correct the evils, farmers banded together, started the Grange, organized State and local tickets, forced railroad reforms and rate regulation by States and later by the Federal Government. In 1887 the Interstate Commerce Act was passed, in 1903 the Elkins Act, in 1906 the Hepburn Act, in 1910 the Mann-Elkins Act.

From the 1870s to the World War there was a progressive decline in rates. Competition doubtless was more of a factor in the east-west traffic rate reduction. The result was a rapid development of the West. Colonization was actively promoted by the railroads. The Northwest and North Central States became the grain kingdom; meat packing was stimulated by the invention of the refrigerator car, which also spread dairy and poultry production westward.

After the Civil War, agriculture went through a long period of revolutionary change and growth, stimulated by mechanical improvements, transportation, the homestead policy, but above all by the expansion of domestic and foreign markets, which in turn resulted from industrialization and the growth of great cities whose workers had to be fed and whose factories demanded raw materials. Cereals were by far the most important commercial crop, making up half the total value of all crops in 1899. Corn production rose from 800,000,000 bushels in 1859 to a peak of over 3,000,000,000 in 1906, wheat from 200,000,000 to over 1,000,000,000 in 1915. Great milling and shipping centers developed near the heart of the grain country. Livestock production was stimulated likewise, and this brought the big livestock trading and packing centers. Butter and cheese making shifted from the farm to the factory to supply the immense demand as the dairy industry moved westward. Incubators and cold storage enabled farmers to meet the urban need for poultry products. The cotton regions, which were in a desperate plight after the Civil War, soon caught up with their 1860 production of 3,841,000 bales, and by 1910 were producing 11,609,000. By 1899 a third of the cotton crop was being used in domestic mills, and in 1909 more cotton was consumed in southern mills than in the northern. Wool production for the domestic market increased in importance. The first eastward shipment of fruit from California was made in 1867; by 1899 the total was 193,000,000 pounds of fresh deciduous fruit a year. The Southern States began sending fruits and vegetables north. Tobacco production grew.

Foreign as well as domestic trade in farm products rose sharply after the Civil War. Though city workers here and abroad benefited from the cheap food supply, many European farmers were ruined by American competition and immense numbers migrated to this country.

The peak of food exports came about 1900; after that there was a rapid decline caused by more effective competition in Europe, the development of new agricultural regions, and tariff and other policies of foreign governments. But the domestic market in the United States was then expanding and the American farmer was able to
adjust his production by a gradual shift toward an increased output of sugar, dairy products, fruits, and vegetables. Cotton and tobacco exports also increased. The period 1900–1914 was relatively prosperous for agriculture, since production was fairly well balanced with demand.

The vast expansion in agriculture after the Civil War was entirely in the direction of commercial farming, and this brought a train of new and complex problems. Farmers were thrown into competition with one another; they had to produce at the lowest possible cost; they had to have money for machines and other needs; they found commodity prices set by the new cotton and grain exchanges and the speculators in futures; they were squeezed by high freight rates, by monopolies, by loan sharks, by commission men. The only way they could fight their battles was by organization. So they organized, first in the Granger movement. One major outcome was a rapid growth of cooperative buying, selling, and even manufacturing. These early efforts of the farmer “to perform the function of middleman, manufacturer, capitalist, and banker through cooperative enterprise met with only short-lived success,” because of lack of capital, inexperience, fair and unfair competition; but it paved the way for the cooperative movement of later years. In the 1880’s came the Northwestern and the Southern Alliances, which started many cooperative enterprises; in 1895 another expansion in cooperative activity began; in 1902 the Farmers’ Union was formed, and it developed plans that forecast certain aspects of present-day agricultural thinking. In 1914 the Clayton Act recognized the need for farmer cooperatives, and they have had legal protection ever since.

The post-Civil War period of rapid agricultural expansion also saw the development of a Federal Department of Agriculture. Founded in 1862, it was actually the result of almost a hundred years of preliminary steps. In 1776 there was a tentative proposal for Congress to set up a standing committee to assist agricultural societies. Two decades later Washington proposed a board of agriculture, and a similar proposal was made in 1817. Meanwhile consuls and naval officers abroad were sending back seeds and improved breeds of livestock. In 1836 Henry L. Ellsworth, Commissioner of Patents, undertook to distribute these seeds to farmers. In 1839 Congress appropriated $1,000 for the work, as well as for statistical and other investigations. An Agricultural Division was inaugurated in the Patent Office, and regular appropriations were made after 1847. In 1854 a chemist, a botanist, and an entomologist were employed.

When an independent Department was established in 1862, Isaac Newton, who headed the agricultural work in the Patent Office, became Commissioner and laid the foundations for a broad policy of research and education. Almost from the beginning, therefore, “the Department made notable contributions to the field of scientific agriculture,” partly because “men of outstanding ability served as division chiefs and research workers.” The Department gradually added divisions, beginning with chemistry, statistics, entomology, in response to need and demand. In 1884 it took on regulatory work in addition to fact-finding and education when the Bureau of Animal Industry was organized to clean up cattle diseases.
The year 1862 also saw the founding of the land-grant colleges under the Morrill Act, and in 1887, under the Hatch Act, Congress authorized a national system of State agricultural experiment stations—several had been started by the States, beginning with Connecticut in 1875—which served as a link between the colleges and the Federal Department. Finally in 1889 the Department was given Cabinet status, and its appropriations were increased, its functions widened. Highly trained explorers went to far countries and brought back valuable crop plants; extensive breeding work got under way; protection of the national forests was undertaken; enforcement of the Food and Drugs Act was given to the Department. After 1900 county demonstration work began, and in 1914, under the Smith-Lever Act, Congress gave financial aid to extension divisions in the State colleges, which were to cooperate with the Federal agency. Meanwhile marketing problems were receiving increased emphasis, and an Office of Markets was created in 1913. Weather reporting and road construction had also become Department functions.

Meanwhile agricultural education also went through a period of early growth until the Land Grant College Act of 1862 granted large amounts of land to the States to be sold for funds to create and maintain agricultural and mechanical colleges. A system of direct Federal subsidies was created by legislation in 1890 and 1907. The colleges had a difficult time at first because of lack of funds, lack of qualified teachers, lack of a sufficient body of agricultural knowledge, and political interference, but they gradually proved their economic and scientific value. They in turn sponsored agricultural courses in the grade schools, beginning with Wisconsin in 1905. Meanwhile agricultural high schools had been started, and eventually (1917) this led to the Smith-Hughes Act, granting Federal funds to the States for agricultural education in the secondary schools.

The development of specialized schools and colleges has had profound effects on agriculture, scientifically, economically, and socially. It is significant, Edwards notes, that at critical points in this development there was always a demand for Federal aid and cooperation.

At the end of his article Edwards sums up the influence of agriculture on governmental policy in the United States.

The Civil War may be considered as a dividing line. Until that time agricultural production was dominant in this country. Events that showed the powerful influence of farmers before the war included the formation of the Democratic-Republican Party in opposition to traders, bankers, speculators; purchase of the Louisiana Territory; the War of 1812, "begun and carried through by ardent expansionists"; abandonment of property qualifications for voting and office holding; public education; destruction of the National Bank, greatest monopoly of its day; the policy of moving Indians beyond the Mississippi; the preemption, graduation, and homestead acts.

After the Civil War, agriculture was on the defensive and business enterprise in the ascendency. Industrialization got under way in earnest. By 1889, for the first time, the income derived from manufacturing was greater than that from agriculture; since 1910, the income from manufacturing has exceeded that from agriculture in every year, and the United States has ranked first among industrial countries.
Agriculture expanded also and controlled the European market, but farmers never did reap the benefits to anything like the same extent as businessmen. Farmers could not combine to fix prices or control output. As prices fell, their fixed charges rose. Mortgages and tenancy steadily increased. Credit facilities for farmers were lacking, and they suffered from contracted currency. As a result of these and other conditions, frequent farm revolts have characterized the entire period since shortly after the Civil War.

Railroad reform and regulation, won by the Grange, was the first great post-war victory of organized farmers. Even though many of the Granger laws were not enforced and were soon repealed, the battle taught farmers much, brought them into united action, started a far-reaching cooperative movement. An outstanding result of Granger activity, says Edwards, "was the firm establishment of the principle that a State government has power to regulate businesses clothed with a public interest." The Interstate Commerce Act also "marked the entrance of the Federal Government into the sphere of business regulation."

Currency reform—"the same money for the bondholder as for the plowholder"—was another great objective of farmers resulting from the monetary situation after the war. In 1874 a farm group united with labor to form the Independent National Party, which became the Greenback Labor Party in 1878, when it polled a million votes, and in 1888 was absorbed into the Union Labor Party. Meanwhile State Alliances organized in the South in the 1870's eventually united (1888) as the National Farmers' Alliance and Industrial Union. A similar organization, the Northwestern Alliance, was formed in 1880. Both advocated free silver, paper money, tax reform. In 1892 a combination of the Western Alliance and Knights of Labor became the Populist Party, which in 1894 elected seven Congressmen and six Senators. Though the party fought for a considerable list of agrarian measures, it concentrated on free silver in the campaign of 1896 and supported Bryan, who polled 6,500,000 votes. Bryan's defeat marked the end of the Populists as an effective organization.

Though farmers had a measure of prosperity in the early 1900's the agrarian reform movement did not die out but broadened and deepened. Several organizations were formed and two headquarters were established in Washington. The Nonpartisan League eventually became "a force to be reckoned with in the national political arena." Achievements between 1912 and 1920 that resulted from long-standing farm demands included the Federal Reserve Act, the county agent extension system, a Federal Farm Loan Board and 12 regional banks for long-term credit, and subsidies by the Federal Government for vocational agriculture in the public schools.

Agriculture in the World War Period

American agriculture was in the midst of a long period of quiet adjustment to the lack of any more virgin land, and to the new order of machines and commercialization, says Genung, when the war came overnight and forced it into a new pattern. A half-dozen years brought changes that would normally have been spread over generations. "Under the stimulus of price and patriotism—finally of out-
right inflation—the farm business labored and expanded and provided the sinews” of war. “Then, in the aftermath, it was left high and dry.”

The objective of all official policy was to stimulate production, but some semiluxury foods were actually depressed because of the imperative need for bread, heavy meats, fats, sugar, wool. One of the early effects of the war was to change the United States from a debtor to a creditor nation. In September 1914 we owed Europe about $500,000,000. A year later Europe owed us $15,000,000, and 3 months after that, $132,000,000. And this was only the beginning.

The effects of the war on production can best be visualized by considering what happened to different commodities.

Allied bidding for American wheat began as soon as the Russian supply was cut off. The year 1915 saw a billion-bushel crop—the largest before or since. Early in 1915 farmers were getting $1.25 a bushel; by the spring of 1917 they were getting over $2.40. The United States entered the war that year, and the drastic Food and Fuel Control Act went into effect. Thereafter most growers realized $2 a bushel or better. Acreage rose more than half during the war—from 47,000,000 acres in 1909–13 to 74,000,000 in 1919—and production 38 percent (from 690,000,000 bushels to 952,000,000).

During the early years of the war cotton was hurt rather than stimulated, and the total effect was to reduce world consumption of American cotton about 12 percent compared with the years immediately preceding the war. For 3 years beginning in 1917, however, growers averaged over 25 cents a pound, and in 1919, with the price at 35 cents, they had a $2,000,000,000 cotton crop, never equaled before or since. This was largely the result of domestic business activity, inflation, and moderately small crops.

“it was not until toward the close of the war that tobacco exports, prices, and production all soared to comparatively high levels.”

Hog production felt the greatest stimulus among the livestock industries. In 1914 prices were about $8 a hundredweight at the farm. In November 1917 the price was pegged by the Food Administration at about $15.50. In the summer of 1919 it was over $19. At the beginning of 1914 there were 53,000,000 head of swine on farms and at the beginning of 1919, 64,000,000. The hog situation raised the price of corn, but the acreage increased very little.

Farm prices for beef cattle rose from $6.24 in 1914 to $9.56 in 1919. Exports went up from 150,000,000 pounds in 1914 to 954,000,000 in 1918. The number of cattle, other than milk cows, on farms increased from 40,000,000 head early in 1914 to 51,000,000 four years later.

Through 1917–18 the price of dairy products rose about 70 percent above pre-war prices. Concentrated milks felt the greatest war stimulus; exports rose from 17,500,000 pounds in the pre-war period to 853,000,000 in 1919.

Sheep production declined somewhat during the war, but prices more than doubled. The poultry industry was depressed, partly because of the high price of feed grains.

The total number of animal units increased by 16 percent during the war, the production of all meat by 23 percent, and the acreage in crops by 13 percent, or about 40,000,000 acres.
The rise in commodity prices was partly the result of world-wide inflation, and this left farmers vulnerable to the shock of deflation after the war. Farm prices ultimately were more than double the pre-war figure, but they fell further and faster than the prices of commodities in general. The gross income of agriculture rose from $7,000,000,000 in 1914 to nearly $17,000,000,000 in 1919. By 1920 it was down to $13,500,000,000.

Meanwhile land values soared during the war and all production costs increased. The bill for hired help more than doubled; the fertilizer bill nearly doubled; the farm-implement bill more than tripled; the bill for livestock feeds more than doubled; taxes doubled, and then kept on going up after 1921; interest paid on farm mortgages more than doubled between 1914 and 1921; freight rates increased; the cost of living went up. In other words, the picture was not all rosy for farmers. They had three profitable years during the war, but neither prices nor profits were high compared with those in industry.

Along with economic changes there were social changes—chiefly a greatly increased exodus of workers from the farm to high-paying industries and to the Army. After the war, young men flowed back to the farms, bought land at peak prices, went into debt, and were caught by deflation a little later.

Huge credits were granted to Europe after the war. When this process stopped, foreign buying fell off and prices crashed. Europe could not pay us in goods because of our tariff policy. Then European countries went nationalist and further throttled trade. The loss of the European market for wheat, pork, and cotton hit our agriculture vitally and suddenly. Meanwhile, the war had also stimulated production in other agricultural countries—Canada, Argentina, Australia, New Zealand—some of which had cheaper land and labor than the United States.

The war proved to be a turning point that compelled a reorientation of our entire farm economy. "The world of abundance and of relatively free exchange," Genung writes, "had turned into one of low buying power, with international trade balked by a barricade of restrictions and political designs."

The Development of Agricultural Policy Since the End of the World War

"The collapse of agricultural prices [in 1920]," Davis writes, "produced vehement protest from farmers everywhere. Existing farm organizations increased their membership and new ones sprang into being. They exerted a pressure on lawmakers and administrators which, continuing through the years, has been primarily responsible for the unparalleled sweep of farm legislation from the early 1920's through 1938 and has carried the Federal Government into fields of farm aid undreamed of when the crisis of 1920 broke."

Davis sees this process as a continuous development in which legislation at any given time grew out of previous proposals and efforts that sometimes had a long history.

As a result of ferment throughout the country, Congress created a Joint Committee of Agricultural Inquiry early in 1921. The inquiry
was broad, but the committee's recommendations were too limited to cope with conditions effectively. Overproduction or overmarketing was not considered to be a cause of the price decline. A "farm bloc" was also organized in Congress about this time, and early in 1922 Secretary Henry C. Wallace called a National Agricultural Conference, which was attended by nearly 400 representatives of agriculture and related industries. "Practically all of the notes that have been struck in subsequent agricultural policy were sounded in one way or another in that conference." For example, at the insistence of George N. Peek, a paragraph was included in the conference report urging that Congress and the President "should take such steps as will immediately reestablish a fair exchange value for all farm products with that of all other commodities." Crop insurance and the whole question of Government guaranty of agricultural prices were recommended for study.

Prior to this report, in December 1921, Peek and Hugh S. Johnson, using the slogan "Equality for Agriculture," had proposed a plan for surplus disposal. This plan was studied by cabinet members, officials, economists, and industrial and financial leaders, and later became the basis for the McNary-Haugen bills, which were before Congress in varying forms from 1924 through 1928. Though they were twice vetoed by the President after being passed by Congress, these bills accomplished much in organizing farm support and focusing national attention on the farm problem. The substitutes adopted also added valuable elements to experience.

Against aggressive Government action for farm relief in the period from 1923 to 1926, or indifferent to the issue, were the cooperative marketing associations, the South, the East and the industrial centers, the agricultural colleges, and most of official Washington. Support came from Congress, a small group close to the Secretary of Agriculture, certain individuals and special groups, and finally the national farm organizations. There were lively debates on whether there actually was any surplus of farm products. Both sides failed to recognize three major factors in the situation—the importance of foreign loans in maintaining the export market, the change from debtor to creditor status, and the final closing of the frontier, which had for so long acted as a shock absorber.

Agitation for farm relief got its start in the Northwest, where wheat growers were the first to be hit. Late in 1923, Secretary Wallace publicly proposed an export corporation to dispose of surplus wheat, and growers in the Northwest pressed for action. In the following year, active agitation for farm relief began in the Corn Belt. A long struggle for "equality for agriculture" and "a fair share of the national income" followed. The McNary-Haugen bills, around which most of the struggle centered, embodied two essential ideas: "(1) That the centralizing power of the Federal Government should be used to assist farmers to dispose of the surplus abroad and raise prices to the desired level in the domestic market, and (2) that the loss on the segregated exports was to be paid by the farmers themselves by means of an equalization fee," charged on the first sale or first processing of the commodity.

A number of organizations were started between 1924 and 1928 in connection with the drive for a clearly defined national agricultural
policy—among them the aggressive American Council of Agriculture, the Executive Committee of Twenty-two, and the Corn Belt Committee of Farm Organizations. In November 1924 President Coolidge called an agricultural conference, which attacked the surplus-export plan and failed to develop any other program acceptable to farm forces. In 1926 the South for the first time joined the West in agitating for an effective farm-relief program, and southern cooperatives came in.

A debenture plan to enable exporters to pay a higher price for farm products reached Congress in 1926, and in 1927 there were several proposals for a Federal farm board, one of which had Administration support and was endorsed by the Business Men’s Commission—a product of the National Industrial Conference Board and the United States Chamber of Commerce. A land-grant college committee also came out, somewhat vaguely, for “favorable and sound” farm legislation. After the President had vetoed the McNary-Haugen bill for the second time, a threatened farm revolt failed to materialize in 1928, largely because the farmers had been promised a general agricultural bill. They got this in the form of the Agricultural Marketing Act of 1929, which created the Federal Farm Board.

The Federal Farm Board attempted to stabilize prices by storing surplus wheat and cotton and withholding them from the market. These operations resulted in heavy losses, and the Board soon began to insist that production must be held in line with actual market demand. Meanwhile the depression struck with full force. The income and capital values of farmers tumbled; banks closed. Additional farm legislation was imperative, and various proposals were made, which culminated in the Agricultural Adjustment Act of 1933.

In effect, this legislation summed up the experience of the previous decade. One of its main features was taken from the domestic allotment plan proposed by M. L. Wilson and John D. Black during the Farm Board period. Their proposal was to let the export surplus take care of itself but to increase returns to farmers on the portion of their crop consumed in this country. This was to be accomplished by issuing certificates to farmers which would be bought by processors at the time they paid for the farm products; but the certificates would cover only products for the domestic market.

Under the Agricultural Adjustment Act, “millions of farmers entered into contracts to reduce acreage in specified surplus crops in return for benefit payments, financed chiefly by processing taxes.” Additional legislation setting up marketing quotas for cotton and tobacco was soon incorporated in the Bankhead Cotton Act and the Kerr-Smith Act. In January 1936 the adjustment program was halted by the Supreme Court decision in the Hoosac Mills case, declaring that the power to regulate and control production resided in the States, not in Congress. The result of this decision was a shift to the Soil Conservation and Domestic Allotment Act of 1936. Late in 1937 the need for acreage control again became apparent and resulted in the enactment of the Agricultural Adjustment Act of 1938.

The existing legislation embodies five main features: (1) Provisions for soil conservation, good farm management, and balanced output, the aim being “to keep the total acreage allotments at a level that will
insure a normal supply of food and fiber for domestic consumption and export.” The work of the Soil Conservation Service complements the work of the Agricultural Adjustment Administration. (2) Loans, marketing quotas, and parity payments. Storage loans are authorized for producers of corn, wheat, cotton, tobacco, and rice. Marketing quotas may be applied, after a favorable vote of producers, in years of excessive supply. Parity payments are authorized under certain conditions to raise the income of producers. (3) Marketing agreements. These are designed to enable farmers and distributors to “establish permanent and rational marketing systems.” (4) The diversion of surplus products into domestic and foreign channels, and the development of new uses for agricultural products. This includes the activities of the Federal Surplus Commodities Corporation and the work of four regional laboratories conducting research in new uses. (5) Crop insurance. The Federal Crop Insurance Corporation is authorized to write insurance against loss in wheat yields.

Davis traces the lineage of practically all of these provisions back to proposals and legislation of the previous decade or so, and in some cases further back.

Certain other problems that have come to the front in recent years are being dealt with more or less experimentally in the current farm program. One of them is tenancy. The Bankhead-Jones Farm Tenant Act of 1937 authorized loans for the purchase of small farms on a long-term mortgage basis; in addition, efforts are being made in several States to create better tenancy conditions. Another problem has to do with the large number of rural families who are on the fringe of commercial production or entirely outside it, many of whom are in distress and must be helped to earn a subsistence, at least until further opportunities are open in industrial employment. Work in this field is being carried on by the Farm Security Administration. A third problem is related to the domestic consumption of farm surpluses. Here the food-stamp plan is being used to increase the purchasing power of low-income consumers without going outside regular channels of commercial distribution.

The full story, Davis points out, is not told in these direct measures to aid agriculture, varied as they are. Attitudes and laws regarding taxation, tariffs, international trade, labor, money, credit, banking, and many other things all have a bearing on agricultural problems. Agricultural policy itself is never finally fixed and complete, and it cannot be, because conditions change. It cannot be said that the present laws have solved the problems of agriculture, and presumably they too will be subject to change and displacement. But “a continuous thread runs through the evolution of an agricultural policy, notwithstanding the manifest inconsistencies and contradictions that appear in it.”

Part 2. Agriculture and the National Welfare

Agricultural Surpluses and Nutritional Deficits

Cavin starts out by defining what the economists mean by a surplus—the amount by which supplies of a commodity depress the income of producers below the level usual in periods of average
prosperity when the different parts of the economy are in balance with one another. Three conditions can cause such a surplus, and each requires a different remedy. (1) Unusually good growing conditions, improved production methods, or some other factor may result in a larger than average crop. The obvious remedy is to withhold some of the crop from the market. But if the surplus becomes chronic, acreage and output must be reduced. (2) Changes in consumption habits may decrease the demand for a product compared with that for competing products. Unless new uses can be found for the product, the only possible remedy is to decrease production and substitute production of products for which there is an increasing demand. (3) A decline in general buying power—as in a depression—or the loss of a foreign market may result in a surplus. In the latter case, reduced production, accompanied by shifts to other types of production, is required. In the case of a depression, however, reduced production is no permanent remedy. It is necessary to restore general business activity.

The amount of a surplus of one or more farm products can be measured, Cavin points out, through the establishment of normal requirements for domestic use, exports, and reserve stocks. These are based on averages for some past period with adjustment for evident trends.

Cavin considers surpluses from a different viewpoint—that of the nutritionist. She points out that in the case of certain protective foods—dairy products; leafy, green, and yellow vegetables; foods rich in vitamin C—there may be a market surplus but at the same time a deficit compared with what people need. These deficits exist among low-income groups in all industrialized countries, including the United States.

How much more of these products do we need to make up the nutritional deficits? That depends on what we consider the desirable goal. The answers vary from 10 to 100 percent more for dairy products; 10 to 70 percent for tomatoes and citrus fruits; 80 to 100 percent for certain vegetables. If the nutritional deficits were made up, we could wipe out such scourges as pellagra, beriberi, scurvy; have a population with greater average physical efficiency and longer average life; significantly increase the demand for some important agricultural products. The job is partly one of education, and many agencies, including the Bureau of Home Economics, are busy in spreading knowledge of good nutrition. But education alone is not enough. Incomes and prices are large factors.

Cavin estimates that to raise the nutritional level as Stiebeling suggests would require between 8,000,000 and 40,000,000 additional acres for production, depending on the goal desired. There is no question but that this would largely eliminate agriculture's surplus problem. Farmers could and would do the job, but they could not do it if it meant an additional burden without a fair return.

Faroletti tackles the problem from the standpoint of income. He points out that farmers can no longer depend on population growth to create an expanding market; by 1960 the population may be stable. The market can expand, however, if we can manage to increase consumer purchasing power. One way to do this is to increase the
total national income. A national income of $90,000,000,000–
$100,000,000,000 (as compared with $69,000,000,000 in 1939) would
put everyone to work and greatly increase food consumption. So
great a rise in national income, however, cannot be expected to occur
quickly, nor would it settle the deficit problem Stiebeling discusses;
there would still be large groups with inadequate incomes, unable
to purchase all the protective foods they need. For the most dynamic
effect on the agricultural market, what is required is enough increase
in the incomes of the lowest groups (about 42 percent of all families
had incomes under $1,000 in 1935–36) to enable them to reach the
dietary level of the next higher group. From the standpoint of
agricultural surpluses, a program for consumption adjustment is
fully as important as one for production adjustment.

But even increasing the incomes of these lower groups is a long-time
business, says Cavin. Aren’t there consumption adjustments that
can be made in the meanwhile? Yes, we can subsidize consumption
(as Stiebeling and Farioletti also suggest) where the need is greatest
by two methods—keeping prices low for certain income groups, and
distributing some foods free. There are numerous possibilities within
this range. In the 4 years 1935–39, nearly 3,000,000,000 pounds of
surplus foods were distributed free. Recently, the food-stamp plan
was adopted experimentally as an efficient plan for meeting the needs
of families on Work Projects Administration jobs or eligible for other
public assistance. This plan permits personal choice, reduces waste,
and makes use of existing trade channels. It proved to be so successful
that it has now been greatly expanded.

One solution or partial solution of the surplus problem does not
shut out others. But the problem cannot be settled, Cavin warns,
by a simple exercise in arithmetic. The causes are deep-rooted and
complex. Nothing less than a national policy involving long-continued
effort and probably large expenditures will be needed to solve it.

The Farmer’s Stake in Greater Industrial Production

Bean makes a rather close analysis, using numerous figures, of the
dependence of agriculture on industrial activity. His point is that
"farmers have a vital interest in any program or policy that will help
to bring about full employment of the working population in the cities."

At the end of 1939 there were 42 to 44 million available nonagricul-
tural workers in the United States, of whom 35,000,000 were employed,
leaving 7 to 9 million unemployed. Since this is about one-fourth
of the number employed, it may be said that in order to bring full
employment, industrial production should have been about 25 percent
greater than it was at the end of 1939.

What, Bean asks, would this 25 percent greater production mean to
farmers? He discusses four aspects of this question.

(1) It would relieve the pressure of an excess farm population on
the land. Heavy industrial unemployment inevitably takes the form
of a back-to-the-land movement. Much of the farm problem is due
to the fact that there are too many people sharing the agricultural
income. Between 1930 and 1940 the proportion of the population
engaged in agriculture failed to decline for the first time in over a
hundred years. If previous trends had continued, 16 percent of the
population should have been on the land in 1940; actually, the proportion was 21 percent. On the basis of long-time trends, there should have been 26,000,000 persons living on farms instead of 32,000,000. The excess 6,000,000 (about 20 percent of the total) would under normal conditions have been living in towns and cities. Since this 20 percent is for the most part a low-income group not contributing a great deal to commercial production, transferring them to the cities—that is, giving them industrial employment—would not proportionately raise the incomes of the remaining farmers. What it would do, however, would be to increase the proportion of consumers of farm products in the total population as compared with the proportion of producers of farm products. The total population is 132,000,000. Shifting 6,000,000 out of farming would make the total consuming population four times as large as the farm population, instead of three times as at present.

(2) Full industrial activity would create a larger national income, which would expand domestic consumer expenditures for farm products. An increase of 25 percent in industrial production would raise the national income from $70,000,000,000 (1939) to more than $90,000,000,000. Retail expenditures for food closely parallel the ups and downs of consumer incomes; they average about 20 percent of the income of nonfarm consumers. Thus the increase in national income suggested would mean that about $4,000,000,000 more would be spent for food. About 40 percent of this, or $1,500,000,000, would go to farmers, the remainder to those engaged in distribution. For nonfood products, farmers would probably receive another $500,000,000 with the suggested increase in national income.

(3) Full employment and increased national income would also improve the farmer's foreign market. Imports go up and down with domestic industrial activity. On the basis of past trends, they would increase by about $1,000,000,000 if the national income increased by $20,000,000,000. This would increase foreign buying power for American goods—that is, it would increase exports. Probably about one-fourth of the increased exports would be farm products.

(4) Bean notes that there are certain large if's in these assumptions. Full employment and increased national income would not automatically bring the results outlined for farmers. For instance, the declining foreign market and the declining demand for feed crops for work animals have upset past relationships in the market for farm products, and this has changed the proportion of farm income to national income. Increases in distribution and production costs have operated in the same way. The net result was that in 1939 farm income was short by $2,400,000,000 of being on a par with nonfarm income. About one-third of the shortage ($807,000,000) was made up by Government payments. In other words, there is a price problem involved as well as a problem of improving markets.

Practically all schools of economic thinking today agree that, to some extent at least, new methods are necessary to stimulate recovery, and that these methods involve some governmental action. Groups disagree on the amount and the kind of action required. Leaving out of account extreme views such as those involved in socialism and fascism, Bean distinguishes three main approaches.
Some people argue that in order to increase industrial production, consumer buying power must first be increased. As an example of this approach in its more extreme form, he takes old-age pension plans involving large regular payments to individuals and traces some of their possible results.

A second group believes that production must be stimulated first; increased employment and consumer buying power will then follow. If this were to be fully effective, it would admittedly require widespread economic planning and organized cooperation between many industries as well as between industry, labor, and consumers. Proponents argue that full economic planning could be developed gradually.

A third group takes a middle-of-the-road position, arguing that our economy is too complex for any one approach. They would rely on stimulating the flow of private investment, especially into large-scale industries; increasing public investment, especially in self-liquidating projects and conservation; expanding consumption by such measures as liberalized old-age benefits, in order particularly to increase the purchasing power of low-income groups; reducing maladjustments in prices, labor relations, trade barriers, and other factors. Changes in the tax structure and in the method of handling governmental budgets are corollaries to some of these proposals. The degree of public action required would depend on the extent of cooperation for recovery by industry and labor.

It is unlikely, Bean believes, that the United States will adopt any single program during the next decade. There will be a combination of various approaches. The future is obscure because of developments in Europe, but he holds that we are entitled to have great confidence in our ability to cope with our major economic problems provided we pay special attention to developing domestic markets never yet fully utilized.

**The City Man's Stake in the Land**

When almost anyone could go into farming, the city man had a direct personal interest in the land. That period ended with the closing of the frontier. Today the city man is aware that the soil means something to him only when he is aroused by dramatic duststorms or floods. Sometimes these happenings, however, are the effects rather than the causes of maladjustments in agriculture. Actually, the city man's stake in the welfare of agriculture is greater now than it used to be. Chew tells why he thinks this is so.

Pressure of population on the land supply, coupled with farm depression and soil wastage, drives large numbers of country people into city jobs or bread lines, and this inevitably burdens relief rolls in the towns, depresses wage rates, creates problems of housing and sanitation, complicates the task of school authorities, necessitates increased taxation, and causes ill feeling between migrants and residents.

For a long time—even in depressions—there has been a net migration of farm people to the city. Between 1920 and 1930, 4 out of every 10 new workers in the cities came from farms. If these people
come out of rural areas marked by poor health, poor housing, and poor education, they will not be adequately fitted for city life; most of them will be unsuited for any job except common labor, and many will become public charges. The city man, then, has a direct interest in rural living standards because large numbers of rural people are going to be his neighbors.

On the other hand, suppose great numbers are held on the farms because they can find no opportunities elsewhere. Something has to be done to help them; 600,000 farm families have been assisted by the Farm Security Administration, for example, and as many more need assistance. Who pays for this necessary rescue work? City people, in the long run. It would be cheaper for them to create conditions that eliminate the need for such wholesale salvaging of human beings by supporting fundamental improvements in agriculture.

Too much tenancy and bad tenancy conditions are one of the signs of agricultural maladjustment. How do they affect the city man? They force many farmers to become wage hands, and this heightens job competition in country and city. They also tend to bring about a shift of farm ownership to city people through failures and foreclosures. The resulting absentee farm management may be inefficient and costly. It may be better for the city man to own the mortgage than the farm because "rent is harder to collect than interest." Foreclosing mortgages is generally a losing business for everyone. Farm prosperity, on the other hand, means that payments to city creditors can be maintained.

Tenancy reform, Chew argues, will mean less competition for farm ownership but better chances for those who want to become owners, and this will benefit both farm and city people.

The country, Chew points out, serves as a double shock-absorber in depressions; it accepts low prices for the necessities of life, and it holds people on the land who cannot find other employment. But there is a heavy penalty for the city man if this shock-absorbing power is abused. Much of the burden of farm relief is due to the fact that such immense numbers of people have been held back on the land. Because of that, agricultural adjustment has to move in two conflicting directions at the same time. It has to adjust production to improve the incomes of commercial farmers, and it has to help great numbers of marginal farmers to make a living—which inevitably means more production even though it is only a small amount in any individual case. These costly contradictory efforts are unavoidable under the circumstances.

There is a way to avoid them, but it lies in the hands of the cities. That way is to provide industrial employment and thus absorb the army of the rural landless. No other solution could compare with this in efficiency. Agricultural adjustment would then be more nearly confined to commercial production and conservation, and it would be comparatively simple and inexpensive.

These are the more fundamental ties between the city man and the land. There are others perhaps less fundamental but more obvious.

For example, the poorer the land and the farmers, the less city people can sell in the way of agricultural supplies such as fertilizers and farm machinery. And the more failures there are among farmers,
the greater the tax delinquency and the greater the tax burden on city landowners.

The upshot of Chew's argument is that there is no separate agricultural problem which the city man can tackle or leave alone as he chooses. There is a single national economic problem rooted in the use we make of the land, and it is everyone's concern.

**Part 3. The Farmer's Problems Today and the Efforts To Solve Them**

*Agriculture Today: An Appraisal of the Agricultural Problem*

In introducing this section of the Yearbook, Wells attempts to give a brief picture of the agricultural situation and the main lines of economic reform that have resulted from it.

He illustrates the economic status of agriculture with four sets of facts and figures.

1) In the depressions of 1920 and 1929 farm prices fell sooner and further and stayed down longer than nonagricultural prices—a sign of weakness that led to increased organization among farmers and demands for Government aid. (2) The income and the living standards of the farm population are at relatively low levels. About 40 percent of all farm families have incomes under $750 a year—an amount that will barely supply minimum physical and other requirements. Various criteria show what this means in practical terms. Medical and hospital facilities in rural areas compare unfavorably with those in cities. With 31 percent of all the children of school age, farm families receive about 9 percent of the national income; they cannot support schools as good as those city people have. Rural housing conditions, judged by such criteria as sanitary plumbing, running water, electricity, are definitely inferior to those among city populations. Rural dietary standards are low in wide areas. (3) There is a considerable population pressure in many rural areas; for example, over 2,000,000 young people who would normally go elsewhere are now backed up on farms. (4) "The pressure of excess population and . . . exploitive methods of . . . production are taking their toll from the land itself" through erosion, overcropping, and overgrazing.

What causes this situation? Wells suggests that there is no single cause but rather several causes. The export market has declined, restricted immigration and a declining birth rate have slowed down population growth in the United States, and the industrial situation since 1929 has been such as to result in widespread unemployment. Over against the resulting reduced demand are forces that have been actively working toward increased production. These include the nature of the agricultural enterprise itself, the increasing efficiency of agricultural processes, the displacement of work animals by machines, and the damming up of an increasing number of rural young people as a result of industrial unemployment; and, finally, a marketing structure which throws the greater part of the burden of falling prices on the producer and the increasing demand of farm people for a better standard of living are factors that further accentuate the underlying situation.
Efforts to meet this situation follow three general lines: (1) Activities designed to increase incomes for commercial farmers—including all the various methods used under the Agricultural Adjustment Act and the marketing agreements, as well as efforts to improve grading and standardization, reduce interstate trade barriers, reorganize terminal market facilities, reduce freight rates, regulate commodity speculation, encourage cooperative marketing, increase market demand (both domestic and foreign), and improve the agricultural credit system. (2) Activities designed to increase incomes or improve living standards among such groups as migrant laborers, sharecroppers, subsistence farmers, and victims of drought and flood—including the rural rehabilitation program, emergency loans and grants, farm debt adjustments, the tenant-purchase program, medical and community service cooperatives, the financing of water facilities in drought areas, camps for migrant farm workers, feed and seed loans, drought relief, subsistence homesteads, and the rural electrification program. (3) Activities designed to encourage better land use and more efficient farm management—including research and extension work, the acquisition of forest and submarginal lands by public agencies, soil conservation, and forest conservation.

Our Major Agricultural Land Use Problems and Suggested Lines of Action

"However acute the economic problems of our agriculture," says Gray, "we are really one of the most fortunate nations of the world in the opulent relationship of present and prospective population to available agricultural land." For "we are agriculturally self-contained, except for certain tropical products," and it appears likely that our population will become stable at a density of not more than 50 persons to the square mile. In France there are 4 times as many persons to the square mile, in Germany 8 times, in Belgium 14 times. But most of our abundant production comes from a comparatively small proportion of our farms. Various rural areas are decidedly overpopulated in the sense that there are more people in these areas than there are opportunities for making a living.

The nature of our land policy, Gray points out, is fundamentally determined by two things: (1) This Nation believes in promoting the welfare of its citizens as individuals rather than enhancing the power of the state, and it has always emphasized private enterprise and private ownership with a minimum of governmental interference. The object of land policy, then, must be to retain private ownership but to correct its faults. (2) We operate within the framework of a Constitution that limits the powers of Government and is not very explicit in defining what the latter may do to correct faults. Thus it is always necessary in this country to convince legislatures and courts that in particular situations the social welfare is so paramount that individual rights may be justifiably subordinated.

Most of our present-day problems of land use and tenure are due to the fact that the doctrine of individual rights was carried to extremes in the past. Historically, this was probably inevitable. The original idea was that public lands should be put into private hands as rapidly as possible to hasten settlement. Owners then had almost unlimited
freedom to dispose of their property as they saw fit, on the theory that
"the majority of individuals will act continuously in their own interest,
and that individual interest coincides with the social or public interest."
That theory often failed to work out well in practice. Much land got
into the hands of speculators, who took a generous rake-off before
finally passing it on to farmers. Not that the speculator was the big
bad wolf of agriculture; farmers often "cleaned up" on rising land
values also. Fluctuating land prices go down as well as up, however,
as farmers discovered after the World War, when many were caught
with excessive capitalization and heavy mortgage debts. Then much
farm land passed into the hands of creditors. That is the trouble with
speculating in land, which constitutes five-sixths of the farmer's
capital investment.

Using farm land as a source of profit has also made for unstable
tenancy. The owner who expects to sell when a good opportunity
comes along does not feel like arranging long-time leases or making a
program for soil improvement. About three farms out of seven are
now rented or sharecropped by those who operate them. Largely
because of transitory ownership—through inheritance, speculation,
foreclosure—"the types of farm tenancy prevailing in the United States
are probably the worst in the civilized world," though in many cases,
of course, the owner-tenant relationship is wholesome.

The tenancy problem, then, is important in land policy. Steps
toward its solution include a credit system suited to the needs of those
who are capable of responsible ownership; measures to prevent exces-
sive speculation, which so often causes owners to become tenants;
measures to improve the relationships between owners and tenants.
One real gap in present land policy is "the lack of an adequate small-
holdings program, such as has been developed in a number of other
countries."

Other land problems included in Gray's survey are:

The range. Two of the biggest forward steps here are the Taylor
Grazing Act and the forming of cooperative grazing districts by
stockmen.

Size of holdings. In the Great Plains, homesteads of 320 or 640
acres are too small. Much of the land is held for speculation by
absentee owners. Efforts are being made to arrange leases for oper-
ators who need more land, but long leases on suitable rental terms are
difficult to obtain. In the South, small holdings often make it diffi-
cult to change over from cotton to other types of farming.

Submarginal land. It is estimated that half a million farm families
"are on land so poor that it will not maintain a decent standard of
living," some because of original mistakes, others because of subse-
quent soil deterioration and timber cutting. In many of these areas
the solution will probably have to be an improved self-sufficing econ-
omy. Where soil resources are hopelessly insufficient, public pur-
chase of the land and eventual resettlement of families will be involved.
As yet there has been no adequate resettlement program.

Tax delinquency. This is especially bad in areas with poor resources
and small holdings. Because of tax delinquency, "local governments
are seriously embarrassed financially, large areas remain unused or
underused, and land titles fall into confusion. . . . More realistic
[tax] procedures, based on adequate land classification, are needed to distinguish the areas adapted to private utilization from those where public administration would be in the public interest.”

Undesirable settlement. Settlers have been persuaded to take up land with little regard to the prospects for success. Blue-sky laws, zoning laws, and suitable credit policies can prevent much of this, but “merely restrictive measures are likely to prove less effective than a positive public program for guiding land settlement.” The character of such a program, however, would depend fundamentally on the possibilities for absorbing the rural unemployed in industry.

Reclamation. Further reclamation would hardly be needed if agriculture was to be largely commercial. It would be justified under some conditions for self-sufficient farming. Irrigation of small units on existing farms is very worth while and is now going forward with public aid.

Soil conservation. Much worth-while work is being done through public agencies and conservation districts. Some of the most serious obstacles are economic, especially systems of tenure and size of holdings unfavorable to conservation. Subsidies are being used to meet this difficulty in part.

Flood control. The large-scale engineering work of the War Department is now being supplemented by the “upstream engineering” of the Department of Agriculture on tributary streams.

Farm forestry. “The Cooperative Farm Forestry Act passed in 1937 is aimed at providing a comprehensive program of assistance to farmers in making more effective use of their woodlands and conserving their timber.”

Major tasks of the immediate future in land policy, Gray believes, are to carry forward the advances already made, modify details where necessary, improve administration, amplify some measures, fill in some serious gaps such as the lack of an adequate small-holdings program for low-income farmers, and integrate the various elements into a real land program.

The Challenge of Conservation

Allin and Foster try to show the real meaning of conservation and its place in American life.

Throughout its early history, the United States was interested in building up certain values, which involved freedom of opportunity on the frontier, the creation of great industries, the peopling of a continent. Our citizens hated European restraints—among them restraints on individual freedom to exploit resources. We went ahead and exploited with unprecedented speed and efficiency. One result was a spectacular wasting of forests and soils.

In recent times, other forces, such as mortgages, tenancy, absentee ownership, the demands of war, and drastically reduced prices, have driven farmers to compel the land to produce more, irrespective of the effects on the land itself.

Over against these developments there has been a slowly growing realization of the need to conserve basic resources. Landmarks in this movement were the establishment in 1871 of a Federal office concerned with fisheries; the beginning in 1873 of demands that
ultimately led to the establishment of the Forest Service; creation in 1886 of the forerunner of the Bureau of Biological Survey; the setting up of forest reserves in 1891 and of "national forests" in 1905; the beginning of the Soil Survey in 1899; an Alaskan fisheries act in 1906; establishment of the Inland Waterways Commission and of an office of mining technology in 1907; organization of the National Conservation Commission in 1908.

During the next 20 years, facts were assembled that finally had a powerful effect on the thinking and attitudes of the public. Then came spectacular evidence of the effects of waste in great duststorms and floods, and in the misery of stranded lumbering communities and migrating farmers. In addition, there has been an increased interest in preserving great areas as places where we can get outdoors and find health and recreation.

The intensified drive for conservation during the 1930's resulted in the work of the Soil Conservation Service, the Taylor Grazing Act for better management of the range, the Civilian Conservation Corps.

Agricultural—soil, forest, and range—conservation, Allin and Foster point out, is no negative thing. It is not like withdrawing your money from circulation and burying it in a hole in the ground. Its primary concern is not simply to ration the use of resources between present and future generations. Rather it strives for a better living both today and tomorrow. It seeks these goals by reducing waste and by using farming, forestry, and range practices that maintain and build up long-time productivity.

The authors hold that conservation in this sense can be called a new frontier for American activity. It means looking on our land as a place in which to settle down and live—to develop in new ways the old American dream of freedom and abundance—to invest idle money and idle labor in the truest kind of production and defense.

They list several problems of conservation that together constitute a difficult challenge—but no greater than those we have met in the past. The farmer, they point out, is a key figure in this movement because of his position on the land. "In fact the farmer has such a large share of the conservation job that it is only fair for the rest of the people to help him do it."

Our Soil Can Be Saved

Bennett gives some impressive figures on soil waste and argues that this kind of waste is unnecessary. It has been proved that "soil conservation is practical for the United States and that this Nation need not see its land and rural people impoverished."

Soil conservation is now a major goal of American agriculture because farmers have awakened to the need and are themselves taking the initiative in the work. The early demonstration projects of the Soil Conservation Service brought widespread understanding of the value of conservation. Today farmers are rapidly organizing their own soil conservation districts under State laws. These districts at present include more than 150,000,000 acres, and an equal amount is in process of organization. Aside from range lands and public lands, however, only some 22,000,000 of the 300,000,000 cropland acres affected by erosion are as yet covered by intensive conservation work.
The kind of work being done is perhaps more significant than its extent.

Farmers now signed up under cooperative agreements revise their systems of land use on the basis of thorough surveys. "Gradually these areas are being blanketed with complete protection against erosion and with improved farming methods that protect the permanent productivity of the soil." There is a growing collaboration of neighbors and communities in adopting realistic, practical measures even when they go counter to old habits. "Slowly the patterns of land use are changing in accordance with the dictates of conservation."

Careful fitting together of various public programs is responsible for much of the gain made. The agricultural adjustment program, the water facilities program (Pope-Jones Act), the farm-forestry program (Norris-Doxey Act), the rehabilitation loans of the Farm Security Administration, all have helped conservation to move forward. Some of the worst submarginal land (about 11,000,000 acres so far) has been purchased by the Federal Government and turned into pastures, ranges, forests, wildlife preserves, and public recreation areas.

Soil conservation efforts face several major difficulties. (1) It is impossible to bring expert advice and assistance to all the individual farmers who are eager for it. (2) Many farmers think that the use of conservation methods will lower their income—though the evidence indicates that it at least maintains and sometimes increases income. (3) Natural conservatism prevents many farmers from adopting new methods. (4) There has not been sufficient research as yet to show what the best methods are in all cases. (5) Economic factors militate against the adoption of conservation practices. For example, tenants who move to a new place every year or so have little or no incentive to preserve and protect their temporary farms.

The New Range Outlook

Forty percent of the land of the United States, say Chapline, Renner, and Price, consists of prairie, plain, desert, forest, and mountain range land in the West. The 728,000,000 acres comprise four-fifths of the important water-producing area of the West. In this range area as a whole there is a complicated pattern of ownership by individuals, counties, States, and the Federal Government. Crop farming and livestock farming are intermingled, and both have been made increasingly difficult by deterioration of the native forage, which in turn brought widespread erosion. The vegetation is about half as thick as it used to be. It takes 4 acres on the average to graze a cow for a month where it used to take 2. Abandoned cultivated lands have blown. Floods that spread over and ruin good lands are now common. Attempts at dry-farming have failed on at least 15,000,000 acres, and this has led to many social and economic ills. Much land that is valuable to the public for watershed protection is in the hands of private owners who cannot afford restoration measures.

Mostly because of sheer necessity, the people concerned are awakening to the seriousness of the situation. A new outlook is developing, and many concerted measures are being taken to undo the results of drought, overuse, and lack of understanding. It will be years, however, before this new approach will have its full effects.
The authors describe the present corrective measures under five headings.

1. Research is the key to better range management, which alone can restore forage and soil. Federal and State agencies are now engaged in a broad research program covering climate, soils, vegetation, animal life, range and watershed management, values and uses of plants, artificial revegetation, introduction of new foreign and native species of plants, selection and breeding of improved strains, mass production of seed, erosion control, livestock husbandry. Valuable practices and principles are being worked out as a result of this work. Example: A long-time experiment in the Southwest by the Forest Service has proved that stocking at a rate that would at no time use more than 80 percent of average forage production doubled the grazing capacity of the range, increased the calf crop 50 percent, cut death losses two-thirds or more, and increased the returns per cow. Other principles of management include stocking with the right kinds of livestock, grazing during the proper season, distributing livestock evenly, deferred and rotation grazing, suspended grazing and artificial revegetation on badly deteriorated areas, fence building, development of watering places, eradication of poisonous plants. Widespread success has resulted from using the knowledge developed by experiment and research, but the quest for information has only begun.

2. A program of disseminating information is being carried out by county agents and State extension specialists. They deal with such practical matters as hay production, herd improvement, care of sick animals, feeding practices, the use of better sires. Yet the principles of better range management are still not widely known.

3. The Soil Conservation Service has been active in the range area. It has purchased land not suited to cultivation and developed it for better use by the community, allocating or leasing it on the basis of the grazing needs of individuals and associations. In cooperation with the Farm Security Administration, individuals are also helped to enlarge their holdings when they have farms that are too small for successful operation, and to use conservation practices on the new holdings. Complete soil-conservation demonstrations have been carried out on some ranches.

4. The Agricultural Adjustment Administration has assisted producers to establish and maintain good stands of forage plants and to arrest soil erosion. For example, in 3 years under this program 19,500,000 acres were naturally reseeded by deferred grazing; 258,000 acres were artificially reseeded; over 23,000 springs or seeps were developed and more than 3,800 wells dug; 130,442 acres were contour-listed, furrowed, or subsoiled. Some 14,000 ranchers participated in the program in 1 year.

5. The Forest Service for 35 years has had charge of 80,000,000 acres of range land within the national forests and has also carried on studies concerning range-land use. Grazing privileges on the national forests are allocated in such a way as to insure conservation and wise use of the land. Some 750 livestock associations as well as community, city, county, and State organizations participate in making plans for the use of this land. In addition to being used by 7,000,000
head of cattle, horses, sheep, and goats, the national-forest range furnishes food for 1,841,000 big-game animals and countless numbers of small-game animals and birds. Conservative practices have brought marked improvement over the national-forest area as a whole.

(6) Some 134,000,000 acres of unreserved and unappropriated public domain are incorporated into 52 grazing districts administered under the Taylor Grazing Act of 1934 and 1936 by the Grazing Service of the Department of the Interior. A cooperative program has been developed, with stockmen and governmental agencies participating, for surveys, classification, range improvement, controlled use through licenses and permits, and consolidation of ownership.

The complex problems of the range, say the authors, can be solved only by a vigorous, coordinated attack with farmers and stockmen participating. The prospects now look hopeful.

Forest-Resource Conservation

Marsh and Gibbons summarize the forest situation from several angles and suggest a broad outline of needs. They hold that forest-resource conservation is one important means of achieving a balanced rural economy. Permanent forest industries would help to support many farmers.

A third of our land area, or 630,000,000 acres, is forest land. This is half again as much as the total cropland. More than half the total land area in the Northeast and the South is forest. Forestry management can make this land an asset rather than a liability.

Forest land serves at least five major purposes: Timber production, watershed protection, recreation, support of wildlife, forage production. In most cases it can be used for two or more purposes simultaneously; in some cases for all five. For example, of the 630,000,000 acres, nearly three-fourths (462,000,000) can be used for commercial timber crops; nearly three-fourths has watershed value; more than half (about 342,000,000 acres) is grazed by domestic livestock; practically all is suitable for wildlife; a very large percentage can be used for recreation. The five uses will be taken up in order.

(1) Timber use. The United States now uses about a third of the lumber, more than half the paper, and nearly 40 percent of the wood in all forms consumed in the world. Wood is the basis of an enormous number and variety of industries, and the full possibilities have not been touched. The South leads in commercial timberland, with 203,000,000 of the 462,000,000 acres. Timberlands have not in general been well managed, and depletion, followed by wrecked communities, has been the usual practice. This could be reversed.

(2) Watershed services. Probably of more value than the timber crop is the "water crop" and the soil protection assured by forests. Forests reduce the destructiveness of floods, prevent erosion, help to maintain a supply of pure water for domestic use, and are the sources of water for irrigation agriculture. Large areas of forest land are not managed well enough to furnish their maximum watershed services.

(3) Recreational use. Forest lands furnish perhaps the most completely rounded outdoor recreation, from picnicking to camping, hunting, and fishing. About 11,000,000 acres are now used exclusively for recreation. The amount could be doubled or trebled; but for
maximum accessibility to communities, much other forest land can be opened up for recreation.

(4) **Wildlife production.** The existing wildlife population in most areas is far below what the forests could support in balance with other uses.

(5) **Forage production.** About half the total value of western range livestock is produced on forest and woodland range, and a large proportion of the 12,000,000 cattle and 11,000,000 hogs in the South graze at least part of the time on forest range. Good management is essential for the best returns in both regions.

The ownership of the 630,000,000 acres of forest lands is distributed as follows: Farmers, 185,500,000 (over 29 percent); other private owners, 248,300,000; national forests, 122,000,000; State and community forests, 26,800,000; public domain, 24,000,000; Indian reservations, 12,000,000; national parks and monuments, 6,500,000; other Federal ownership, 5,000,000; total in private ownership, 433,800,000 (70 percent); total in public ownership, 196,300,000 (30 percent). The most critical problems from the standpoint of sustained yield and multiple use are in the privately owned areas, which furnish 95 percent of the commercial timber cut and include perhaps 90 percent of the potential timber-growing capacity of the country.

(1) **Farm woodlands.** Nearly a third of the commercial (not the total) forest land is in farms, mostly in small tracts. Ownership is fairly stable, costs of management relatively small. The income-producing possibilities of farm woodlands are seldom appreciated, but some headway has been made in recent years. About 41,000,000 acres have now been put under some form of forest management; 20,000,000 acres need to be restocked; perhaps 75,000,000 acres need to be rehabilitated, of which 45,000,000 are without organized fire protection.

(2) **Industrial and other nonfarm ownership.** Over 40 percent of the commercial forest land is under this ownership, and 80 percent of it lies east of the Plains. About one-third is in comparatively large holdings. In general, the policy has been to liquidate rather than sustain the timber resources, though in recent years there has been a striking change for the better. Much submarginal and tax-delinquent land has its source in cut-over forests. Many owners cannot afford the expense of good forestry management. Probably 29,000,000 acres is now under some form of management and 85 percent without it.

(3) **Community forests.** These include some 8,000,000 acres. There could be a considerable expansion in this type of ownership with advantage to many communities.

(4) **State forests and parks.** These total about 19,000,000 acres. Practically the entire area is protected against fire and trespass, and much of it has been developed for recreation. The possibilities have hardly been scratched. The South, with two-thirds of the forest land, has only 3 percent of the State forests.

(5) **Public domain, Indian forests, national parks.** The two latter have been given up-to-date forest management. Much remains to be done on the forest lands in the public domain.

(6) **National forests.** These spread over 40 States, Alaska, and Puerto Rico, though mostly concentrated in the Rocky Mountain and
Pacific coast regions. They "represent the first large-scale trial in the United States of public ownership and administration of a great natural resource," and they "are being built up through intensive, carefully planned protection, by planting, and by timber-stand improvement. All cutting is controlled." Dependent communities are stable. Watershed services have been improved (most rivers in the West, and most of the important eastern rivers, head in the national forests). Big game has increased 150 percent since 1924. Recreational facilities could be increased; some 32,000,000 people visited the national forests in a recent year.

Marsh and Gibbons consider in some detail the present and potential timber resources of the United States. Saw timber, both softwood and hardwood, is the most important class. It is "the oldest timber of highest quality—the cream of the forest"—and any sound program of forest management must aim to achieve long rotations of saw timber. Public agencies now own or control 42 percent of the supply, but much of this is in inaccessible locations in the West and only 4 percent is in the East. There is need and opportunity for greater public investment in this resource in the East. Farmers own 13 percent of the saw timber. Other private owners hold 45 percent but supply two-thirds of the present cut. These figures refer to actual resources. Only about two-thirds of the supply of saw timber could be cut profitably under present conditions.

There is an enormous amount of timber that would yield satisfactory pulp, but since much of it is less readily available than foreign supplies, we import half of what we use. Technical progress and sound forestry could greatly increase the domestic cut.

On a national scale, current annual growth of timber is now 11,287,000,000 cubic feet and annual drain (from logging and destructive agencies), 13,463,000,000. The drain, however, is still concentrated in local areas, so that forest industries continue to cut out and close down. The saw-timber stands in the East have only about two-thirds of the volume needed to meet the annual drain.

It is impossible, these authors point out, to estimate future needs accurately. They hold, however, that there is likelihood of increased utilization through technical developments and argue that under favorable price conditions we could play a larger part in supplying world markets. They estimate that the total annual drain perhaps 50 years from now may well be figured conservatively at 21,400,000,000 cubic feet— including a margin of 5,800,000,000 cubic feet for new uses, exports, a safety factor, and losses by fire, insects, and disease. A substantial advance in forestry would be required to achieve and sustain such a yield. They suggest that 100,000,000 acres (yielding 8,400,000,000 cubic feet) would have to be under intensive management; 311,700,000 acres (yielding 13,000,000,000 cubic feet) under extensive management, including adequate fire protection; and 50,000,000 acres (economically unavailable for commercial use) protected without special management. The growing stock in the East would have to be built up to twice the present available stand.

Such a plan would envisage the building up of many forest activities and industries that would serve as the foundation for self-sustaining communities.
Practical steps required would be:

For private forests: (1) Public cooperation including protection against fire, insects, and diseases; forest and forest-products research, which few private owners can afford; forestry extension work, including demonstrations of good management; extension work in marketing and utilizing forest products; benefit payments to farmers under a conservation program; Federal aid for forest planting; development of cooperatives; large-volume credits where needed; forest fire insurance; some improvements in taxation procedure. (2) Public regulation to the extent of enforcing minimum requirements for keeping private lands fairly productive and stopping destruction of forests. (3) Public acquisition "where private forestry will not pay, or where private owners cannot or will not function in the conservation of the forest resource."

For public forests: "All public lands now held or hereafter acquired should be made outstanding examples of good management and public service."

Farm-Management Problems in an Era of Change

After briefly summarizing the main causes of the present situation in agriculture, Johnson considers the possible adjustments a farmer might make to meet his problems. The most difficult, and in a depression period the most common situation is that of the farmer who has to make readjustments not merely to increase his income but to meet pressing obligations and stay in business at all. By ordinary standards his costs of production include: (1) Fixed costs—(a) rent, (b) interest on investment, (c) obsolescence and depreciation, (d) insurance, (e) taxes, (f) wages for himself and family; (2) variable costs—(a) current supplies, (b) hired labor, (c) repairs and replacements. Studies show that when farm prices do not meet these costs of production, the farmer has to neglect his fixed costs. He compromises with landlord and creditor on rent and interest payments, postpones depreciation replacements, drops insurance, lets taxes go delinquent, and takes a minimum living as his only wage. He thus gets down to variable costs as his only expense. But in the end, if the tight situation continues, some of the neglected or postponed fixed costs catch up with him. He cannot, for instance, indefinitely fail to maintain his land, buildings, and equipment, or to meet rent or mortgage payments.

Some of the steps the individual is forced to take under these circumstances are contrary to the long-time interests of agriculture and a menace to the Nation. This is the main reason why public assistance to individuals is justified. Two major factors in which the public has sufficient interest to assist individuals are soil conservation and technological change. Technical progress is socially desirable, but in the transition period it may create great individual hardship through displacement of labor and lowering of prices.

Farm management problems differ region by region, and Johnson discusses them from this standpoint.

(1) North Atlantic region. As a whole, the region shows considerable stability in farm prices and income owing to large nearby markets and a favorable climate. Many farm groups face severe competition from other areas; some have been forced to exist on a self-sufficing
basis. Production is now mostly specialized—dairy products, poultry, fruits, vegetables. Increased production of hay and pasture should reduce feed costs of dairymen, but they may have greater competition from the Lake States. Poultry production is likely to face higher feed costs; it will need to keep up to date with technical developments and adopt the most efficient practices. Vegetable growers will probably meet increased competition from frozen products; they will have to adapt their production closely to local market needs, and increased mechanization may be necessary. Conditions in the apple industry have been changing rapidly, and some orchardmen may find it necessary to add other enterprises. Forestry possibilities should be studied in this region.

(2) Lake States. A large part of farm returns come from manufactured dairy products. There are few alternatives, and local markets are not enough to stabilize income. Heavier expenditures for fertilizer will probably be necessary in many areas. Greatest threat is increased competition from other regions. Expenses may be reduced by using more high-quality roughage, less concentrates. More production for home use is highly desirable. Forestry possibilities should be explored.

(3) Corn Belt. Production consists mainly of corn, hogs, and beef cattle, and is highly commercialized, requiring a large investment. Land values are high. Heavy fixed costs make farming especially vulnerable in depressions. Many farms are now in the hands of former creditors and are run by tenants who deal with local representatives of absentee owners. Since much of the land is held for resale, long-time adjustments are often difficult. Major influences are technological—hybrid seed corn, rubber-tired tractors, new-type corn pickers—and their effects cannot be entirely foreseen, but there is need for measures to prevent undue hardship for those who cannot readily meet the demands of change.

(4) The South. Cotton dominates the farm situation. The outstanding problem is the low average farm income ($162 gross a person a year, 1924-37, as compared with $381 in the rest of the United States). Because of the high proportion of land in cotton and in corn for mule feed, soil erosion has become increasingly serious. Adjustments are difficult because of the small size of farms (30 acres per farm in the eastern cotton States in 1934) and the extreme pressure for cash income. Greater production for home use is a major need. Labor displacement is encouraged by increased mechanization and by reducing tilled crops for soil conservation. The ultimate solution probably lies in employment outside agriculture for large numbers of people, perhaps in combination with part-time farming. Forestry possibilities should be thoroughly explored.

(5) Great Plains. The main problem comes from combined drought and depression. The areas of higher risk should probably be shifted back to grazing, under public control. In the better areas, long-time rotations with perennial grasses (wheat-and-grass farming) may be necessary to maintain organic matter in the soil. The problem of feed supplies for livestock in dry years would then have to be met. Crop insurance should help to stabilize income from wheat and might be used for feed crops. Supplemental irrigation is a useful measure.
Public assistance is especially necessary in this region because natural forces are so powerful.

(6) Mountain and Pacific regions. Drought and depression have also been important in the Mountain States. An effective conservation program to maintain grass is essential in the ranching areas, and this will necessarily mean less intensive use. Hard-pressed ranchers can probably not make the required adjustments without public assistance at times. High water costs in relation to prices of products are the big problem on irrigation projects—especially with increased competition from other areas for fruit and vegetable growers. More production for home use is desirable.

For agriculture as a whole, the greatest need is for information on the prospects for industrial recovery. If employment opportunities outside of agriculture are to remain closed for the next decade, agriculture will be overcrowded and major attention will have to be given to improving efficiency and increasing incomes on small farms. Greater self-sufficiency and more nonfarm employment seem to offer the best possibilities for those who are at a disadvantage in commercial farming. Shifts in production to raise national dietary standards might be an important factor in increasing labor needs on farms and reducing some surpluses. In any case, there will be need for public action to assist individual adjustments.

The Influence of Technical Progress on Agricultural Production

Everyone knows that scientific and technical progress has revolutionized farming, but there has been no very comprehensive survey of its effects in practical terms. A special committee of the Department of Agriculture made a rather thorough study of this subject, and the findings are summarized by Kifer, Hurt, and Thornbrough.

The results of technical development are most strikingly shown in two facts. In 1870, half of all workers were engaged in agriculture; in 1930, a fifth of all workers. At the same time, this lower percentage of farmers produced almost a fourth more agricultural products per capita of the total population. Yet known techniques and practices are not even now fully used. Agriculture has not completely adjusted itself to such a drastic change, and further adjustments will be necessary in the future as technical progress continues.

Technical advances have been made on four main fronts: (1) Farm power, (2) farm equipment, (3) production practices for crops, (4) production practices for animals.

(1) It has been estimated that in 1935 tractors and trucks did work that would have required the labor of 345,000 persons on farms. More than 11,000,000 work animals were replaced by this form of power between 1915 and 1939. About 1,600,000 tractors are now being used in the United States—double the number reported in 1930—and it seems likely that the trend to less man-and-horse labor will continue. Present trends are toward increased use of general purpose tractors, small tractors for small farms, and rubber-tired tractors. Mechanization has been most complete in the small-grain areas and the Corn Belt, and on such specialized farms as those for dairy, truck, and orchard products. It has lagged in the South and East.

Small tractors will undoubtedly speed the mechanization of small
farms. Rubber tires reduce tractor-operating costs and may make it possible in some areas to dispense with motortrucks.

(2) In tillage and seeding equipment the trend has been toward lighter machines for light tractors, machines especially adapted for erosion control, and the combining of tillage, fertilizer distribution, and seeding in one operation. Great strides have been made in harvesting machinery, which reduces the need for seasonal hired labor. Combines for small grain (110,000 in use in 1939) and mechanical pickers for corn are especially notable. Neither the cotton picker nor the sugar-beet harvester can compete as yet with hand labor at current wage rates.

(3) Perhaps even more significant than mechanical developments are those in crop-production technique. In 7 years hybrid corn has replaced open-pollinated varieties on most Corn Belt acreage and on about one-fourth of the national acreage. In 1938 the use of hybrid corn increased production 100,000,000 bushels over what it would have been with older varieties. Hybrid corn increases the advantage of the better areas and is well adapted to mechanical picking. Other notable products of plant breeding are rust-resistant Thatcher wheat, early-maturing grain sorghums to reduce drought risks, new flax varieties that may increase production in the South, superior varieties of sugar beets, soybean varieties that have permitted a rapid expansion in acreage, longer-staple cotton varieties. In fertilizers, important recent developments include more concentrated materials and the correction of soil deficiencies in so-called minor elements; this has conquered some plant diseases formerly not understood. The full effect of more widespread conservation practices on production will probably not be evident for another decade, but the use of cover or green-manure crops and the concentration of production on the better land both tend to increase yields rather quickly.

(4) "Important current developments in the field of livestock production are progeny testing, artificial insemination, correction of nutritional deficiencies, and disease control." Through progeny testing—used in practice only with dairy cows and poultry so far—high-producing ability gradually becomes more widespread. Cross-breeding to take advantage of hybrid vigor is used with some Gulf coast beef cattle and some range sheep, is still experimental with swine. Artificial insemination may speed up the rate at which high-producing ability can be spread; 17 breeding associations are now using it with dairy animals. In animal feeding, recent developments are largely concerned with the correction of mineral and vitamin deficiencies and shifts in forage production that point toward a possible increase in livestock numbers in the South. Death losses in livestock should decrease and productive efficiency should increase with wider use of measures to control diseases and parasites.

In general, technical improvements will tend to raise the volume of farm products for sale, except as low prices and farm programs offset the tendency. The addition of 500,000 tractors on farms would release for cash crops (especially soybeans in the Corn Belt) much land still used for feed for horses. Further use of green-manuring crops could readily increase corn and cotton yields in the South. Corn production in the Corn Belt could be further increased by 100,000,000
bushels a year by the use of hybrid seed. New areas for small-grain production will probably be opened up by plant breeding. On the whole, the primary influence of increased crop production and better animal husbandry would probably be to increase production of livestock in all areas without materially changing present regional advantages. In the South a considerable increase in livestock (31 percent for milk cows, 136 for other cattle, 31 for hogs, 54 for chickens) would be required merely to raise local dietary standards to a desirable level. Outside the South, present trends might increase livestock products for market by 5 percent.

The trend toward reduction in the need for workers in agriculture "seems likely to continue for the next decade at approximately the rate [of] the past 10 years." This would mean displacement of 350,000 to 400,000 workers. Offsetting factors might be lower wage rates, increased production requiring more workers, or more subsistence farming. The displacement of workers is likely to be most serious in the South.

More mechanization and other developments may increase the total investment required in commercial farming. If the small tractor proves economical, the pressure toward larger farms may be lessened and the small farmer would have a better chance to survive. Some changes in farm organization and perhaps in regional specialization may result from current technical trends. One important result of mechanization is an increase in the importance of cash operating costs in the farmer's budget. The tractor farmer has to buy gasoline no matter how hard up he is, whereas he could feed a horse with no immediate cash expense.

On the whole, according to present trends, it will become more difficult for those at low income levels to acquire or even rent farms, but the number wanting to get farms will increase as farm labor is thrown out of work. Of the four possibilities open to displaced tenants and sharecroppers (subsistence farming, part-time farming, wage labor, or relief) the one likely to develop furthest is subsistence farming. In other words, as part of agriculture becomes more dependent on national economic conditions, another part is likely to draw farther away from dependence on other economic groups.

The Place of Forests in the Farm Economy

Commercial farming, Kirkland points out, drove woodlands out of the important place they once occupied when the farm furnished a well-rounded subsistence for the family. It is time they came back. Many farms have some woodland. Some farms are 60 percent woodland. And there are probably more than 150,000,000 acres of non-farm forests within easy reach of farmers. These farm and nonfarm forest lands can provide products for home use and for sale, and they can provide work. Why, for instance, should a farmer get needed building materials from 2,000 miles away when he could get them at home?

Most farm woodlands have been so badly managed that they produce less than a third or a half of what they could produce. Yet they supply a fourth of the sawlogs in the United States, and forest crops rank tenth among all farm crops in value. In many cases, forest products
need not be shipped out of the community—which puts them in an advantageous position in periods of economic maladjustment. Used at home as fuel, building material, fence posts, poles, and for other purposes, these products have a natural "parity value." With little annual labor forest crops keep on adding to their value at a compound interest rate of 2 to 5 percent; no form of production is carried on so largely by nature unaided. Trees in addition conserve the soil.

A major need, if farm woodlands are to be sufficiently improved to realize their full value, is for "personal contacts of some local forest organization with every . . . owner desiring help." Preferably, the forestry man should actually go into the woods and mark the cuttings, as is done in Sweden and Finland.

Actual "forest farms" are new in the United States, but there seems to be an opportunity for them in some forest areas. They have already developed in the naval stores region. On a forest farm, forest products are the primary source of income. The farm should consist of 500 acres or more, of which about 100 acres would be cut annually to remove the equivalent of 5 years' growth. This procedure would assure annual yield. From 5 to 20 percent of the more fertile land should be used for pasture, grain, hay, vegetables, and fruits to make the farm self-sustaining. The woodland part of the farm would require about 1 day's work an acre a year, including all cultural operations, harvesting, and hauling; and as much of this work as possible should be done by the owner.

Many farms have little or no woodland yet need forest products. Many farmers also need part-time employment, especially in the winter, and this could be furnished by local nonfarm forests. Whether privately or publicly owned, these forests should be organized to give maximum benefits to the community.

County planning committees as well as other agencies, Federal, State, and local, are now working on this problem and others connected with the forests. This is a new development that has grown out of a decade of depression. In the Chippewa National Forest in Minnesota, forest work is allotted to the nearby agricultural communities in such a way as to bring the community income up to reasonable standards. There are vast opportunities for such coordination in the United States.

Cooperative organizations can play an important part in this development, as elsewhere in agriculture, by purchasing and operating up-to-date woodworking equipment, grading and otherwise improving the forest products, marketing them locally or elsewhere, and managing the forests. Such a cooperative need not necessarily own forest land itself; it could devise a contract that would be fair to all owners.

Several agencies in the Department of Agriculture—the Forest Service, the Bureau of Plant Industry, the Bureau of Entomology and Plant Quarantine, the Extension Service, the Agricultural Adjustment Administration, the Soil Conservation Service, the Farm Security Administration, the Bureau of Agricultural Economics—are now carrying on farm-forestry work, and provisions have been made for coordinating forestry programs and integrating them with those of the States.
Hutson points out that there are two ways of adjusting agricultural supplies to market demands: (1) Permit unlimited production but limit the amount marketed; (2) limit the amount produced. Following experiments with the first method in the 1920's (the Federal Farm Board in the United States; rubber, coffee, sugar abroad), American farmers resorted to the second method in the 1930's. Fundamentally, agricultural adjustment today depends on acreage regulation. Marketing adjustments are supplementary.

Under the Agricultural Conservation program acreage allotments have been determined for cotton, corn, wheat, rice, tobacco, potatoes, peanuts, and for all other soil-depleting crops as a group. Several steps are involved: (1) Determine the acreage for the Nation as a whole, allowing for an excess above normal supplies. (2) Break this down into separate acreage allotments for the States. (3) Break it down further for the counties. (4) Determine the allotments for the individual farms within the counties. Formulas are provided for these steps, including such factors as past production, type of farming, kind of land. The judgment of farmer committees plays a large part locally. The use of allotments is voluntary, depending on the vote of producers, and in fact the method does not control acreage adequately unless at least 75 percent of the producers participate. Payments are made to those who do comply with the allotments. If appropriations have been made, parity payments also are provided for producers of five commodities—corn, wheat, cotton, rice, tobacco.

Marketing quotas to supplement acreage allotments are permitted for cotton, tobacco, wheat, corn, and rice, though they have never been used for wheat or corn. They are easiest to apply with commodities that go through definite channels (cotton gins, tobacco markets) where the marketings can be checked, but would be difficult with products that can be fed to animals on the farm. A marketing quota is essentially an emergency device, to be used when excessive supplies accumulate (cotton 107 percent of normal, wheat 135, corn and rice 110, tobacco 105), and then only if two-thirds of the producers vote for it. Formulas are provided for allocating quotas to producers, and there are penalties for marketing more than the amount fixed. In practice, then, the method has served primarily to prevent producers who do not comply with acreage allotments from throwing on the market more than their fair share of the total production.

Commodity loans are intended to provide reserves of major food and feed crops yet maintain fair prices. Loans are permitted on any agricultural commodity, but specific provisions have been made only for cotton, corn, and wheat. In each of these cases, loans can be made only in years when the price of the commodity goes below a certain percentage of the parity price (52 percent of parity for wheat and cotton, 75 percent for corn), or when the crop exceeds normal domestic and export requirements for the year. Those who have cooperated in the agricultural conservation program get a loan at the rate of 52-75 percent of parity price, depending on conditions; when
marketing quotas are in effect, loans are made available to non-cooperators at 60 percent of the rate applicable to cooperators. To prevent the piling up of excessive supplies with possible heavy losses on the loans, provision must be made to bring production in line with needs the following season or to move the current excess into relief or byproduct channels. In the case of corn, this means that production of substitute feed grains also must be kept in line with trade needs. In the case of export crops, if the loan rate is above the export price, exports will be reduced unless steps are taken to make the crops available on the world markets at prices below the loan rates.

*The Meaning of Foreign Trade for Agriculture*

The key problem of American agriculture, Chew argues, is foreign trade. If we could regain our foreign market, agriculture could readily dispose of its surplus and would need to make only minor changes. If we cannot, we shall be compelled either to retire a large acreage permanently from production or to expand the domestic market to compensate for the loss. Any of these adjustments would be essentially a response to the foreign-trade situation.

But Chew holds that in the modern world there is no permanent solution in trying to make the Nation prosperous through a favorable balance of trade, such as we have had in the past; or in trying to withdraw from the world and become self-contained; or in excessively curtailing production, controlling prices, and subsidizing producers. The only permanent solution is to expand the domestic market enough to absorb much more of our own production and simultaneously to facilitate the consumption of more products from abroad. Two things are involved: (1) An efficient distribution of purchasing power, which will expand the domestic market; (2) a rather large but even exchange of imports for exports without a favorable balance on either side.

Suppose, to take an imaginary example, that you produce a billion dollars' worth of products more than you can consume at home. You can dispose of that billion-dollar surplus by sending it abroad. But if you take imports in exchange you still have a billion dollars' worth of goods to consume—the same amount of surplus, but in a different form. The only way to get rid of that surplus without consuming it is to have it go abroad without an equivalent amount coming back. This is what a favorable balance of trade means, and it is what all surplus nations have struggled to achieve. But they can achieve it only temporarily. Unless they give away their goods, an equivalent must some day come back. Then there is the same old surplus to consume.

Take an extremely oversimplified example. An industrially developed nation sends its surplus abroad in exchange for agricultural products—not an equivalent amount or it would still have a surplus in another form. As long as this continues, it can produce more than it consumes. But meanwhile its industry keeps on expanding. Hence it needs a still larger favorable balance of exports. Then it sends capital as well as goods abroad. The capital is used to build up industry in the agricultural countries. Thus in time these countries become competitors of the very nation they traded with. As more and more countries become industrialized there is an inevitable return flow of
goods to the creditor countries, and also fewer and fewer true agricultural areas are left that can freely take factory goods in exchange for farm products. This forces the industrial nations back upon themselves for a food supply, or drives them toward colonial expansion. The result is a desperate struggle among the industrial nations to control the remaining industrially deficit areas of the world, either by outright seizure or as spheres of influence.

Nations faced with a surplus that cannot be exported commonly try to control it by restricting production. But this throws people out of work; it merely changes a surplus of goods into a surplus of labor. Is there, then, no real way out of the difficulty? Chew argues that there is.

Essentially, the impasse is due to the tendency of modern production to outrun consumption. The obvious remedy, then, is to make consumption keep up with production.

The possibility is real; people need the goods produced. The problem is one of mechanics—how to make the distribution of purchasing power as efficient for consumption as modern industry is for production. Once this is done, the surplus, or the equivalent in suitable imports, will be absorbed. There will no longer be any need to struggle hopelessly for a favorable balance of exports over imports. This does not call for self-sufficiency, which would create more unnecessary artificial restrictions. Absorbing our own production completely would mean producing less of certain things that we can produce efficiently, and more of certain things that we cannot produce efficiently. Reciprocal foreign trade obviates this loss of comparative advantage. Foreign trade is good, but it must not be one-sided. Suppose, for example, that after making adjustments in agriculture to give everyone an excellent diet, we still had more wheat than we could consume. It would be sensible to export the surplus and consume the equivalent in imported products. These ought to be mostly industrial products, because the consumption of industrial products can be expanded more easily than the consumption of food.

Fundamentally, the picture Chew gives is one of peaceful international trade based on shifting comparative advantages. He argues that this is not only entirely practical but the only ultimate way out of the modern dilemma. He points out that the United States was never so prosperous as when its total imports as well as its exports were at a high level. The day of the favorable trade balance is gone; or rather, this method can now be maintained only by utter force. The alternative is efficient purchasing power and high consumption per capita in every surplus country, combined with a balanced foreign trade.

**Reciprocal Trade Agreements--A New Method of Tariff Making**

Wheeler confines his discussion to only one aspect of the trade-agreements program—its potential usefulness as a method of tariff making. He argues that from the standpoint of agriculture, it has certain advantages over the older method of making tariffs. Until the tariff acts of 1922 and 1930, he points out, tariffs in the United States were largely for the benefit of industry, but they affect farmers in three ways.
(1) They restrict imports and thus reduce the amount of exchange with which foreigners can buy our agricultural products. Before the World War this did not greatly matter. We were a debtor country, and foreign nations had plenty of credit here in the form of interest paid on the loans they had made to us. Since the war, the tariff has been a greater handicap to producers of export farm products. The war made us a creditor country, and foreigners had no exchange for agricultural purchases except exports to us. This situation did not become evident, however, until we quit lending money abroad.

(2) By restricting imports the tariff tends to raise the prices of manufactured goods needed by farmers. Before the war this mattered more than at present since fewer of our industries were then able to produce as cheaply as those abroad.

(3) By restricting agricultural imports, the tariff raises prices for farmers in the United States. This mattered very little before the war, since agriculture was primarily on an export basis, and the world price necessarily set the price in the United States. Since the war there have still been relatively few farm products that could be benefited by a tariff, but the list is longer than it was formerly.

Complete free trade is academic. The choice is between different degrees of protection and different methods of making adjustments. The need is for (1) duties based on as unbiased and scientific an appraisal as possible, from the standpoint of national needs, and (2) flexibility and adaptability, so that the United States may be able to cope with the absolute control exercised in foreign countries.

The older method of tariff making provided neither. The tariff was revised about every 10 years, and rates were set on particular products by a cumbersome process of compromises, usually weighted on the side of protected industries rather than of consumers and exporters. When revisions were made, they were usually upward rather than downward.

By comparison, Wheeler argues, the trade-agreements method is far more sensitive to actual needs. Public hearings on a proposed trade agreement are held, and information is gathered, by an interdepartmental committee. Another interdepartmental committee carefully reviews all the information from the hearings and elsewhere and makes recommendations. A third interdepartmental committee goes over these recommendations in detail. Agriculture is represented on all three committees. Only after these steps are negotiations started with the country involved in the proposed agreement. All questions arising during the negotiations are sent back to the third committee.

By this method, each individual product can be carefully considered. Some classes of a product can be treated differently from others. Duties on a product can be reduced during only the part of the year when there is little or no domestic production, or reductions may be made only on specific, limited quantities during a year or part of a year. The interests of export industries can be taken fully into account on the basis of a specific exchange of advantages between the United States and the other country. Finally, there can be quick and effective action, which increases the bargaining power of the United States in meeting the actions of other countries.
Boyd says that confining our agriculture entirely to the domestic market, even if domestic purchasing power were considerably increased, would mean not only a great loss in national income but "untold human suffering." Our chief surpluses are still largely surpluses of export products, and if our agriculture is to remain on its traditional base some way must be found to improve foreign trade.

But there is a "very small number of alternative measures for increasing exports." They may be placed in two groups: (1) Measures for increasing foreign purchasing power for our products. This necessarily means taking more goods or services from foreign countries. Even if we again become a net exporter of capital, we shall have to accept more imports. A reversal of the flow of gold into this country would do much to improve world trade generally. But the best permanent plan for increasing foreign purchasing power is through the lowering of the barriers that now interfere with normal international trade. (2) Measures for making more effective use of existing foreign purchasing power. Several such measures have been proposed or tried at various times.

(1) Carefully studying foreign needs and demands and meeting them by more efficient production and distribution—a method that has permanent value.

(2) Eliminating internal restrictions on the free play of world conditions on prices and maintaining satisfactory fiscal arrangements. This method also has permanent value.

(3) Barter may be effective for a short period, to meet an emergency, or to secure certain necessary imports; but a general policy of barter requires highly centralized control over all foreign trade, and as a method of increasing exports it ultimately involves financial losses by the Government or the producers of the exported products or the consumers of the imported products.

(4) Devaluation of currency to lower the value of export products. The usefulness of this method is soon offset by devaluation of foreign currency or higher domestic prices for the products exported.

(5) Lowering the value of export products by various kinds of subsidies to producers or exporters of these products. Such devices must be used with great caution, since they involve retaliation by other governments if they are carried too far and require adequate measures for production control to avoid unmanageable surpluses. It must be remembered that the market for a given product does have definite limits regardless of the price at which it is offered.

(6) Permitting prices of export products to find their own competitive level, but supporting domestic prices at a higher level. This, too, must be accompanied by production control and should be used with caution to avoid interfering with the free play of world conditions.

In effect, then, Boyd says that various familiar schemes for the artificial stimulation of exports should be considered as only temporary; and it should be recognized that, unwisely used, they may accomplish the reverse of what is expected of them. From the long-time standpoint, a healthy foreign trade can be maintained only by permitting international competition to have free play in setting world price
levels, lowering trade barriers, eliminating internal restrictions, carefully studying foreign needs, and above all, being willing to accept imports in exchange for exports.

The Industrial Market for Farm Products

Industry, as Van Arsdel points out, has long made extensive use of farm products—cotton, cereal grains, packing-house byproducts, soybeans, wood. Some of these products, however, meet intense competition from synthetic or other raw materials, especially under the drive of modern industrial research, which is entirely impersonal and merely seeks the cheapest and best sources. The only way for farmers to hold or expand the market is to engage in intensified research themselves. Since they are neither organized nor financed like great industrial corporations, they have to call on Government to do most of the job. The Department of Agriculture has in fact conducted this kind of research for many years, with useful results. Recently the work has been expanded, and a comprehensive research program has just started, centered in four regional laboratories at Peoria, New Orleans, Philadelphia, and San Francisco.

Of the many classes of products for which raw materials could be supplied by the farm, six are dealt with by Van Arsdel—rayon, casein and soybean protein products, plastics, motor fuels, starches, vegetable oils. He gives a brief summary of the situation for each class, based on a survey made in 1939.

(1) Rayon. World production of 2,000,000,000 pounds (1938) has cut into the markets for cotton, wool, silk. Total production has about doubled every 3 years since 1920, with Japan and Germany forging ahead of the United States since 1936 and in 1938 producing half the world supply. About 9 percent of the textile fibers used in this country are rayon; 9 percent are wool, 2 percent silk, and 80 percent cotton (compared with 86 percent when the use of rayon was just beginning). There are three types of rayon—one made of wood pulp, two made of cotton linters; about 75 percent of United States rayon production is the wood-pulp type, 25 percent the cotton-linters types. Wood-pulp rayon has had the advantage in the low cost and high uniformity of the raw material. Manufacturers of the cotton-linters types would like to use wood pulp but have not yet solved certain chemical difficulties. The proportion of cotton-linters rayon has been increasing rapidly in this country in recent years and will probably continue to increase. Total rayon production will also increase, but probably at a slower rate than in the past. Future developments are likely to depend on research.

(2) Casein and soybean proteins. About 20,000–30,000 tons of casein, requiring over 1,000,000,000 pounds of skim milk (1 percent of total milk production), is now used for glue, cold-water paints, paper coatings, molded articles (chiefly buttons). Transparent wrappings were made of casein some years ago, and with improvements might be able to compete with cellulose materials for this purpose. A synthetic textile fiber, somewhat like wool, has been made of casein, but its possibilities are not yet known. Of the United States production of soybean meal, 95 percent goes for stock feed and fertilizer; less than 5
percent is used for plywood adhesives (largest industrial use), water-resistant coatings, sizes, plastics, cold-water paints, leather finishing. Some of these uses are new; none takes more than a very small percentage of the raw material available. Possibilities for expansion depend on further research and are unpredictable.

3. Plastics. There has been a remarkable growth in the use of plastics in the past 20 years. Cheap methods for making large objects would open up new fields. Most of the raw material is synthetic (from coal, petroleum, limestone, sulfur, salt), but skim milk, oat hulls, vegetable oils, and soybean meal furnish a small percentage, and wood fiber and cotton are used in very large amounts. Synthetic products have certain natural advantages, but research might turn the tables in favor of agricultural raw materials.

4. Motor fuels. Our present petroleum reserves of 17,000,000,000 barrels would be exhausted in 15 years at the present rate of use, but meanwhile rising prices would undoubtedly force other developments, such as the use of oil distilled from shale rock (108,000,000,000 barrels potentially available) and of synthetic fuels from refinery gas, coal gas, water gas, coke-oven gas, and similar abundant sources. Ethyl alcohol is the only fuel of agricultural origin to be used extensively, but others could probably be produced. Blends of ethyl alcohol and gasoline are quite feasible for automobile use. If a blend containing 10 percent of alcohol were universally used in this country, and the alcohol were made from cereal grains, it might require 25,000,000 additional acres in these grains to produce the necessary 2,000,000,000 gallons of alcohol a year. Wood waste, sugarcane bagasse, corncobs, cornstalks, cotton stalks, and cereal straws could all be converted to alcohol. From the supplies of such waste material available for industrial use (135,000,000 tons a year) a maximum of 4,000,000,000 gallons of alcohol could be produced. The great difficulty with alcohol for motor fuel is the cost. At present costs a gasoline-alcohol blend would have to sell for 1 to 2 cents per gallon more than straight gasoline of equal antiknock rating. Nevertheless, research may enable farm crops to furnish part of the huge market for concentrated fuels.

5. Starches. Less than 1 percent of the starch available from corn is now recovered as cornstarch for use in the laundry, rayon, and leather industries and for making sizing, explosives, adhesives, and coloring materials. The potato-starch industry is small and irregular, depending on culls; there is a specialized market in the sizing of paper and textiles. Sweetpotato starch is produced commercially at an experimental cooperative plant in Mississippi; its uses are for sizing textiles, making high-grade dextrin for adhesives, and blending in various food products. A gradual growth may be expected in the traditional uses of starch, but not enough to have a marked effect on crop production. Tremendous quantities of starch are available at comparatively low prices, and an increase of several times the amount now used would not require any expansion in crop acreage. Replacement of the entire quantity of imported starches by sweetpotato starch would require only 200,000 acres.

6. Vegetable oils. About a third of our consumption of fats and oils is industrial—18 percent in soaps and other detergents, 7 percent in drying oils, 8 percent in miscellaneous uses. Inedible tallow,
coconut oil, grease, whale oil go mostly into soaps; linseed, tung, and perilla oils into paint, varnish, linoleum, oilcloth, printing inks. Lines are not sharp, and there is considerable interchange and shifting, depending in part on price levels. Linseed, which used to supply 95 percent of drying oils, now supplies only 60–65 percent; tung, soybean, and perilla oils have replaced it through the development, for example, of fast-drying and waterproof varnishes and enamels. A new competitor in this field is castor oil. The market for drying oils will probably continue to be highly competitive. In the manufacture of soaps and other detergents, animal fats and coconut oil are the preferred materials. Here also competition is very intense. Besides drying oils and soaps, other industrial uses for oils account for several million pounds a year. Each field is highly specialized, and in several fields intensive research is under way. New uses for oils are likely to be developed.

Reducing the Costs of Food Distribution

Everyone knows that the cost of distributing foods is high. In 1938 the farmer got 40 cents of every dollar the consumer spent for food; the other 60 cents went to processors and distributors. Moreover, this cost has been increasing. In the 1913–17 period, farmers got 55 cents of the consumer's dollar and distributors only 45 cents. How can this great spread be reduced to give farmers a larger share of the retail price?

There can be no material reduction, as many people think, by reducing the distributor's profits. Hoffman and Waugh present figures which indicate that "for most food products probably not over 5 percent of the retail selling price is represented by the combined earnings to capital at all stages in the marketing process." Again, there is no evidence that distribution is becoming less efficient—rather the contrary. Distribution costs might be reduced considerably by decreasing the numerous marketing services consumers now receive, but on the other hand these services presumably add to consumer satisfaction. It can be argued that sizable reductions in distribution costs might be made by reducing the wage rates paid by distributors; studies show that most of the increase in costs since 1913–17 is accounted for by the fact that hourly wage rates have more than doubled since that time. But a heavy cut in wage rates would affect the farmer adversely by reducing the purchasing power of large groups of consumers; and it would be difficult to justify from the standpoint of the general public interest, of which agricultural interests are only a part.

Thus there is little reason to believe that food distribution costs can be greatly reduced within the framework of the present marketing system. This is not to say, however, that even small reductions are not worth while, because they are. Farmers' marketing cooperatives, for example, save money for many farmers though these savings represent only a small part of the total costs of food distribution. Reorganization of terminal and wholesale markets can mean real savings, especially in the case of fresh fruits and vegetables. Savings at the retail end of marketing are particularly important, since the retailer commonly gets from 20 to 35 cents of the consumer's food dollar. In this field the development of chain stores, chains of
indpendents, supermarkets, and milk depots is especially significant.

Labor is the largest item in distribution costs, but there is an alternative to reducing wage rates—namely, to reduce the amount of labor used in food distribution as a whole; and not only the amount of labor but the amount of equipment and of capital to which profits must be paid. There can be no question that there is a very large duplication of marketing facilities. Many plants are not by any means used to capacity. The number of retail stores increased between 1900 and 1935 considerably out of proportion to the increase in population. But to reduce marketing facilities to those actually needed to supply the demands of the public would mean drastic changes in the present marketing system. Much labor would be thrown out of work, as it is with most technical improvements, during the period of transition. Freedom for anyone to go into the food distribution business would be curtailed. Monopolies might be necessary, and that would mean public regulation, as in the case of public utilities. In other words, many factors would be involved besides increased efficiency and reduced distribution costs alone. A thorough reorganization of the marketing system will never come unless the public thinks a fundamental change is absolutely necessary.

Marketing-Agreement Programs as a Means of Agricultural Adjustment

The acreage adjustment method used with major crops is not readily adapted to a number of farm products, including fruits, vegetables, nuts, and milk. But supplies of these products have increased greatly in recent times. Holt and Rubel cite the case of fresh vegetables. There were 500,000 acres in 1919, 1,000,000 in 1926, and about 1,750,000 a year since 1936 (twice as many pounds per person as 20 years ago). Glutted markets with some of the "specialty" crops have not been infrequent; sometimes prices were so low that it did not pay to harvest, and parts of crops were allowed to rot. The experience of cooperatives showed that much might be accomplished through orderly marketing, provided a large enough percentage of the producers would act together. The present marketing-agreement programs simply extend the cooperative marketing principle throughout an industry or an area. This means, however, that producers and handlers must assume certain responsibilities and give up certain individual rights—a difficult achievement.

The marketing-agreement programs are carried out under laws that permit wide variations in practical details to suit local conditions and different commodities. A program is initiated only on the demand of the industry and is put into effect only on a favorable vote of two-thirds of the producers, after public hearings for all interests affected. It combines voluntary and regulatory control to govern the handling (and therefore the handlers) of the commodity. There are three main types of control.

(1) The volume of shipments may be controlled (a) to the entire market for the season; (b) by diverting supplies from one outlet to another (for example, walnuts to other than the domestic unshelled market); (c) by regulating the rate of flow to market in order to smooth out temporary gluts and scarcities and make prices more nearly uniform.
(2) Grades and sizes may be regulated, and certain of these may be kept off the market for a given period.

(3) The shipper may be required to post his prices and not to quote or sell at prices different from those in his schedule. This is not the same as price fixing, since the shipper can post new prices after a reasonable interval.

Regulations limiting the total volume shipped over the season have been the most effective in improving grower prices and were used widely in the earlier years of marketing-agreement programs when consumer purchasing power was at low levels. Regulation of grades and sizes predominates at the present time.

Holt and Rubel point out that the short-time interest of producers—principally increased income—is the immediate objective of marketing-agreement programs. During recent years, however, there has been increasing emphasis on longer-time interests through such means as expanding outlets, developing new uses, eliminating unfair practices, and generally improving marketing institutions and processes. On this basis, the marketing-agreement method may be applicable to a wider field of marketing problems.

**Thirty Million Customers for the Surplus**

The 30,000,000 customers Perkins has in mind in writing about the food-stamp plan are those who earn an average of $9 a family a week and have great unsatisfied needs for food, clothing, household goods. Two-thirds of them receive some form of public assistance. They spend an average of $1 a week each for food—5 cents a meal. The stamp plan is designed to increase their food purchases by 50 percent—to $1.50 a week, 7½ cents a meal. By the end of 1940, the plan should accomplish this for about 5 million persons in over 200 communities.

Under the plan, all food supplies are distributed through commercial trade channels. Families may buy orange-colored stamps in the same approximate amount as they formerly spent for food in cash. These are good at any grocery store for any food. With every dollar's worth of orange stamps bought, 50 cents in blue stamps is given free; these also are good at any grocery store, but only for foods designated as surplus (mostly dairy and poultry products, fruits, vegetables, meats). The grocer buys these foods from his regular sources. The blue stamps are ultimately redeemed by the Federal Government.

The orange stamps are sold to make sure that those who use them will continue to buy as much food as before. Surplus foods bought with blue stamps, therefore, represent a net increase in the amount eaten, thus assuring farmers of a broader market and undernourished families of better diets. Studies show that where the stamps are used consumption of surplus farm products goes up by large amounts. The full economic effects upon farm income will not be realized until there is a greater national coverage.

A second plan for getting surplus products used consists in giving free, nourishing lunches to school children from low-income families. Nine million children are in need of such supplementary feeding. By the end of 1940 the program should reach six million. The Federal Government contributes the surplus foods; other foods and services are supplied by local agencies.
The recently started cotton-stamp plan works like that for foods, with $1 worth of brown stamps given free to low-income families for each $1 worth of green stamps they purchase. Stamps are exchangeable for cotton goods at retail dry-goods stores. However, in the case of retail sales of cotton goods, only a relatively small part of the consumer's dollar gets back directly to the farmer; most of it goes to employ labor in the manufacture and distribution of cotton goods.

The black plague of the twentieth century, says Perkins, is underconsumption. We must wipe it out if democracy is to survive. The place to begin is with the enormous numbers of people who can afford far too little of what we produce.

*Barriers to Internal Trade in Farm Products*

By 1786 almost all the Northern States had levied import duties against each other's products. Massachusetts prohibited the importation of some 58 articles from other States. One of the main reasons for the Federal Constitution was to do away with this strangling of interstate trade. The Constitution did in fact make the United States one of the largest free-trade areas in the world, enabling industry to develop mass production for a national market and agriculture to produce wherever conditions were most favorable. Citrus fruits, potatoes, hogs, wheat, cotton, cattle, for instance, all have their special production areas, but their markets are Nation-wide.

After 1929 we began going back to a condition of economic warfare between the States, largely because the loss of foreign trade and the pinch of depression made farmers anxious to save the local market for themselves and shut out everyone else. Burtis and Waugh give as major examples of this economic warfare:

Regulation of motortrucks and merchant truckers. Out-of-State trucks may be required to buy a State license tag or to pay higher ton-mileage taxes than in-State trucks. Kentucky and Tennessee will allow only the lightest trucks to use their roads, thereby imposing a barrier between all States north and south of them. In most cases of high merchant-trucking fees, farmers are exempted. This favors the farmers close to the market. Farmers farther away, who could not afford to haul their own produce the necessary distance, are effectively discriminated against. Railroad freight rates, incidentally, may be so constructed as to discriminate against producers in certain regions.

Regulation of the marketing of dairy products. Milk inspection laws are necessary safeguards of health. Some localities use them to shut out producers from other areas by refusing to inspect farms more than a certain distance away (in one case, as short a distance as 8 miles) or charging a prohibitive fee. At the same time, inspection certificates from other municipalities and States are not accepted.

Margarine taxes. Since Utah started the ball rolling in 1929, half the States have taken to taxing margarine from 5 to 15 cents a pound. Studies indicate that these taxes—which have been upheld by the Supreme Court as revenue measures—greatly reduce sales. Cottonseed oil is an important ingredient in margarine, and southern farmers have threatened to retaliate by discriminating against products of
the butter-producing States. Margarine taxes can be an entering wedge for similar action in the case of many other products that compete with home-State products.

Regulation of the sale of alcoholic beverages. Special sales taxes or inspection fees on wines, liquors, or raw materials produced outside the State are used to favor producers within the State—grape growers, for example.

Grading, labeling, and standardization measures. Nonuniform specifications and requirements are perhaps the most serious hindrance to interstate trade among State grading and standardization measures. For instance, Oregon required certain berry-box standards for out-of-State shipments. California made these boxes illegal. In some cases, only eggs produced within the State can be labeled “fresh.” Deliberate discrimination against out-of-State products is also to be found in the labeling and grading requirements of some of the States.

Plant and animal quarantines. Like milk inspection, these quarantines are vital protective measures, but they are also sometimes used for purely economic reasons.

Such State barriers can be removed, say Burtis and Waugh, by court action in some cases, by legislative and administrative action in the others. In most instances the latter action will have to be taken by the States, with the Federal Government cooperating to secure uniformity. Several organizations of State officials are now concerned over the problem. What is required most is a widespread and keen appreciation of the advantages and the importance of keeping our great national market open to all American producers.

Standardization and Inspection of Farm Products

When farmers produced mainly for home consumption and trading was by personal contact, Kitchen says, there was little need for standardization and grading. But with the commercialization of agriculture, when buyer and seller might be a thousand miles apart and trading had to be done sight unseen, a common language for trading purposes became necessary. Standards and grades furnish this common language. At first a multitude of local standards grew up; in 1906 there were 133 grade titles for wheat, 63 for corn, 77 for oats, 53 for barley, 10 for rye. The confusion was disastrous to seller and buyer alike. Finally, in 1907, the need for uniform Federal standards was recognized and research began. The Cotton Futures Act was first passed in 1914, the Grain Standards Act and the United States Warehouse Act in 1916, the Food Products Act in 1917, the Cotton Standards Act in 1923, the Tobacco Stocks and Standards Act in 1929, and the Tobacco Inspection Act in 1935. “Under the authority contained in this [and other] legislation the Department has developed standards of quality for most of the important agricultural commodities and has established various types of inspection and supervision to insure their uniform application throughout the country.”

All standards are based on extensive research, both on the product itself and on conditions and practices in the trade. They must be so formulated that they can be applied to a product no matter where it is grown or marketed. They must also be uniformly interpreted and applied, which necessitates a corps of carefully trained inspectors.
Most standards are permissive (optional), and the best proof of their value is that they are widely used. In fact, interest in them has broadened to such an extent that there is a growing demand for their use outside the wholesale channels of trade. Thus in 1938 more than 85,000,000 pounds of butter and 720,000,000 pounds of meats were sold in the retail market to consumers under grade labels. Grade standards are also extremely important in market reporting. They have reduced marketing risks, tended to bring production more nearly into line with consumer demands, and greatly facilitated trading in futures, where neither buyer nor seller has any adequate protection unless there are standards.

The problems of standardization, nevertheless, are difficult. They are of four general types. (1) Most important is the problem of measuring quality. Shape, color, flavor cannot be expressed in quantitative terms like weight or size. Hence the need, for example, for butter tasters; hence also the sometimes complicated descriptions of quality. Many ingenious devices have been developed, however, to reduce the element of human error. (2) A problem of another type is the attitude of the trade, which, in some instances has opposed uniform standards or has been slow to adopt them. (3) A third problem is the lack of uniformity in the standards and grades established by States. Ten States, for example, have standards for egg sizes, and no two are alike. (4) Finally, there is a very difficult problem in establishing consumer standards that will be simple, understandable, and acceptable.

No set of standards can be regarded as eternal; it must be flexible enough to be changed and refined with changing conditions. Conditions do change in many ways—improvements in practices, new crops or products, production in new areas, weather, new knowledge about values. Thus even if the use of uniform standards were universal, which is far from being the case, there would still be need for the continuous, painstaking research on which they are based.

Cooperative Marketing by Farmers

Cooperative marketing of farm products is now big business—over $2,000,000,000 worth of products sold a year, 2,000,000 farmer members, more than 8,000 associations. Commodities handled, Stokdyk says, include practically everything produced on our farms and ranches. The volume of business has nearly doubled since 1933. The movement is at least 50 years old (24 percent of all cooperatives were over 25 years old in 1936) and has had many ups and downs, but even the failures have added to the experience that made success possible.

A cooperative is a nonprofit organization in the sense that its earnings or savings are returned to the patrons. Control is in the hands of the members, therefore democratic; management is by a board of directors selected from the membership; the usual rule (holding in 86 percent of farmer cooperatives) is one vote to a member. Lower cost, higher quality, better service are the three economic functions of the cooperative. “No influence has been so potent in the economic education of farmers,” since a cooperative “cannot succeed without full membership understanding.” Meetings, publications, tours,
demonstrations, institutes, reports, statistics, special studies, and active cooperation with Federal and State agencies are all used intensively to further education.

Of the three economic objectives, improved quality is brought about through studying market demands and paying returns to growers on a quality basis. Lower costs and better services are brought about by making local marketing units more efficient and thus lowering the margin between terminal prices and local prices. Competitors in turn are forced to narrow their margins and give better service. In other words, the cooperative sets the competitive pace and corrects unsatisfactory conditions. Thereafter its function is to keep conditions satisfactory and to increase its own efficiency. Cooperatives handling specialty crops (as distinct from staples) also perform other functions—advertising to expand markets, timing sales according to demand, distributing the supply among various markets, promoting reasonable dealers' margins, adopting grades and packages to suit consumer incomes. In general, however, cooperatives no longer attempt to cope with the surplus problem, since experience shows that it must be dealt with on an industry-wide basis.

Increasing legislative recognition has been given to cooperatives since the first cooperative statute was enacted in Michigan in 1865. In 1895 a California law authorized the organization of nonstock associations. Every State now has statutes for the incorporation of marketing cooperatives, and courts have recognized the differences between them and general corporations. Their rights have been expanded and safeguarded, notably by the Capper-Volstead Act of 1922, which defined cooperatives clearly and declared that they were not combinations in restraint of trade. A body of case law is being developed under which the rights and liabilities of cooperatives are becoming rather well defined.

The principal types of farmer cooperatives in the United States include:

**Dairy products.** Lead all other groups in volume of sales ($380,000,000 in 1933–34, $686,000,000 in 1937–38) and number of members (700,000). Market about 48 percent of all fluid milk, 39 percent of all butter, 25 percent of all cheese.

**Poultry products.** Sales were $48,000,000 in 1933–34, $91,000,000 in 1937–38; 106,000 members, 194 associations. In addition, 700 other cooperatives handle poultry products as a side line.

**Fruits and vegetables.** More than 1,100 associations in 48 States; 164,000 members; sales $182,000,000 in 1933–34, $300,000,000 in 1937–38. About 60 percent of all citrus fruit is marketed cooperatively (85–90 percent in the California-Arizona area). Potatoes are handled by cooperatives more widely than any other vegetable. Cooperatives doing more than $1,000,000 worth of business for a commodity are those for citrus fruits ($124,748,000), potatoes, grapes, apples, prunes, strawberries, cranberries, peaches, lima beans, peas, pears, celery, cherries, tomatoes, apricots, lettuce, avocados, olives and olive oil, asparagus, green beans.

**Grain.** In 1937–38, 2,619 associations, 360,000 members, $475,000,000 worth of business ($285,000,000 in 1933–34). Coal, feed, salt, and other supplies purchased by local elevators for farmer
members have greater value in many cases than the grain handled.

Livestock. Some 900 shipping and marketing associations, 600,000
members, $300,000,000 worth of business ($162,000,000 in 1933–34).
Terminal sales agencies now operate in practically all the larger
markets, many of the smaller ones, handling about one-fifth of all
livestock sold at public stockyards. In 1938, 60 large-scale agencies
handled 12,286,914 head.

Wool. In 1937–38, 130 cooperatives handled $11,300,000 worth of
wool for 50,000 producers. Most of the business is done by 25–30
large associations.

Cotton. Three types of cooperatives—cotton marketing associa-
tions (1938–39, 280,000 members, 1,522,037 bales); cotton gins (400
in Texas and Oklahoma alone in 1937–38, ginning 20–25 percent of
the crop); cottonseed-oil mills (6 in operation at present). Total
business of all cotton cooperatives in 1937–38 was $110,000,000. The
cooperative ginning movement has been growing very rapidly.

Other products. There are cooperatives handling nuts, tobacco,
hay, sugar beets, cane-sugar making, maple sirup and sugar, honey,
timber, nursery stock, pulpwood, tung oil, broomcorn, fox fur.

The Growth of Farm-City Cooperative Associations

The first rural cooperatives were for marketing farm products. As
offsprings of these came a second type, farmers’ purchasing coopera-
tives for handling supplies used in farm production. Quite distinct
from both were the consumers’ cooperatives—organizations located
principally in cities that purchase food, clothing, and other household
products for their members. This distinction based on types of goods
handled and on membership gradually broke down. Some farmers’
societies began to handle products for home use as well as farm
supplies. Others admitted city members. Eventually a successful
cross was made between some of the farm purchasing cooperatives
and city consumer cooperatives. The reasons for this hybrid are
simple: (1) Nearly 60 percent of the farm family’s expenses are for
consumer goods. Why not save on them also through cooperative
buying? (2) The larger the membership of a cooperative, the greater
the savings. Farm and city people together make a larger member-
ship than either alone.

As Gubin points out, this is a comparatively new development.
The number of farm-city cooperatives is still relatively small; most
of the members of cooperatives are farmers; farm supplies are still a
much larger item in the total cooperative business than consumer
goods. Yet the movement is significant because it bridges the gap
between two kinds of organizations that had the same purpose—
mutual advantage through mass purchasing power—but had grown up
to be entirely separate. Many farm cooperative leaders, in fact,
have strongly advised against rural cooperatives’ taking joint action
with the urban organizations. In spite of this opposition, the cross
occurred and it has shown hybrid vigor and made a healthy growth.

Gubin cites figures that show the rapid development of rural
cooperative buying in general.

In 1915 farmers’ purchasing cooperatives (for farm supplies) han-
dled only 2 percent of all the cooperative business done by farmers.
In 1938 they handled 15 percent. In 1913 they did $6,000,000 worth of purchasing business; in 1938-39, $320,000,000 worth. In addition to this, marketing cooperatives handle, buy, and sell $100,000,000 worth of farm supplies a year as a side line, so that the total amount of cooperative purchasing must now be at least $420,000,000 a year. Meanwhile the variety of goods and services handled has notably increased. Feed, seed, and fertilizer still are the most important items and make up about half of the total business. But today 50 percent of the purchasing associations sell some consumer goods—such items as groceries, general merchandise, clothing, fuel, gasoline, and oil—and at least 10 percent do their major business in consumer goods.

How many of the 50 percent handling consumer goods now admit city as well as rural members is not known, but according to Gubin the number has grown rapidly.

In line with this development a number of farmers' purchasing cooperatives formed a Nation-wide wholesale purchasing cooperative to which city organizations were later admitted; and in turn many of the rural cooperatives joined a national cooperative educational association formed originally by urban organizations. Cooperative automobile insurance is another field in which farm and city people have combined, and the growth here has been phenomenal. A few farm-city cooperatives have even gone into production as well as selling—not only mixing fertilizer and preparing feed for livestock but producing paint, bakery products, flour, grease; blending lubricating oil; roasting coffee.

The whole movement is still on a limited scale but it has considerable significance.

The Transportation Problem of Agriculture

Beginning with a brief historical survey, Dewey and Nelson show that agriculture has always played a vital part in solving transportation problems. For example, "the Granger agitation led to the first positive control over railroad rates in this country"—finally culminating in the act to regulate commerce, passed in 1887.

This action, and even the subsequent enlargement and improvement of regulatory legislation, with control in the hands of the Interstate Commerce Commission, proved to be no final answer to the farmers' complaint against unjust freight rates, partly because farmers were unable to meet the expense of bringing adequately prepared cases before the Commission. Another farm protest in the early 1920's resulted in the Hoch-Smith Resolution of 1925, requiring a widespread investigation of freight rates by the Commission with special attention to agricultural products. Here, too, the results were disappointing largely because of the Supreme Court's interpretation of the resolution. Farm dissatisfaction with the viewpoint of the I. C. C. and the railroads during the 1930's led to the passage in 1937 of section 201 of the Agricultural Adjustment Act authorizing the Secretary of Agriculture to make complaints and present economic data to the Commission.

The failure of freight rates in recent years to decline in proportion to the decline in the demand for and prices of farm products, combined with the willingness of the I. C. C. to grant rate increases, has raised
several questions in the minds of farmers that require much study and research—among them: Can more of the revenue of the railroads be obtained from other sources than agricultural traffic? Can the revenue requirements of the railroads be reduced by various retrenchments? How can rail rates be made more responsive to economic conditions?

In the effort to overcome the handicap of high freight rates, the authors point out, farmers have stampeded to motortrucks for transportation. Partly as a result, the railroads apparently lost about one-fourth of their potential agricultural tonnage between 1928 and 1938. To meet this competition, the rails were forced to improve services and lower rates on certain products and certain hauls. On other products and hauls where motortrucks could not compete, however—notably in long-haul and transcontinental shipment—rail rates remained high or were even increased. The result has been to place producers in areas distant from their markets at a serious disadvantage and to force shifts in regional relationships.

The transportation problem is much broader than its agricultural aspect. Of particular importance is its relation to economic recovery. Railroad interests argue that we cannot have a healthy economy without healthy railroads, and on this basis they frequently press for higher rates. Farm groups argue that we cannot have healthy railroads without a healthy economy, and they ask what the railroads can contribute to the latter by better managerial methods and by supporting better Government policies.

The pressure to maintain or increase rates is based on the so-called plight of the railroads. About one-third of all companies are in receivership or trusteeship and others have been saved from bankruptcy only by Government loans. Few are paying dividends. Employment has been cut in half since 1920. Depression and competition are important causes of the decline, though other factors have contributed. These authors hold that the railroads are partly to blame for the loss of freight and passenger traffic to competitors in that they failed to see the trend of the times and actually invited competition by maintaining rates. Some lines also have a record of indefensible financial manipulation in the past, and the railroads in general carry a large volume of indebtedness in the form of bonds on which fixed interest charges must be paid. This debt constitutes the largest of the fixed charges of the railroads, and places them under a heavy disadvantage in all difficult economic periods. Other difficulties are due to extravagant construction before 1900, costly terminals in certain large cities, inability to submerge selfish interests and coordinate lines and services (especially terminals).

Since rail service is indispensable to many farmers, they have an interest in profitable railroads, but they are skeptical of the high-rate method of securing necessary profits until everything possible has been done to cut expenses.

When railroads cannot obtain their objectives by increasing rates, Dewey and Nelson note, they seek public regulation of motortrucks, water lines, and other means of transport. Formerly regulation aimed to maintain competition in the public interest; the new kind of regulation apparently aims to restrict competition in the railroads' interest. Actually, these authors indicate, the railroads have much
more power to engage in destructive competition and rate cutting than their small, individual rivals; this has been amply proved in the past. Motortruck transportation, on the other hand, is essentially small-scale and highly competitive. Hence, there is serious doubt whether the same kind of regulation should be applied to all types of carriers. "Failure to make proper economic distinctions . . . only postpones socially desirable solutions of the transportation problem." The first effort should be to effect a rationalization of the railroad plant to eliminate uneconomic services.

Agricultural Credit

Johnson points out that whereas farming operations might on the average have been undertaken with an investment of $3,000 in 1900, the amount of capital required in 1930 was more than $8,000. The resulting need of farmers for increased credit facilities was greatly intensified by the sharp drop in farm income and land values beginning in 1930, when many rural banks closed and even farmers in good financial condition found it hard to borrow money. Total farm debt has declined in recent years, first because of foreclosures and enforced scaling down of debts, later because of refinancing and repayments; total farm mortgage debts were $9,600,000,000 in 1930, $7,800,000,000 in 1935, $7,000,000,000 in 1939. Through reduced land values, however, debt now represents a larger percentage of the value of mortgaged farms than formerly—about 30 percent of the value of the land and buildings of owner-operated farms in 1920, about 40 percent in 1930, about 50 percent in 1935. The majority of farms are not mortgaged, but on a comparatively large number of those that are, debt constitutes a heavy burden.

There are three types of financial aid to farmers: (1) Direct grants—essentially relief rather than credit for those who have practically no resources. (2) Loans by Government-subsidized agencies to put farmers who are in a weak financial position on their feet. Such loans should be accompanied by intelligent guidance toward rehabilitation. Assistance of this type has been largely furnished by the Farm Security Administration. (3) Regular business loans based on resources and earnings. It is with this ordinary business credit that Johnson's article is concerned.

To meet the serious situation that faced farmers after 1932, several steps were taken: (1) The Emergency Relief and Construction Act of 1932 set up a temporary regional agricultural credit corporation in each of the Federal land bank districts. (2) The emergency farm mortgage acts of 1933 made funds available for emergency loans and expanded the activities of the Federal land banks (established in 1917). (3) The Farm Credit Administration was established in 1933 to bring all Federal agricultural credit agencies into one unit. (4) The Farm Credit Act of 1933 set up production credit associations to make short- and intermediate-term loans, as well as 12 district banks and 1 central bank to make loans to farmers' cooperatives. (5) The Federal Farm Mortgage Corporation Act of 1934 created a corporation to supplement the facilities of the Federal land banks and the Land Bank Commissioner.

Under the present set-up, then, the country is divided into 12 farm
credit districts, in each of which there are: (1) A Federal land bank to make long-term mortgage loans; (2) a production credit corporation, to supervise production credit associations, of which there are now about 500 in the United States making short-term loans; (3) a Federal intermediate credit bank for financing institutions that make short- and intermediate-term loans; (4) a bank for cooperatives, extending credit to cooperative associations.

"Since 1934 the financial position of farmers generally, except in areas affected by drought, has improved." Refinancing in large volume reduced debt charges; the estimated number of foreclosures per thousand farms mortgaged January 1, 1935, declined from 27.8 in 1934 to 16.4 in 1938. Extended or defaulted Federal land bank loans decreased from 48.8 percent in 1933 to 20.5 percent in 1939. Meanwhile other credit agencies (life-insurance companies and banks) have again become active in agricultural lending, indicating renewed confidence. Nevertheless in many regions farmers still face serious problems.

Here are the agencies from which a farmer may seek loans or credit: (1) His district Federal land bank, which may make amortized first mortgages up to 50 percent of the appraised value of the land plus 20 percent of the appraised value of permanent improvements; (2) the Land Bank Commissioner, who, from funds provided by the Federal Farm Mortgage Corporation, may make first and second mortgages up to 75 percent of the appraised normal value of the property; (3) a production credit association, which makes short- and intermediate-term loans, usually secured by a chattel mortgage; (4) the Farm Security Administration; (5) commercial agencies—life-insurance companies, commercial banks, merchants.

Among the problems in agricultural credit, Johnson lays major emphasis on the credit base. "Too much attention has been paid to the value of the collateral . . . and insufficient attention . . . to analyzing the income of the farmer as an indication of his ability to repay." Overemphasis on collateral results in excessive lending during periods of high land values and rising prices. When values and prices go down, the debt is a heavy burden, the farmer may be forced to let land and buildings deteriorate in the effort to meet debt charges, delinquencies are numerous, owners lose their farms, tenancy increases. Attention should also be given to including provisions in mortgage contracts for the upkeep of land and buildings.

"The greatest need," the author concludes, "is to assist farmers in getting out of debt, not deeper into it."

**Crop Insurance**

Farmers have been able for some time to get commercial insurance on crops against fire and hail. Unfortunately, these are not the greatest risks. What is needed is insurance against all production risks, and this is what the new Federal wheat insurance program provides. The principles involved, as Rowe and Smith point out, are the same as those underlying any insurance. In effect, the large number of farmers who pay premiums in any one year shoulder the loss of those to whom indemnities must be paid; or from another angle, an individual farmer distributes the burdens of his own losses over a number of
years. The method, then, is that of self-help on a cooperative basis. The farmers pay premiums to meet the losses; the Federal Government pays administrative expenses as a contribution toward stabilizing agriculture.

The program is handled by the Federal Crop Insurance Corporation—a part of the Department of Agriculture. Offices are in Washington, D. C., Kansas City, Mo., Minneapolis, Minn., Chicago, Ill., and Spokane, Wash. The detailed field work—writing insurance, checking acreage, inspecting crops, adjusting losses—is administered by the same county committees (farmers) that handle the agricultural conservation program, with the help of community committees and the supervision of State committees.

An insured farmer is protected against unavoidable losses to the extent that his crop is smaller than 75 or 50 percent of his average yield, whichever he chooses. Any part of the loss that is due to poor farming is not indemnified. Premiums and indemnities are determined in bushels of wheat and may be paid by warehouse receipts for wheat or by the cash equivalent of the wheat at the current market price. To avoid losses due to price fluctuations, the Government invests cash premiums in wheat and sells such wheat when necessary to pay indemnities. Farmers may pay their premiums by an advance against payments being earned under the agricultural conservation program. Each farm has its own individual premium rate, based in part on its own actual or appraised past record of crop losses and in part on the record of crop losses for the county. Yields and premium rates computed for individual farms by county committees are required to check out in the aggregate with control figures determined for the county from yield and loss data developed in the Department. In some cases, yields are established for different practices on the same farm (summer fallow versus continuous cropping, irrigation versus dry-land farming). A farmer must insure his whole crop, not the part subject to the most risk, and he must insure before seeding, not afterward, when he may realize that loss is imminent. Landlords and tenants have separate policies covering their separate interests. Total losses occurring during the growing season may be settled before harvesttime, but partial losses are not settled until final determination after harvest of the amount of wheat produced. Losses are carefully checked by the county committee and its adjuster.

In 1939, the first year of the program, about 165,000 policies were issued on approximately 7,000,000 acres in 1,289 counties of 31 States. Farmers paid premiums of about 6,700,000 bushels. Crop damage was extensive in the Hard Winter Wheat Belt, where a large acreage was insured, and where fall drought took a heavy toll. Indemnities were paid on 55,800 claims, involving disbursement of 10,000,000 bushels of wheat.

The problems involved are numerous but are being solved: (1) Lack of yield records for individual farms. This will gradually be corrected as data accumulate. (2) Avoiding adverse selection of risks (which would be comparable to insuring only those with heart disease in life insurance). This will always be difficult, but “as new experience is gained, fewer loopholes will be left for those who would take unfair advantage of the program.” (3) Desire for temporary advantage on
the part of individuals or communities. This will be ironed out by increased premium rates where losses consistently exceed premiums. (4) Adjusting losses. Not so difficult as was anticipated, since the work is done by local people. (5) Reducing costs of operation per policy. Wider participation and simplified procedures will help to accomplish this. Costs will always be relatively high, however, in minor wheat-producing areas and for small acreages.

Experience with the insurance program is still new, and various changes have been suggested. Their merits and demerits are discussed by the authors. The Federal Crop Insurance Act provides for research looking toward insurance on other crops besides wheat. The possibilities with cotton, corn, and citrus fruits have been under investigation so far. Each presents some new and difficult problems.

Rural Taxation

In practically every country in the world, Englund points out, public expenditures have increased rapidly during the past 25 years, partly because of an expansion of government services and subsidies, partly because of the increased cost of goods and services bought with public money. Taxes, which supply the wherewithal for these expenditures, have increased accordingly. Farm real estate taxes have risen steadily since 1900. In 1910 the average tax per $100 of real estate value was 47 cents; in 1930 it was $1.30. After 1929 farm real estate taxes declined in partial but not complete response to falling prices.

The property tax accounts for the major share of State and local revenues but does not contribute to Federal revenues; 92 percent of all local revenues came from this tax in 1938. In recent years, however, other taxes have contributed an increasing share to State revenues. Of the direct taxes paid by farmers in 1934, real estate accounted for 60.2 percent; personal property (livestock, equipment, crops), 10.7; gasoline and automobile licenses, 26.2; income and sales taxes, 2.9. Thus the property tax (real estate and personal) represents 70 percent of the total. Improvement in the property tax is a State matter.

Three main faults are pointed out by Englund.

(1) Large farms and land of high value per acre tend to be under-assessed for tax purposes while small farms and land of low value tend to be over-assessed. This violates the basic principle of the property tax—that property shall be assessed uniformly in relation to value. Many studies show that tax assessors do not accurately determine the comparative values of different farms. Glaring inequalities remain in spite of the efforts of State boards to promote more uniformity, and they have contributed to tax delinquency in areas where there is much land of low value.

(2) Taxes on "other forms of wealth have in large measure found their way out from under the general property levy," leaving tangible property (especially real estate) to bear the brunt of rising State and local expenditures for such purposes as schools and roads. During the early years of the depression, the limits of the ability of property to bear taxes were apparently reached in many localities. With high taxes and low incomes, the delinquency rate among farmers rose alarmingly. Taxes then had to decline. Schools closed, the
rural educational system was weakened, other rural institutions suffered. Since 1939 the States have placed greater emphasis on the gasoline and motor registration taxes for the construction of roads.

(3) The farm property tax is rigid in relation to income. Between 1925 and 1932, farm income declined 58 percent, but the total real estate tax declined only 11 percent, so that farmers were paying more than twice as high a percentage of their gross income in these taxes.

Englund argues that a resort to general sales taxes to relieve the pressure on property does not help most farmers. An absentee landlord will get some relief from the reduced property tax; a local landowner or a tenant farmer bears an extra burden by paying higher prices for the things he buys. Moreover, in the case of some farm products, the sales tax is not shifted on to the consumer but back to the farmer in the form of lower prices.

In the game of shifting taxes, the farmer is at a disadvantage. He cannot shift the taxes collected from him by demanding higher prices, but many taxes can readily be shifted onto his shoulders.

Englund does not argue that a reduction in taxes on low-value land would necessarily lead to significantly greater efforts at soil conservation; the inducement in many cases would not be large enough. Nor does he think that exempting small homesteads from taxation necessarily promotes small-farm ownership. A homestead-exemption plan may place the farmer at a disadvantage in comparison with the owner of a small home in the city and actually shift more of the county taxes to rural property. In addition, other taxes imposed to make up for homestead exemption may hit the farmer.

Financial aid to farmers from revenues collected largely outside of rural communities go a long way toward counterbalancing direct rural taxes; but on a larger balance sheet the economic contributions of rural people and rural resources to the national economy as a whole may outweigh by far the help they receive. The question whether farm property should bear a smaller proportion of the tax burden for the local and State services and improvements demanded by modern communities must be judged in some such over-all framework as this. The modern trend in public finance, Englund observes, seems to be toward converting a larger part of private income into public revenue and a distribution of public benefits without too close questioning as to whether the benefits go to exactly the place from which the tax money came. It is the function of public policy to see that both costs and benefits are fairly distributed.

Rural Electrification

In view of the mechanical efficiency and the high standard of living in the United States, it is amazing that 90 percent of our farms did not have central-station electrical service as late as 1935. At that time, Beall points out, practically 100 percent of the farms in Holland had electricity, 90 to 95 percent in France, 90 percent in Germany and Japan, 85 percent in Denmark, 65 percent in Sweden, and 60 percent in New Zealand. What was the cause of the remarkable lag in the United States, in the face of the fact that farmers actively desired electrical service? Simply, says Beall, that private utility companies, who own and control over 90 percent of the industry,
did not need the rural market. Since it was much less profitable than the city market, rural rates remained high and rural lines were constructed only on conditions that were too burdensome for the average farmer to meet. There was little or no incentive to work out methods that would enable and encourage farmers to use electric service. At the rate of progress of rural electrification during the previous decade, it would have taken 50 years to bring electricity to half the farms in the United States.

In 1934 both the Mississippi Valley Committee and the National Resources Board urged that the only way to speed up rural electrification was for the Federal Government to assume active leadership. In 1935 the Rural Electrification Administration was established to push an active program. In the 4½ years from the middle of 1935 to the end of 1939, the number of farms with electric service jumped nearly 130 percent; that is, more was accomplished in rural areas in this short period than in all the previous decades since electricity first began to be used. By the end of 1939, 25 percent of all farms were electrified. The principal borrowers of R. E. A. funds have been cooperative associations of local farmers, who organized for this purpose and took 92 percent of the R. E. A. loans.

The Rural Electrification Administration does not itself construct, own, or operate lines or sell equipment. It merely lends money and furnishes technical advice and assistance. Loans are self-liquidating within 25 years at low interest rates, and they may be made to “persons, corporations, States, Territories, municipalities, people’s utility districts, and cooperative, nonprofit, or limited-dividend associations,” for constructing lines or power plants (very few of the latter have been necessary; in most cases, already existing sources of current are used), wiring premises, acquiring and installing electrical and plumbing appliances and equipment.

Economical methods developed by R. E. A. especially for rural areas are largely responsible for the success of the program. They include:

1) **Area coverage.** Every farm in an area is covered instead of a few selected farms, as hitherto. This distributes costs, develops the maximum load, permits mass-production methods in constructing lines.

2) **Simplified and standardized line construction.** This has cut costs in half—from $1,500–$1,800 a mile under previous methods down to $800 a mile today. New techniques departing from urban practice include vertical construction with elimination of cross arms on poles and use of half the number of poles by doubling the span.

3) **Other technical advances.** There have been several of these, including a simplified meter which can be read by farmers, thereby greatly reducing this cost, and a new low-cost small-capacity service unit which will bring lights and small appliances within the reach of low-income farmers for about $1 a month. (Minimum bills for regular service range from $2.50 a month in the South to $3.50 to $4 in the North.)

In spite of the accomplishments so far and the greater public interest in rural electrification, there is an enormous amount of work still to be done. After all, 3 farms out of 4 in the country as a whole still do not have electricity. Though in 9 States half or more of the farms
arc now electrified, in 12 others the number is 1 in 10 or even less. "Already there are over 200 separate uses for electric power on the farm, and the list continues to grow. While many of those uses relate primarily to household activities, a substantial number of them are directly concerned with labor-saving, cost-reducing, and income-producing equipment for farm operations." Others are of value to the entire community—electricity in schools and churches, for example, or power for cooperative local industries using farm products as raw material.

New Conditions Demand New Opportunities

Certain aspects of the general farm situation in the United States are not pleasant to contemplate, but as potential causes of increasing trouble in the future they must be faced resolutely and handled intelligently. Smith gives a broad survey of these problems as an introduction to several following articles that deal with them in more detail. Essentially he lays down two propositions that challenge agricultural leadership.

(1) It is part of our national tradition that a man could start as a farm hand, save a little money, rent a farm, save some more money, and finally own the farm. Opportunity was open to anyone; our people were not frozen into classes and castes such as still exist in the Old World. Is this true today? Any candid view of present-day agriculture shows that opportunities to climb the agricultural ladder are far more limited than they used to be. The conditions that have closed off opportunities for large numbers of rural people are described in other articles. Their net result, whether we like it or not, is that it has become increasingly difficult for a man to advance from laborer to tenant, tenant to owner. The first challenge to agricultural leadership, then, is whether we shall permit a large part of the rural population of the United States to become permanently set in laborer, sharecropper, and tenant classes, contrary to everything we have believed in.

(2) It has been estimated from 1930 census data that even in 1929 half of all farmers had cash incomes averaging $415 a year; more than a fourth had cash incomes averaging $195 a year. The cash part of the income had to meet payments on mortgage, interest, taxes, feed and fertilizer bills, replacement of tools and work stock. The remainder, if any, was available for food, clothing, furniture, medical care, education, and so on. In other words, there is beyond question a large "poverty class" in agriculture. The second challenge is whether we shall let this poverty become permanently fixed on these people, who are concentrated in certain regions but are also found in every State.

Smith argues that those who are better off must give increased attention to a vigorous search for means to release the "disadvantaged" groups from oppressive poverty, not only for humanitarian reasons but because (1) by increasing their purchasing power we could greatly expand our domestic market; (2) they furnish a disproportionate share of the Nation's children, which means that more and more people will grow up with unhealthy bodies and poorly educated minds; (3) democracy needs a strong backbone—and its backbone is still the rural people.
That there is no simple solution of the problem he concedes readily. He notes that all efforts to stabilize agriculture and improve the land as well as all efforts to expand industrial production and employment have an indirect but real effect on the disadvantaged groups. But we cannot wait for these; we must also use more direct measures. Among those that should contribute to improvement are:

1. Efforts to encourage landownership and reduce tenancy through an extension of measures such as are included in the Bankhead-Jones Farm Tenant Act.
2. More attention to equitable leasing arrangements between landlords and tenants.
3. Rehabilitation of families who are down but not out, through such methods as those used by the Farm Security Administration.
4. Purchase of submarginal land by the Government and assistance to the families living on it in finding new locations.
5. Resettlement projects—purchasing good land (usually large farms) and dividing it into family-sized farms or turning it over to a cooperative group.
6. Development of rural industries to furnish part-time employment for stranded families, including sustained-yield forest programs and subsistence homesteads developed on new patterns.
7. A rural public-works program to supplement the earnings of low-income farmers—and also to conserve natural resources.
8. Measures to improve the welfare of farm laborers and sharecroppers.
9. A large-scale rural housing program.
11. Much more attention to sanitation, adequate medical and dental care, and hospitalization in many rural areas.
12. In a still broader field, policies for assisting farm families to make adjustments to technological change. In the long run, the welfare of all farm families as well as efficiency in production will have to be considered in attempting to measure efficiency in agriculture.

"The problem," Smith concludes, "seems to be to determine what kind of agriculture and rural life we want, and then to set ourselves to the task of bringing it about."

The Rural People

Baker and Tauber study what is happening among whole populations—vast groups of people regionally and nationally distributed. From this study they have picked out six major trends now occurring in the rural population of the United States.

1. Culturally, our people are becoming more and more alike. Country folk, for instance, are strongly subject to city influences, partly because at least half the people in the United States now live within a couple of hours by automobile of a city of 100,000 or more. Within the rural areas themselves groups that formerly had quite distinctive customs of their own are disappearing. Foreign-born groups, for example, are being replaced by second-generation Americans.
2. Economically, on the other hand, we are becoming more sharply separated. In general, the North is more prosperous agriculturally
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than the South, yet there are some prosperous areas in the South and many poor areas in the North. In 1929 nearly half the farms produced only about 11 percent of the products sold or traded, and two-thirds of the less productive ones were in the South. Apparently the number of very small farms (many of which are inadequate) is increasing; so is the number of very large farms.

(3) The birth rate has been declining until now the number of births is no longer sufficient to permanently maintain the population. There is a surplus of 50 percent annually among farm people, however, and a deficit of 25–30 percent annually in the larger cities. In the future, then, cities can grow or maintain themselves only by drawing on the country. Since about half the natural increase in the total population now occurs in the South, the poorer sections of the country are bound to furnish an increasing proportion of our people; the smallest proportion will be furnished by the professional and business classes in the large cities.

(4) The number of middle-aged and old people is increasing in proportion to the number of young people.

(5) At least twice as many young people are maturing each year in rural areas as would be required to maintain the number of farm operators at a stationary figure. A large number of these young people are backing up on farms with little chance for employment either in commercial agriculture or in cities. In the absence of migration to the cities, there may be 7,500,000 more people of working age (18–65) on farms by 1955 than there are at present. This is the reservoir from which cities can draw their future increase.

(6) Migration from farm to city has been sharply reduced since 1930, and some cities have had a net migration to rural areas. The tendency to remain on farms has been most marked in areas of the fewest agricultural opportunities; in other words, the poorest areas have been the shock absorbers for depression.

On the basis of these trends, Baker and Tacuber urge the need for a national policy specifically related to rural-urban migration. They point out that whenever opportunities improve, cities will again receive large numbers of rural migrants; therefore they are profoundly concerned with the conditions from which these migrants come. Rural communities, on the other hand, are profoundly concerned with the cities as potential sources of employment for the increasing numbers of rural people. The authors suggest three lines of action:

(1) "Raising the level of living in areas from which migrants will be recruited." Rural migrants from the poorest backgrounds are difficult to absorb into city life. Since in general their condition is not likely to be improved by an expansion in commercial farm production, direct means must be adopted in the form of "a subsistence program for home production on the largest possible scale consistent with the conservation of land resources." The program should include rural industries, home industries, public works, and public services. Such a program would improve health and morale as well as making assimilation into the cities easier.

(2) Increasing educational opportunities. "Many of the children now being reared in rural areas will ultimately live elsewhere." They are not now being equipped with the knowledge and skills they will
need for effective adjustment, so that in many cases they press on the unskilled labor market and live under slum conditions.

(3) "More effective guidance of migrants to areas of greater opportunity." Too many people at present leave home and seek work elsewhere on the basis of "tips, rumors, hunches, and indefinite promises"; or they travel hundreds of miles for very temporary jobs. Many difficulties would be eliminated by an adequate system of information. Public efforts should also be coordinated better than they are; in some cases they retard migration where it should be encouraged, in others they encourage it without adequate assurance of opportunities elsewhere.

Patterns of Living of Farm Families

That widely used phrase, "standard of living," means little unless it is translated into concrete, practical terms of food, housing, clothing, and the other items for which people exchange their incomes. Monroe attempts to give a concrete picture of "standards of living" on our farms in these terms, drawing material from recent surveys and using three income levels in 1935–36 as examples.

(1) The middle group would include farm families with incomes of $1,000 to $1,250 a year, or an average of $1,127. (This included 11.7 percent of all farm families; 56.6 percent of all relief and nonrelief farm families had incomes of less than $1,000 a year.) Of the average income, $634 was in money; $493 was in the form of housing, food, fuel, ice, and other items furnished by the farm. At the end of the year one-third of these families were "in the red"; two-thirds broke even or were ahead of the game; but deficits were larger than savings so that the group as a whole was actually behind.

Of the total value of family living in this group, 47 percent ($537) was represented by food; two-thirds of it was food produced on the farm and one-third food bought for cash ($194). About 2 families out of 3 had good or fair diets; 1 out of 3 had a deficient diet. Housing varied a great deal in different regions, but for the country as a whole about 1 home in 6 had less than 1 room per person. About 5 out of every 6 families had no running water, 9 out of 10 no indoor toilet, 4 out of 5 no electric lights, 7 out of 8 no central heating system, 3 out of 5 no refrigerator of any kind, 19 out of 20 no mechanical refrigerator, 7 out of 10 no telephone, 5 out of 10 no radio. All of these figures are very much higher than for the comparable city group. On the other hand, 7 out of 10 of the farm families had an automobile (as compared with 3 out of 10 in a metropolis—Chicago), and more than 9 out of 10 did home canning, putting up an average of 200 quarts of food. The farm families spent an average of $104 a year for clothing, distributed somewhat like this: Wife, $16 for a winter coat, worn for 5 years; $4.50 for a good dress, worn 2 years; $1.35 for an everyday dress, worn 1 year; $6 for 2 pairs of shoes, worn 1 year; husband, $19 for a wool suit, worn 4 years; $3 for a mackinaw, worn 3 years; $14 for an overcoat, worn many years (13 out of every 14 bought no overcoat); $2.80 for work shoes, worn less than a year. Medical care averaged $50 per family (about half the estimated cost of adequate care on a group basis); education and reading matter, $18; personal care (toilet articles, barber shop, etc.), $17. It might be
noted that rural schools spent an average of $67 per pupil, city schools, $108.

(2) The higher economic group might be represented by families with incomes of $2,500 to $3,000 a year, averaging $2,716. (This group included 2.6 percent of all farm families; 93 percent of all farm families had incomes less than $2,500.) In this group, the money income was three times as great ($2,028) as in the middle group; income in the form of housing, food, etc. ($688), was two-fifths higher. Much more was saved or put back into the farm—an average of $777 for the year compared with a deficit of $10 for the middle group. All the families could have had good diets, though some did not. About 9 out of 10 homes had at least 1 room per person, but fewer than half of the families had running water, and 2 out of 3 had no indoor toilet or central heating plant. Three out of four families owned their farms. About $190 a year was spent for clothing per family. Most of the families (96 percent) canned food, putting up an average of 262 quarts.

(3) Two groups are selected to represent families with low incomes—a group of farm operators with incomes of $250–$500 (average, $440), and a group of Negro sharecroppers at the same income level. The farm-operator group received $130 in cash during the year, $310 in farm-furnished housing, food, and other products. Two-thirds of the total value of living was represented by food ($293), though the cash expenditure for food was only $49. At least 1 out of 3 families had deficient diets. More than a third of the houses had only 2 or 3 rooms for the entire family. One family in 100 had an indoor toilet; 1 out of 17 did not have even an outside toilet; 1 out of 17 had running water; 9 houses out of 10 were heated by fireplaces; none had electricity or any kind of ice box; 1 family in 17 had an automobile; $8 in cash a year was spent for all household operating expenses. Clothing cost $31 a year for the whole family (husband $11, wife $9, children or other members $11), medical care $12 (including 68 cents a family a year for the dentist), recreation $1, all other expenses $29.

Among the Negro sharecroppers, cash income averaged $230 a family, income in kind $153. The food consumed had an average value of $221 a year, or around 5 cents per person per meal; 4 families out of 5 had deficient diets. Almost 6 houses out of 10 had less than 1 room per person. No house had an indoor toilet, running water, or electric lights; 1 out of 6 did not have even an outdoor toilet; about 9 houses out of 10 were heated by fireplaces.

Families with incomes under $500—that is, the group just discussed and the group below it—probably included about one-fourth of all farm families, relief and nonrelief.

**Overcrowded Farms**

"Conservative estimates show that all told 3,000,000 farm families are existing today on abnormally low incomes and at unwholesomely low standards of living," Alexander writes. "Many of these families are just as able and anxious to earn their own way as any other group in America . . . There is nothing fundamentally wrong with the people. The problem is to devise a system that will enable them to become assets instead of liabilities."
The Farm Security Administration is one of the agencies set up to tackle this problem. It operates in several ways.

(1) By making loans to needy farmers who can become self-supporting but who cannot get a loan anywhere else. These are "character" loans, without collateral, for productive purposes, including necessary farm supplies, equipment, livestock. Each loan is based on a definite plan, worked out by the farmer and his wife in cooperation with the F. S. A. county supervisor and home supervisor. Three essentials of such a plan: (a) A rounded program for efficient home production to furnish a balanced diet for an entire year, including canned and stored products and feed for livestock; (b) at least two farm enterprises that will bring in some cash; (c) continued F. S. A. advice and assistance in carrying out the program. By April 30, 1940, some 837,000 families had received such loans. Many had lifted themselves out of a hopeless situation to self-respect and a modest livelihood. More than 114,000 families had fully repaid their loans by that date. A survey of 360,000 borrowers made in December 1939 showed that they had increased their net worth by 26 percent and their net income by 43 percent since coming on the Farm Security Administration program. In addition they had increased the amount of food produced for home consumption from a total value of $54,160,567 to $89,038,910.

(2) Grants are given in emergency cases—there were many during the drought years—for food, clothing, medical care. By April 30, 1940, 540,000 such grants had been made.

(3) When a family is hopelessly in debt, the F. S. A. assists in getting the debts adjusted to a manageable figure.

(4) Among families in need, sickness is a common cause of failure to get ahead. For instance, 575 people in 100 typical needy farm families were found to have 1,300 health handicaps, including among the most serious rickets, tuberculosis, pellagra, and suspected cancer. To meet this problem, health programs have been developed in cooperation with county medical societies. Families pay $15 to $30 a year; the money is pooled to pay private physicians for providing medical care.

(5) Successful efforts have been made by F. S. A. to improve tenure conditions. Among other gains, the number of written as against oral leases has been quadrupled among F. S. A. clients.

(6) Cooperative purchase of relatively expensive items such as machinery and livestock is encouraged. More thoroughgoing cooperative efforts, being tried experimentally, include the running of entire farms by groups of families.

(7) Under the Bankhead-Jones Farm Tenant Act, loans are made to tenants, on a 40-year amortizing mortgage basis, for the purchase of farms.

(8) Some work has been done to improve the condition of migrant laborers by establishing sanitary labor camps and even more permanent small homes with provisions for producing food.

Other agencies also are working in the rural relief field. The Work Projects Administration and the Civilian Conservation Corps have done a good deal. State and local agencies have given direct relief. "All of these efforts are helping meet the widespread distress," says Alexander. "But altogether, they are falling far short of the need."—
especially in view of the continuing mechanization of agriculture, which pushes workers off the land. At least 500,000 families, for example, who are in need and would be eligible for F. S. A. aid cannot get it. "A long-range program," Alexander insists, "must be worked out"; the only alternative is a dole on an immense scale. In such a program he would include more rehabilitation loans looking toward self-support; outright grants for capital equipment as well as emergencies, where these seem clearly justified; perhaps more cooperative farming. Even this would leave many rural workers who could not possibly be absorbed into any kind of agricultural production. He would set them to work building better rural homes, roads, schools, reforesting, installing sanitary water supplies, and so on. "In a hundred fields, there is ample need for the manpower that is now wasting on the farms."

In conclusion, Alexander summarizes the development of present rural relief programs, beginning with the Federal Emergency Relief Administration and later the Resettlement Administration.

Farm Tenancy

There are, of course, tenants and tenants. Some are tenants by choice, generally well to do, occupying good soil, preferring to invest their capital in livestock and equipment rather than land. Again, some half-million tenants are on farms owned by relatives. But a large number are tenants by necessity, with low incomes and standards of living. In one such group in the South studied by the Farm Security Administration, the average total income was $134.71 a year; value of household goods, $27.86; value of all worldly goods, $305.61; debts, $220.17; average net worth, $85.44. Often such farm families are old local residents. They farm about 20 acres. The mule is the principal asset. Malnutrition and disease are prevalent. Among the 2,865,155 tenant farmers in the United States (42 percent of all farmers) are 716,000 sharecroppers who have no livestock or equipment of their own.

"National strength and solidarity," says Maris, "spring from an independent, contented, home-loving rural citizenry" such as the old American ideal of owner-operated farms aimed to develop. We have moved much too far away from this ideal. The situation is not likely to get better by itself. At the present rate of natural increase, the farm population in the poorest areas will double in 30 years.

What is being done or can be done to come to grips with the tenancy problem?

Matis lists several existing or proposed legislative remedies in the United States. (1) Fourteen States now have laws partially exempting homesteads from taxation, to protect owners of family-size farms. (2) One State has a law protecting mortgagors who default because of crop failure or some other disaster. (3) The Bankhead-Jones Farm Tenant Act helps to set a pattern of family-size farms. (4) The Taylor Grazing Act is "in the direction of better adjustment of users to the land." (5) The soil conservation districts now authorized in many States will indirectly tackle problems of population adjustment. (6) Loans are being made by the F. S. A. in the Great Plains to create adequate family-size farm units. (7) The Iowa Farm Tenancy Com-
mittee has recommended a study of differential taxation to encourage the ownership of family-size farms, as well as a tax on capital gains from the sale of land.

Problems of land tenure have not by any means been confined to the United States. In recent years many other countries have been forced to deal with them. Some examples: In England, farmers are assisted in acquiring small holdings, which must be cultivated by the owner and cannot be divided, sold, assigned, or rented. In Ireland, 97 percent of the farmers were tenants in 1870; land-tenure reforms have brought the figure down to 3 percent today. The Scandinavian countries have made marked progress in improving land tenure. The U. S. S. R., of course, has socialized the land—a move that may be compatible with security but not with the American ideal of individual ownership. Mexico has regulated private property rights and bought out large holdings at 10 percent above the assessed value, turning them over to villages or dividing them into family-size farms. Germany has set up a system of "inherited freeholds"—family-size farms which cannot be mortgaged and are passed on from generation to generation.

Among the most significant measures for encouraging ownership of family-size farms in this country is the Bankhead-Jones Farm Tenant Act. Under this act, first-mortgage or deed-of-trust loans are made to carefully selected farm families for 40-year periods at 3 percent interest. Variable payments are provided to ease farmers in years of abnormally low income, but this privilege is withdrawn if abused. County farmer committees pass on the eligibility of applicants and the value of the farms. In 3 years, $75,000,000 has been appropriated for this purpose, and there have been about 30 times as many applicants as loans. Experience with the plan has been very favorable, and it could probably be used advantageously to reduce tenancy from 42 percent down to 20 percent among farmers in the United States. Over a period of 25 years, this would require about 52,000 loans a year. It would be vital to guard against speculative prices if any such large-scale program of farm purchasing were put into effect.

It will be noted that this plan would not bring about the almost complete elimination of tenancy achieved in Ireland. As a matter of fact, a reasonable amount of tenancy has advantages, provided it is on a sound and fair basis; in England, for example, tenants are legally protected and they stay on their farms. In the United States, unsatisfactory leasing customs are deep-rooted, and landlords hesitate to make contracts with propertyless farmers. These difficulties, however, can be overcome; at least, that is the opinion that has come out of conferences on this subject recently held in many States.

Maris suggests as essential, badly needed reforms: (1) Long-term written leases, preferably for 5 years or more, or written annual leases automatically renewed. (2) Compensation to the tenant for improvements he leaves behind, and to the landlord for damage due to negligence. (3) Compensation when either party breaks the agreement on short notice. (4) Provision for arbitrating differences between landlord and tenant.
It was taken for granted in the American tradition, Ham notes, "that the man who remained a farm laborer lacked the initiative or capacity to rise to something better"; the farm labor problem was simply to find enough competent hands to do the work. Today surplus rural labor is so common that many people accept it as part of the order of nature. "Once a laborer, always a laborer" is more and more the rule. Among the laborers are found larger numbers than formerly of "normal farm people" as contrasted with the tramps and drifters of earlier days.

Even the regularly employed "hired man" is not quite so well off as he used to be; but the real problem centers on the seasonal labor employed in large-scale specialty farming. In 1929 the average wage bill on 999 farms out of 1,000 was $135 a year; on the other farm it was $13,385. This tenth of 1 percent of all farms (well over a third of them were in California) paid 11 percent of the total agricultural wages. On these large-scale farms, labor conditions are similar to those in factories. Hiring is often done by a labor contractor; the work is routine and carried on by gangs under a foreman; wages are uncertain and may be cut without notice; workers frequently have to travel long distances for temporary jobs. Seasonal workers probably make up half of the farm labor in the United States. "Standards of living are incredibly low," housing is inadequate, medical and sanitary facilities are meager, and the workers are not accepted as a real part of any community.

In spite of the increasingly factorylike character of much farm labor, these workers have been definitely excluded from the gains made by industrial workers in recent years, as represented by the Wagner Labor Relations Act, the Social Security Act, and the Fair Labor Standards Act. In effect, this exclusion from benefits granted to others creates a class of outcasts and stirs up class strife, which farmers may have cause to regret in the long run. Strikes of farm labor have increased and disputes have become bitter. Unions of city workers have begun to take a more aggressive interest in farm labor conditions, feeling that low farm wages are a threat to their own standards.

Possible remedies for this complex and difficult situation include:

1. The first line of attack, of course, is to improve the farmer's economic status. What he pays depends on what he gets himself.

2. Equally obvious is the need for increasing employment opportunities in industry. If 2 out of every 5 farm youths can go to the cities for work, as they used to do, there will be less deadly competition for farm jobs.

3. The present haphazard, inefficient distribution of seasonal labor, with vastly more workers than are needed drawn to certain areas by advertising, can be improved by an effective placement and information service in which State and Federal agencies cooperate.

4. More continuous employment can be promoted by such means as new crop sequences and perhaps the transfer of some processing operations to the farm.

5. The living conditions and health of workers can be improved by establishing many more permanent and mobile camp facilities such as
those set up by the Farm Security Administration, better camp inspection, more low-cost housing, more rural medical centers, and other aids.

(6) Where farm labor approaches factory conditions, workers can be given equality under the law, with due regard for certain special needs of agriculture. They could share in old-age and unemployment insurance privileges, suitable wage and other standards, the right of collective bargaining.

Many of the possible improvements in farm labor conditions, Ham points out, must be made by the States. At present, farm workers are quite generally excluded from State labor laws. The States could encourage joint conferences between employers and employees to determine and stabilize wages; they could work out methods for mediation and conciliation in labor disputes. In some areas, public authorities and employers are becoming active in developing such possibilities.

Beyond Economics

Wilson is impressed by the fact that much more is needed to solve our agricultural problems than convincing schemes in the field of economics. He first shows how complex these problems are. No quick or easy scheme such as getting parity prices can simultaneously bring agriculture an adequate income, make up for the loss of foreign markets, reverse the trend toward loss of farm ownership, improve tenancy conditions, lift the mortgage burden, relieve the pressure of too many people on the land, give vitality to the poverty-stricken, save the soil from being wasted, and enable us to use technology instead of being driven by it. What is needed is practically a new pattern of farm life, and such things cannot be achieved suddenly or simply. This country faces a long period of agricultural reform. It is vital that this reform be democratic and that it be marked by tolerance, not bitterness or hatred.

What Wilson calls the "cultural approach" is best adapted, he feels, to bring about this reform. Primarily, the cultural approach emphasizes that people's moral ideas, their habits of thinking and acting, their notions about right and wrong; are just as important in the total life of the country as money or machines or any other material things. We have the machines and methods to create abundance for everyone; we have the most pressing need to create this abundance. But we don't do it. Why? Because habits, traditions, institutions, moral ideas stand in the way at a thousand points. We have an emotional attachment to old ways even when we can see, with our minds, that they cripple us.

Unless reformers with neat blueprints for a better society—and there are many of them—recognize this paramount fact, they are going to get nowhere rapidly. They cannot start with a theory about how the economic system ought to work if only people were different. "The real genius of any feasible reform effort will reside not in its technical competence . . . but rather in its psychological and cultural insight . . . The crux of the problem is moral and psychological." The more candidly these psychological and moral factors are recognized, the more scientific is the approach to social problems.

What are the implications of this viewpoint in dealing with agri-
cultural problems? It means that psychological possibilities would be considered first; that education would be especially important; that wide discussion would be encouraged to stir people up to examine their own attitudes and thinking, to question whether existing institutions are adequate for their needs, to explore their ideals and preferences sincerely.

Wilson is particularly interested in discussing the plight of the surplus farm population. He attacks two extreme viewpoints. According to one viewpoint, we should recognize the efficiency of the Machine Age, mechanize our farming on a huge scale as fast as possible, put surplus farm workers into industry. The trouble with that is that there is no place for them in industry. According to the other viewpoint, we should split agriculture up into small units, largely do away with specialization, make every farm family practically self-sufficient. The trouble with that is that we must have large-scale specialization today to supply raw materials for industry and to feed the industrial population. But why go to either extreme? Why not do both at the same time? All agriculture does not need to be commercial; in fact, that would probably not be efficient. Nor does subsistence agriculture necessarily mean a return to the handcraft age. A small subsistence farm can be as modern as you please, with all kinds of gadgets to give it its own particular efficiency and to help the farmer achieve a decent standard of living. The two kinds of agriculture can exist side by side. As long as we have an agricultural plant geared to produce more than the market will profitably pay for, this is the only way out. It would mean vastly better living for great numbers of people. And it would tend to reduce surpluses.

Subsistence farmers would need some cash income. The widespread establishment of subsistence farming might require, for a time, a frank and open subsidy. But this would be far better than building up a class of under dogs, dangerous for the future of the country. Subsistence farming and part-time farming are urged as a very practical way to take care of the unemployed and all those who are being driven onto relief. But such a plan would not be easy or simple. "It means new kinds of concerns, new kinds of practice, new kinds of knowledge . . . new kinds of pleasures and satisfactions . . . new ideas about life's most basic values . . . [and] a great extension of cooperative activity." Education is the first essential.

Wilson emphasizes the satisfaction of psychic needs—"for security, for self-respect and prestige, for intimate experience, and for a relationship with the unknown"—as being of primary importance among social goals; and he stresses the need for tolerance. "It is insecurity and confusion that drive men into frantic loyalty to extreme ideas and into desperate and harsh oppression of those who disagree with them . . . . This is the greatest danger . . . that confronts the hope of social progress." The preventive is "to increase the security of the vast number of people who are most in need of it" and "to realize that social and economic truths are not absolutes to which mortals have ready access." Our country needs a real social philosophy of its own—not one based on creeds and doctrines that may suit conditions abroad but do not suit those in the United States. We have the materials for such a philosophy.
Part 4. Farm Organizations

Trends in National Farm Organizations

Wing presents a factual report of the growth and the policies of three great national farm organizations—the National Grange, the National Farmers' Educational and Cooperative Union of America (usually called the Farmers' Union), the American Farm Bureau Federation.

Essentially, he points out, the motive back of these organizations is to secure to farmers an increased share of the national income, or economic equality for agriculture. They fear concentrations of power existing in labor and business organizations and realize that "important decisions upon which action is taken are more and more those of bodies of men rather than of single individuals." Though farmers are still far less than 50 percent nationally organized, there seems to be a growing conviction among them that agricultural problems must be dealt with on a national basis. Education and cooperation are stressed by all the great farm organizations, and they have enlisted the interest of many people besides farmers.

The creed of the Grange, founded in 1867, expressed the desire for "equality . . . and justly distributed power." By 1873 it had a foothold in nearly every State. It aggressively and successfully fought what farmers regarded as the abuses of the railroads. Cooperative activities, including milling and manufacturing, were stressed. More than 50 percent of the Grange members today live in New England, New York, Pennsylvania, New Jersey, and Ohio. New England, with 150,000 members, is the stronghold. There are many women members as well as children over 14. The Grange stresses the fact that it is "a family institution before it becomes anything else."

Wing reports an interview with Master Louis J. Taber in the autumn of 1939 on Grange objectives. Taber emphasized the fact that the 8,000 local Granges with 800,000 members are really community centers where public opinion—"the court of last resort in America"—is created. He said the current Grange program has three objectives—keep America out of war, lift farm incomes, make democracy function more efficiently. Lifting farm income involves developing home markets, new markets, foreign markets, and also strengthening the cooperative movement. Government appropriations are a temporary stopgap on the road to fair prices and a fair share of the national income. On the question of democracy, Taber used the Grange as an example, stressing the sense of responsibility it develops in its members, including a great many young people.

The 1940 national legislative program of the Grange includes the following recommendations: Economic justice for agriculture; remove unnecessary restrictions from business; maintain family-size farm, discourage large-scale farming; continue soil conservation program, but divorced from crop control; continue benefit payments till prices reach parity; regulate imports; terminate reciprocal trade agreements; encourage cooperative marketing; remove State trade barriers; encourage research for new crops and new uses of farm products; develop rural education, rural roads, rural electrification; encourage cooperation between agriculture, labor, industry; restore Farm Credit Admin-
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administration to independent status; continue low interest rates on farm loans; adopt a comprehensive Federal forestry program and aid extension of farm forestry; keep Forest Service in Department of Agriculture; liberalize railroad regulation; retain short-and-long-haul clause; no restrictions on motortruck or waterway transportation; complete St. Lawrence seaway; balance the Federal budget; no general sales tax, no tax-exempt securities, no processing taxes; continue support of agricultural education; no more reclamation at present; pass truth-in-fabrics legislation; continue development of farm-tenancy program; give agriculture representation in mobilization plans; clarify Wage-Hour Act and give agriculture exemptions; modify National Labor Relations Act; continue regulation of "imitation dairy products"; tax certain imported oils and starches; support Federal action to eradicate predatory animals and more vigorous steps to control insect pests; make interstate transport of stolen livestock a Federal offense; do not ratify Argentine Sanitary Pact; increase allotments of American sugar growers; extend crop insurance; enforce antitrust laws; no State medicine; amend Packers and Stockyards Act for better regulation; no block booking and blind selling of motion pictures; enforce law against lotteries; compel aliens to register; continue congressional committee on un-American activities; vigorously enforce Commodities Exchange Act; prevent overcentralization of government; strengthen national defense; avoid entanglement in foreign wars; take profits out of war.

The Farmers' Union began in Texas in 1902. It represents 100,000 farm families (members join as families), is organized in 21 States, has locals in 12 more, puts special emphasis on training juniors and on cooperatives. The Farmers' Union Grain Terminal Association, operating in the spring wheat area, is the largest; other cooperative activities include oil stations, compounding plants, grocery warehouses and wholesale houses, creameries, a factory for agricultural implements, insurance (fire, life, hospitalization), grain terminals, feed mills, cold-storage lockers, livestock marketing and trucking associations, cotton gins, credit unions.

In an interview with Wing early in 1940, John Vesecky, president, emphasized that the Union is built to serve low- and middle-income farmers. Its main objective is to safeguard farm family homes and enable more farmers to become home owners. "Price and income alone will not solve the farm problem"; development of cooperative enterprise is the surest road to economic power for agriculture. Handling one-third of the farm business cooperatively all the way through to the consumer would be enough to do the job. The Union, Vesecky said, favors more aid like that of the Farm Security Administration; refinancing and adjusting farm debts; a tax earmarked for farm benefit payments; no attempts at price fixing.

Current legislative and other recommendations of the Farmers' Union include: No tax qualifications for voting; aid for cooperative hospitals; extension of Federal Farm Mortgage Act; broader powers for A. A. A. county committees; cost of production or parity for farm products domestically consumed; truth-in-fabrics legislation; homestead-tax exemption; graduated land tax; protection of civil liberties (actions of committee on un-American activities deplored);
debt adjustment; a dairy bill; certificate plans for cotton, wheat, flax, rye, barley, rice, other commodities; commodity loans at top figure; separation of soil conservation from commodity income programs; expansion of farm credit program to take in farm tenancy, debt adjustment, land utilization, mortgage refinancing, rehabilitation, emergency relief; transfer of F. C. A. to Department of Agriculture; use of cooperatives for distribution, the Government to keep out of the distribution field; expansion of food-stamp plan, rural electrification, crop insurance; protection of family-size farm; Federal programs to be administered as far as possible by farmers, democratically elected; legislation to encourage and protect cooperatives; protection for domestic agricultural market; all taxes to be based on ability to pay as measured by income; Congress to have power to coin money and regulate its value; no tax-exempt bonds; no restrictions on truck and water transportation; retention of short- and-long-haul clause; cooperation of agriculture and labor; general opposition to war.

Wing gives a brief history of the Farm Bureau as told by Clifford V. Gregory. The Farm Bureau grew indirectly out of the agricultural extension system, established by the Department of Agriculture and the States just before the World War. In the beginning a few county bureaus were organized by farmers to back up the educational work of the county agents. Some of these bureaus federated into State organizations. In 1919, 12 State farm bureaus got together to form a national organization, and formal action was taken early in 1920. The Federation came along just in time to run head on into the long farm depression of the 1920's. In these circumstances it soon passed beyond purely educational work in better production and plunged into the economic problems of agriculture. In 1932 the Federation called a conference of farm organizations, and this conference proposed a bill embodying price parity, production control, and a processing tax. In 1940 the Farm Bureau has 400,000 members, mostly in the Corn Belt.

Edward A. O'Neal, Farm Bureau president, was interviewed by Wing early in 1940. He stressed the need, in the modern world, for cooperative control of commodities by farmers and cited the A. A. program as an effective form of cooperation. The Farm Bureau, he said, does not now believe that the usual types of cooperatives are enough by themselves to solve the farm problem, though in its early days it did hold this viewpoint and started several important cooperatives. Today it believes more strongly than ever in production control and such devices as marketing agreements. O'Neal cited an article by D. Howard Doane as containing ideas with which he agreed. Doane emphasized two things: (1) All production improvements in farming—use of machinery, soil management, livestock management—must contribute to lower cost per unit of product. (2) Production alone does not pay the farmer under present conditions because he competes with individuals who do not figure production costs. He must carry his product through some stages of processing and distribution. Here he can make a profit because his competitors figure costs. The large-scale operator can do this by himself, the small-scale operator through cooperation.
In resolutions adopted in December 1939 the Farm Bureau Federation reiterated its position that the crux of the economic problem in the United States is parity between agricultural and industrial prices; that when this is achieved, it will solve the problem of unemployment; that money spent for other methods of getting recovery will not get results; that there must be appropriations and taxes fully adequate to bring about a fair economic balance between farmers and other groups.

The following recommendations were made in the resolutions: For expansion of cooperative features of the farm credit system and extension of certain types of loans; for coordination of all types of farm credit and all types of commodity programs in two independent Federal boards within or correlated with the Department of Agriculture; for more local coordination of agricultural programs under the Extension Service; for modification of the trade agreements policy; for "only . . . reasonable regulation" of transportation so as to "preserve the inherent advantages" of each type; for arbitration of labor disputes—compulsory in the case of industries handling perishable and semiperishable agricultural products; for definition and clarification of the status of agricultural labor in labor acts; for enforcement of antitrust laws for labor, industry, agriculture; against transfer of Forest Service from Department of Agriculture; for a price-parity policy on the part of the agricultural advisory council; for a special Senate study of monetary problems in relation to price levels; for extension of marketing agreements; for appropriation of adequate funds for tobacco grading; for livestock and poultry feed control legislation; for increased Federal and State research on marketing and distribution problems; for extension of forest conservation with special emphasis on farm forestry; for extension of the fertilizer program of the Tennessee Valley Authority; for a new and thorough study of livestock marketing by the Federation in cooperation with other groups; for truth-in-fabrics legislation; for further sugar legislation; for maintaining and strengthening relations between the Farm Bureau and the Extension Service.

Resolutions on various other aspects of agriculture adopted in 1938 were reaffirmed by the Federation. The following recommendations by the Associated Women of the Federation were approved: For more discussion meetings between rural and urban groups and extension of discussion meetings in general; for use of county Farm Bureaus as clearing houses for farm programs; for further study of and action on national health problems, including nutrition; for extension of rural libraries; for keeping out of the European war; for a broader Federation program of economic education; for continued cooperation with the Associated Country Women of the World.

Each of the three national farm organizations, Wing points out, maintains headquarters in Washington, studies farm legislation, supports or opposes it. Local and State bodies do not always agree with the national organization on objectives, but differences are decreasing. There seems to be a trend toward a division of territory between the three organizations. Each publishes a national newspaper or magazine (National Grange Monthly, National Union Farmer, Nation's Agriculture), and some State units have their own
publications. Editors of privately owned farm papers support the farm organizations and wish to see farm organization strengthened.

Wing argues that there is a trend toward unity of viewpoint between the three organizations; they agree on some of the basic principles, if not on details of agricultural programs. It has been said that agriculture presents a more united front than labor or industry. All the national organizations are agreed on the fundamental issue of parity for agriculture, and all encourage and practice cooperation.

Part 5. What Some Social Scientists Have to Say

Cultural Anthropology and Modern Agriculture

The word "anthropology" means literally "the science of man." Cultural or social anthropology emphasizes the study of human societies or "cultures." As Redfield and Warner point out, the cultural anthropologists so far have been concerned with studying primitive or comparatively simple societies—those of American Indians, for example, or Polynesian Islanders, or simple rural communities. From these studies certain conclusions have been drawn that are believed to hold true for any human social organization.

Can the anthropologists use their methods to study far more complex societies such as our own? Redfield and Warner believe this should be possible. The value such work would have is obvious. By and large, most practical studies of modern society are economic. Most of the solutions offered for social problems—including those in agriculture—are strictly economic solutions. Even the most obvious economic remedies don't always work. Why not? Perhaps because other things besides economics are extremely important, and some of them may balk economic efforts.

There is very little scientific understanding of these "other things." If scientific methods can be used by anthropologists to study a complex human society as a whole, they may contribute a good deal to man's ability to create better conditions of living.

Redfield and Warner outline some of the main conclusions of anthropologists. All societies, simple or complex, they point out, have the same general objective—the successful adjustment of men to their environment and to each other. When the adjustment is successful, all aspects of life tend to fit together into a harmonious whole. In primitive communities this harmonious fitting together can be clearly seen. There is little specialization. Most men do the same things in the same way for the same reasons, and these reasons make up their ideas of what is right and wrong. Work, play, religion are all unified; even the planting of corn, for example, is likely to have a religious significance. The community is a unit knit together by common needs and loyalties, and above all by common understanding, shared by everyone.

In a modern complex community, much of this is reversed. There is a high degree of specialization. Men do not do the same things. They have far less understanding of each other and share fewer common loyalties. The community is split up much more into opposing groups with special interests to defend. Moreover, men do not understand the reasons for what they do. They do many things under the
compulsion of remote forces, not those within the community itself. Changes due to advances in technology are rapid. Under the circumstances, the sense of values, of what is right and wrong, becomes confused. Life is far from being a harmonious whole, and it may lose much of its meaning. The adjustment of men to their environment and to each other is out of gear.

The authors do not specifically point a moral, but it seems to be this: Some way must be found to transcend the complexity of modern life and give it much more unity and wholeness. Some way must be found to diffuse a common understanding through complex societies and create common ideals and loyalties. Even the best of economic solutions for our difficulties are only part of the story.

Democracy in Agriculture—Why and How?

Likert writes about democracy and agriculture from the standpoint of the social psychologist. Democracy, which is the opposite of dictatorship, he argues, is the form of social organization best calculated to satisfy some of the most fundamental urges of human nature.

But there are three essential requirements if democracy is to work. (1) The majority of citizens must meet situations as mature individuals—which means solving problems “with the brain in full control of the emotions,” and taking full responsibility. Dictatorship depends on a certain emotional immaturity—much like the relationship of a child to a parent. (2) Habits of solving problems through democratic processes as well as habits of maturity and self-reliance do not develop all at once. They can be developed only by constant practice. Democracy must furnish adequate opportunities for this practice. (3) Adequate opportunities depend on having democratic machinery at every level of government (local, State, Federal) for dealing with all kinds of problems, and especially the problems that arise suddenly under modern conditions.

But the increased complexity of government today tends to make it less rather than more democratic, partly because legislation must be broad while specific decisions are left to administrators. How can those administrators be sure they are carrying out broad legislation as the people wish? They cannot be sure, Likert argues, except by constantly obtaining an accurate expression of the felt needs and difficulties of those affected by the legislation. The only way to do this accurately, rapidly, and inexpensively is to use the “sampling” method developed in recent years by social scientists.

Likert points out that this method is now being used by the Department of Agriculture with valuable results. Essentially, it consists in putting the question to which an answer is desired to a carefully selected sample of farmers—say, 1,000. Research has proved that the answers given by those 1,000 farmers will not vary more than 5 percent from the answers that would have been given if all farmers had been questioned. But this will not be true unless extraordinary precautions are observed: (1) The sample must be typical, including the same groups in the same proportions as would be found in the whole farm population. (2) Questions must be carefully worded so as not in any way to suggest a certain kind of answer. (3) The
interviews from the field must be carefully and accurately analyzed. With these precautions fully observed, Likert believes, this method is a valuable contribution to democratic procedures, especially during this period of bewildering change.

The Cultural Setting of American Agricultural Problems

As a cultural historian, Turner is interested in explaining our present situation in terms of the development of social institutions and attitudes in the United States.

In the background of any civilization, he begins, there is a fundamental cleavage between city and country. Cities depend on the farm population for their food and raw materials. But they cannot reproduce themselves; they grow by getting people from the country. If this growth is to continue, more and more people must be released from agriculture, which means that agricultural efficiency must increase. Now, cities are the centers of industry, learning, science, art. The growth of all these, then, depends on increased agricultural efficiency, which frees people to do other things than produce food. Obviously such a development has occurred in the United States.

When America was colonized, the new ideas of individualism held by the middle class were becoming dominant in Europe, and the colonists brought these ideas with them. Individualism was strengthened and given a special turn in the new country because of the great abundance of land. Land was the one great resource, available to almost everyone. Cities were small and few.

Under these conditions, American small-scale farmers—the dominant group—were poor and hard-working, but independent. The strong individualism they developed was based on the fact that a man made his own decisions about life and work and took full responsibility for the results. Self-reliance, equal opportunity, individual responsibility—this became the American credo, born of the abundance of land on the frontier. Democracy was real, economically and politically. Of government there was little, for it was not needed.

Meanwhile, however, the cities were growing and the "industrial revolution" was bringing remarkable changes. "Individualism" was the dominant idea in the cities, too. But in industry it had quite a different meaning than it had among farmers. The farmer said, "We shall do what we please and be responsible for the consequences." The city man said, "We shall do what we please, but we cannot be responsible for the consequences." This philosophy Turner calls economic liberalism. It was enough like the frontier credo to be widely accepted, but the results were profoundly different. Under economic liberalism, for instance, industry could wash its hands of responsibility for unemployment or any other consequence of its policies.

Ultimately the frontier and free land disappeared and agriculture became more efficient, less self-sufficient. This did not matter so long as surplus rural people could be absorbed into industry. But gradually, industrial advances completely changed the picture of American life. The proportion of people engaged in farming was enormously reduced. So was the proportion of independent businessmen. On the other hand, the proportion of wage earners and salaried workers enormously increased. Farmers did not sell their labor
directly like wage hands, but they sold it indirectly because they became as completely dependent on the cities as wage hands. The great metropolises, meantime, grew bigger and bigger and dominated more and more of the country.

In brief, the city idea of individualism swallowed up the frontier idea. Individualism was lost in the name of individualism. And this produced a profound conflict. People do not change their deepest convictions and attitudes without conflict.

Our struggle today, Turner argues, is to preserve, in a vastly changed world, what was valuable in our tradition of individualism and democracy.

He believes this can be done, but that we must do it in strictly American ways, not by trying to apply foreign isms to our problems. Two things we must accept. One is that all of us are infinitely more dependent on each other, because of the minute subdivision of modern industry, than we ever were in the past; and we can never get back to the old independence. The other is that cities are bound to be the dominant element in modern culture; it cannot be otherwise in a civilization that is so dependent on science and technology. But it is not true that the frontier is lost. We still have a frontier—one even greater than that which gave rise to the American credo. The new frontier is the productive capacity made possible by science. Science has also given us an even greater sense of possible control over human affairs than our forebears had.

What prevents our using this frontier as we used the old one? Mainly, says Turner, a philosophy based almost entirely on the sale of goods and labor in the market place, plus the notion that freedom means not being responsible for the human consequences that result from our acts. Both these handicaps can be got rid of by sticking to the original ideas that made the American credo. Let the frontier of abundance dominate the market place, not vice versa. Let the old strong sense of individual responsibility be reborn as a strong sense of social responsibility. On such a basis we can go ahead, put necessary social controls into effect, use our productive capacities to wipe out the terrible inequalities in standards of living and in opportunity that now cripple us, and participate again in the decisions that affect our lives. And we can do it in ways that are in accord with our own national philosophy.

Under such conditions Turner sees the development of a more unified civilization than any possible hitherto—one in which the old country-city antagonism will gradually disappear.

In the earlier history of the United States, Turner concludes, the existence of a great land frontier was the material element that most influenced our American pattern of thought and behavior. That pattern should find itself equally at home on a great frontier of production.

Education for Rural Life

"If education is to be of real service to farm life and to rural children," says Embree, "we must cease to be awed by traditional subjects and procedures and build our schools on the essential needs of the countryside and the country child." In some ways, education in
primitive societies was better than it is with us; it had the merit of training young people directly for the life they were to live. Today we have lost our way in a mass of specializations, each worshipped for its own sake rather than for what it can contribute to happy and successful living.

In building up this country our interest has centered too much in machines, industry, city life, rather than in the land and rural life. This trend, Embree believes, is now changing. "We are at the beginning of what bids fair to be a rural renaissance. Country life is receiving attention . . . unequalled since colonial days . . . The adulation of industrialism . . . has passed its zenith." For rural schools, this means a new opportunity and a new duty.

Embree does not discuss vocational education for agriculture in the high schools or colleges; he is concerned with the common schools, where the education of most rural children ends. The things he emphasizes for teaching in these schools are old—the three R's, manual crafts, the study of nature. These are the basis of all sound education. But, he says, they have been wrongly taught. Children are drilled like so many trained fleas, with no idea of what they are doing or why. Their recitations have nothing to do with real learning or with everyday life. "Subjects are artificially divided into fragments"; sometimes a teacher rushes through a "whole day made up of lessons of less than 15 minutes each"; too many schools "are not educational institutions at all but simply a species of jail for keeping children in order for a few hours each day." "A shocking number of children—especially in the rural regions—do not acquire even an elementary knowledge" of the primary subjects.

If you really learn how to read, says Embree, you can get all the rest of your education by yourself—as Lincoln did. It is the basis of all education. Reading in this sense, as a means of understanding life, is what the schools should teach. The same thing can be said of arithmetic. The tricks of multiplication and division are meaningless unless pupils acquire them as tools to be constantly used in practical situations. As for manual crafts and nature study—there is little danger that they will be learned as tricks, since they can be taught only through actual work and observation. These two fields, he believes, are especially important for rural children not only as ground work for necessary skills and an understanding of farm practice but also for the enrichment of life.

Finally, Embree stresses the community functions of the rural school. In many places the school is now "the only organized social force able to exert general influence." It has a tremendous responsibility as a center for modern knowledge and information leading toward better community life, and it may well become the focal point for cooperative action by many agencies.

The Contribution of Sociology to Agriculture

The "science of society"—sociology—is the youngest of the sciences, and it deals with extremely complex things. But as a great sociologist, Ward, pointed out, if the things with which sociology deals are ever understood so that they can be controlled, "the results . . . in the interest of man are beyond calculation." Only within the past few
years, says Taylor, has sociology been called on to give "actual counsel and service" in large social movements and programs. Its greatest contributions are yet to be made, but they will be real ones.

The sociologist studies many of the same things that the economist studies, but he looks at them from quite a different angle. The economist is interested in the efficiency of an institution from the standpoint of production and the exchange of wealth. The sociologist is interested in its structure, its functions, its origin, how it is maintained, how and why it changes, and the effect of all these processes on the lives of all the people involved in them. An understanding of these things is vital to intelligent direction of human affairs.

If problems are to be solved, however, the first step is to discover what they are. Many of the most serious problems of today crept up on us unnoticed. If we had seen them earlier, we might have done something to prevent their becoming critical. One of the sociologist's functions, then, is the active discovery of problems so that trouble can be forestalled.

Taylor divides sociology into several important branches.

1. Social organization and social structure. Organization is the "machinery by which people live their daily lives." Neighborhoods, communities, villages, families, schools, churches, farm organizations, political organizations—all these are tremendously important to rural people. Under the impact of widespread forces, rapid changes are occurring in such organizations. Where are those changes leading? What kinds of organization at various levels would be best suited to modern needs? These are questions that can be studied by sociology.

2. Population or social demography. This branch of sociology studies the numbers, distribution, and composition of populations, the characteristics of its various segments, population trends and their causes and effects. Many agencies, governmental and private, have constant need for the findings—and whenever possible, the predictions—developed from these studies.

3. Social ecology or human geography. For rural sociology, this includes studies of the relation of natural resources and geography to the distribution of people on the land. "The amount of land required or utilized per farm unit . . . affects all social institutions."

4. Cultural or social anthropology. Old habits and attitudes, often obscure and subconscious, are constantly coming into conflict with new needs and new traits. They constitute the major resistance to change, yet they are often the most treasured possession of a society. How can what is good in the old ways be combined with what is good in the new ways to make a better and richer rural life? Cultural anthropology should be able to throw some light on such a question.

5. Social psychology. This field of sociology is concerned with the effects of cultural processes on individual human behavior, and the attitudes and opinions of members of a group. Great advances have been made in recent years in techniques for discovering group attitudes and opinions, and this is especially important in a democracy, where political processes depend on public opinion. Social psychology also deals with the psychology of leadership and of pressure groups.

6. Social pathology. Under this heading Taylor includes the study of sore spots, unhealthy areas in society—"rural slums," rural unem-
ployment, for example. These sore spots are not pleasant. Nor is disease of any kind; but it must be understood if it is to be controlled.

In the past in the United States, “each local community . . . lived an integrated life . . . and was relatively self-sufficient. Today the majority of American farmers have become a part of the ‘great society.’” Now and far wider “economic, political, social, and cultural relationships have entered rural life . . . [and] changes are taking place more rapidly than in any previous generation.” Sociology should help the farmer “to function more successfully in these new areas and processes of association” and to solve some of the conflicts with which he is now constantly faced.

A Philosophy of Life for the American Farmer (and Others)

Many of the characteristics of man, says Hocking, are shared by the animals, but there are several major differences. Man is always planning—he lives in his dreams. He has a peculiarly deep-rooted desire for self-respect or “standing in the community.” His basic drives—food-getting, acquisition, sex—are so balanced that they do not enslave him; he alone among the animals can look at the whole of things and ask himself, “Which way do I really prefer to go?” Competing impulses in man are controlled by a dominating purpose, the desire to count for something, and this must be expressed by contributing to human life as a whole through creative activity. Because he is “the only animal that looks at himself and judges himself,” man is both “terribly vulnerable to social approval or social ostracism” and at the same time “able to sacrifice almost anything to promote an idea.”

Farm life, Hocking believes, offers exceptional opportunities for the human desire to create—to plan and to carry out plans. The farmer is a perpetual pioneer on the frontier between barrenness and fertility, life and death. If with all its satisfactions farming has serious drawbacks, the remedy lies in discovering and developing “the things which make up the good life, whether on the farm or elsewhere.” These things Hocking proceeds to discuss.

He puts family life first and argues that farming has superior opportunities for its development because “the area of common life” among the members of the family is greater on the farm than in the city, the outer associations are less numerous, the family “has to find its own way to fun and mutual help.” But many a farmer fails in this family life by overburdening his children and leading them to seek escape—explaining too little and consulting too little. Farming should be to a large extent hereditary, but the life must be attractive to him who inherits it. If necessary, the state will have to play a part in making farming a hopeful occupation.

Next among the things that make a good life Hocking puts property, not only for its assurance that “there will be bread and butter to-morrow” but even more for its education of the possessor. Taking care of his own farm teaches a man responsibility and the use of authority; it is a training ground for democracy, which requires that every man have authority and responsibility. The real justification for private property is that “it allows the free expression of personal traits and invites the social judgment which follows mistakes in its
use.” Thus “any radical change in the form or extent of farm ownership becomes a matter of importance for the state as a whole.”

Hocking argues that there may be many changes in farming techniques—as there have been—without harm to fundamental human qualities and values. For the most part, in fact, such changes are desired and are good. The changes in ways of life brought by the spread of city conveniences to the farm are also good on the whole. The real menace is a change in the ownership of property—the development of large-scale, absentee-owned farms, for example, and of a farm laboring class without ownership or hope of ownership. This is the threat to capitalism, for “the right to work” then becomes the biggest thing in life, and if it is not satisfied men turn against capitalism and demand another system; security becomes far more desirable than liberty. Capitalism can survive only on condition that it satisfy the will to work, spread the ownership and use of capital throughout the community, and make the ownership of real property widespread. Farm property, either individually or cooperatively owned, must “continue to do its part in the building of the American individual and democrat.”

Economic change is not “inevitable”; there is no mysterious “economic force”; the human will has the final say, and if some circumstances are too much for the individual to cope with, then the community must step in to prevent change in the wrong direction.

Third though not least important in the things that make the good life Hocking puts what he calls “the wider horizon.” By this he means the common culture which makes individuals act and feel together on the big issues of life. “There has never been a time so hopeful as the present for making this [common culture] a solid fact for the life of the American farmer.” But there is much that needs to be done. He would like, for example, to see the great journals paying much more attention to farm life and reaching farmers more effectively; a greater development of music, community festivals, and especially community dramatic presentations in the country; more interpretation of science for the farmer. Philosophy too should be brought to the farm public, for it is philosophy that invites men to ennoble the day’s work. Philosophy and religion tap “the vein of seriousness with which the responsible man wishes to face his more difficult passes of experience.”

**Part 6. Democracy and Agricultural Policy**

*Public Information and the Preservation of Democracy*

Stedman is primarily concerned with the threat of war to the basic institutions of democracy. In democracy, “differences are settled by a struggle of ideas, with the decision not by bullet but by ballot.” In an absolutist state, opponents of the government have no other recourse except force. But “when totalitarianism reaches its ultimate national stage of war and comes into violent collision with democracy,” then the latter also adopts dictatorial methods, and may lose the very democracy it sets out to defend.

This natural tendency poses a critical problem, and it centers around maintaining the free flow and the free conflict of ideas.
Stedman argues that the Department of Agriculture has become one of the most efficient of educational agencies, in distributing information not only on such things as scientific farm practices but also on more or less controversial questions such as those connected with specific farm programs. He believes that it has stuck to democratic principles in this work, especially by allowing opponents to be heard. Yet there is always the risk of stacking the cards entirely on one side, and in a crucial situation the temptation to do this will be very strong. His plea is that the Department strengthen itself against this temptation and continue to keep faith with the people by being truthful and factual; avoiding ballyhoo, hysteria, and politics; and leaving the way open for criticism and opposition on controversial issues.

"Here on this continent," he concludes, "the key institutions of democracy continue to function. If the Government . . . strives to build them stronger, then come what may in other parts of the world, democracy and civilization have a chance to survive in this Nation."

**Science and Agricultural Policy**

"In the last analysis," says Harding, "the form assumed by our social and economic system as a whole, and by agriculture in particular, depends primarily upon discoveries in natural science. The effect of such discoveries is in turn largely determined by the policies we adopt for their utilization."

To begin with, he asks—what is science? It is a method of investigating reality. Faced by a problem, the scientist first formulates a hypothesis, that is, figures out what might be a likely solution. Then he tests this hypothesis by carefully controlled experiments. If the experiments support the hypothesis, he assumes that it is correct; if not, he makes another hypothesis and tests that. From the experimentally proved hypothesis he deduces certain general principles or laws, and finally he relates these to other principles to form a pattern of scientific truth. Throughout this process he never deals with the whole of a thing; he studies only a carefully selected part of it—an abstraction or abstracted part. Moreover, he always makes certain basic assumptions that cannot be proved but that underlie all science. Thus in a sense he is dealing in fictions. He also deals in huge numbers—of atoms or electrons, for example—and since he cannot investigate what actually happens to all the individual items, his findings have only a mathematical probability. But these abstractions and probabilities have great power. They offer us a pattern of truth, map the universe, and save an immense amount of thought and labor. They are more revolutionary in their effects than so-called "radical ideas."

Every great development of the Machine Age, as Harding points out, grew out of discoveries in abstract science made by men whom most people would consider impractical.

So much for the natural sciences, such as physics, chemistry, biology. Many people consider that they are the only sciences capable of revealing truth; that the social sciences—economics, sociology, anthropology, for example—are somehow inferior, or not real sciences at all. Harding vigorously combats this idea. He argues that practically every objection made to the social sciences applies just as well, in one way or another, to the natural sciences; and
contrariwise, that the things said in support of the natural sciences are also true of the social sciences.

Harding is not writing about science for its own sake, however. He is concerned with its practical effects. Without doubt it is the most powerful force for good and ill in the modern world. Yet society exerts little or no control over its use. We take it casually and let the chips fall where they may; we make little or no effort to use it deliberately for the good of all men or to foresee and guard against the harmful effects of the swift changes brought by science. For example, "originative" discoveries create many new jobs, but "intensive" discoveries come along and wipe them out; 4,000 people die every year in the United States from pellagra, "an easily and economically preventable disease." The great need, Harding argues, is for "a science to make use of science"—to "supervise scientifically the utilization of the knowledge that research produces."

Because of their qualifications, scientists themselves should play a large part in developing such a "science to make use of science." Before that can be done, however, certain attitudes that have been built up by scientists will have to be changed. Harding makes a forthright attack on these attitudes. Scientists hold themselves aloof from judgments of "value," or right and wrong; they say their job is research, and they wash their hands of responsibility for the results of research. This attitude not only does not represent the truth, says Harding; it will end, if the scientists do not watch out, in the liquidation of all disinterested research, and the researchers as well; this has already happened in several countries. Again, science is too much divided up into airtight compartments; specialists are so specialized, and they have developed such fearful jargons, that they cannot even understand each other, let alone being understood by the public. Finally, to quote A. G. Church, "most scientists are ruled by their prejudices and passions in everything except their own small branches of study. . . . The scientist is afraid to be different, timidly afraid to accept the implications of the results of his own work and acquired knowledge, afraid to suggest that his own outlook . . . could with advantage be applied to our political, social, and economic institutions." The result is that others, often far less qualified, make all the important decisions and use the scientist's work for their own ends.

Both British and American scientists, Harding notes, are awakening to these faults and dangers, and some moves are being made to overcome them in the great professional associations of scientists. The Department of Agriculture also is moving in the direction of coordinating research in the natural and the social sciences and using it more fully as a background for urgent agricultural adjustments.

So far, says Harding, we have tried to cram the vast knowledge and potentialities of science into a given social framework. More and more we shall have to make science the framework and work out social arrangements that will fit it and enable us to use it fully for human welfare.

*Schools of Philosophy for Farmers*

Adjustments in agriculture in recent years raise a lot of fundamental questions. When extension workers found they needed more back-
ground to discuss these questions intelligently, the Department of Agriculture agreed to sponsor group discussion meetings, which soon became known as "schools of philosophy." The idea proved to be so popular and worth while that the discussion groups were soon extended to take in farm leaders (especially the farmer committeemen who handle agricultural programs), staff members of most of the bureaus of the Department of Agriculture and the State Agricultural colleges, teachers of vocational agriculture, even professional and businessmen interested in agricultural welfare. Some 70 of these "schools" now have been held in 38 States with an attendance of some 14,000 farm leaders. About 2,000,000 farm people have also been engaged in organized discussion groups throughout the country, and in 37 States farm men and women receive training under State leadership in how to conduct such groups.

No matter how practical the subject, Taucusch says, the discussion groups always get down to fundamental questions somewhere along the line. There are no brakes on what may be discussed. What is all this government regulation doing to our democracy? Can or should government interfere with economic trends? What kind of life will our farm boys and girls lead? Is local planning work taken seriously in Washington or dumped into the wastebasket? Are committeemen elected democratically or hand picked? Isn't there a danger of too much centralization? What is the difference between education and propaganda? These and other questions just as basic and troublesome continually pop up in the meetings and are frankly threshed out, with arguments on both sides. In general, these farm people and farm leaders want most to discuss what's happening in the modern world and what it's all about.

The real significance of the meetings, Taucusch believes, is that they are a valuable training for democracy. The essence of democracy consists in keeping the avenues of discussion open so that people can get together, talk over their problems, and reach a common understanding. But this is easier said than done. There are definite techniques that must be understood if such discussions are to be genuinely democratic, to open people's minds, to lead them on to further constructive inquiry, to help them express themselves fearlessly; and one of the main functions of the schools is to give training in these basic techniques of democracy. Beyond that, they serve the very practical purpose, for extension workers, administrative officials, and farm leaders, of filling some of the gaps left by the educational system.

In response to demand, over 2 million pamphlets have been issued on some of the subjects taken up by discussion groups. They "are frankly controversial, contrary points of view being presented in conversational form, and they include bibliographies." It is a common complaint of people who participate in the meetings, Taucusch says, that they cannot find enough reliable material on the questions discussed, and he suggests that schools and libraries should make an effort to meet this demand.

To maintain the spirit of the parliamentary form of government, he concludes, "is increasingly devolving on us in the United States—especially now that elsewhere the enemies of democracy are in the saddle and riding fast and furiously."
Old and New in Agricultural Organization

The survival of any living thing or of any human institution depends on its ability to change in response to new needs. New needs have pressed urgently upon the Department of Agriculture in recent years. It has had to undergo changes in order to meet them. Eisenhower and Kimmel tell the story of this growth and change.

The Department was created in 1862. For a long time after that its work was almost entirely in the natural sciences, including the farm practices that depend on science. Farmers could not afford the kind of research carried on by industry; in effect, the public hired a Federal agency to do it for them. It also hired State agencies, for the land-grant colleges and universities soon began carrying on agricultural research also. Under the pressure of changing farm needs, economic activities were added to this work—grading, market reporting, crop estimating, economic research. Education and information were always a part of the work, since research findings are useless if no one but a few researchers know about them. In time, the Extension Service, with its Nation-wide system of county agents, was set up as the link in educational work connecting farmers, State agencies, and the Federal agency.

In sum, the Department was a changing institution from the beginning, meeting new needs as they were expressed in popular demand. On the whole, this process was gradual. The crisis of 1929 brought demands of a different nature—explosive and sudden demands for economic action to prevent a total collapse of agriculture. Even these were not quite so sudden as they seemed; agriculture had had its own private depression for 10 years, and the remedies tried after 1929 had practically all been proposed in some form by farm leaders.

At any rate, Congress did pass laws that suddenly threw far-reaching responsibilities upon the Department for administration in new fields. New agencies had to be created quickly to carry out these "action programs," as they have come to be called in professional jargon in contrast with the older research and educational programs. Inevitably, some confusion resulted from the immense scope and the suddenness of these programs designed to meet urgent needs. Different agencies overlapped; there was not always time to gather or integrate all the necessary facts; and programs national in scope were not properly trimmed and fitted to local needs.

Meanwhile, as things settled into better perspective, it became evident that the farm problem could not be solved by a single formula such as that for parity prices. It had as many lives as a cat. There were, in fact, many farm problems—soil erosion, poverty, tenancy, heavy mortgages, oversupplied markets, loss of foreign trade, industrial unemployment, and so on. All of them were interrelated in one way or another, but they had to be attacked by different approaches. Congress passed legislation with that in view and gave the Department still more diverse responsibilities.

The outstanding need then was to pull all these activities together, get some unity into them—hook research up closely with planning, planning with administration; link the various agencies; coordinate national with State and community efforts. First step was to unify
farm programs in the southern and then in the northern Great Plains, where drought and depression made conditions especially difficult. Then all land use activities were coordinated through a special Office of Land Use Coordination. This was a long step, since land use is directly or indirectly involved in many agricultural problems. The new office not only tied together various activities within the Department; it also coordinated Department efforts with those of other Government agencies concerned with land use.

A difficult problem still remained unsettled. These widespread national programs inevitably raised the old question of State versus Federal authority and produced some friction and misunderstanding. To iron out these difficulties, a Department committee and a Land Grant College committee finally got together and worked out what has been called the Mount Weather agreement. This agreement was aimed primarily at decentralizing action programs, particularly land use programs. Planning was to begin in local communities, with farmer committees. Next step was at the county level, with county committees; then at the State level, with State committees. All programs requiring national action or participation were finally to be cleared and coordinated through the Federal Department. This was a momentous step in the direction of democratic procedure, local responsibility, and closer cooperation of farmers, technical specialists, and administrators.

It necessitated some reorganization of the Department of Agriculture—"streamlining," some people called it—which was carried out in 1938. A major change was to turn the old Bureau of Agricultural Economics, originally a market research agency, into the central planning agency through which plans and programs could be cleared and dovetailed. The revised Bureau deals with agricultural economics in a truly broad sense. It is engaged in research and advisory work covering practically every economic problem of importance to agriculture, but it is not itself concerned in administering programs.

This, then, is the arrangement that has grown out of the critical experiences and the pressing needs of the past few years. Yet much remains to be done, the authors frankly conclude, if agriculture in our democracy is to meet the challenge presented by the current trend of world affairs.

Cooperative Land Use Planning—A New Development in Democracy

The agricultural programs that have developed since 1930 were at first adapted to local conditions by administrative officials. Very soon, however, farmer committees began to cooperate with some governmental agencies. This worked pretty well, but the cooperation was scattered and uncoordinated. How it was extended on a national basis through the Mount Weather agreement is told in the article by Eisenhower and Kimmel. Foster and Vogel give the details of the methods worked out as a result of this agreement. As they present it, the plan is a gigantic new undertaking aimed at accomplishing in a democratic way whatever over-all planning may be needed by farmers.

In each State there is a State committee headed by the director of agricultural extension, with farm members as well as members repre-
senting State and Federal agencies. At the heart of the plan are the county and community committees. The latter are composed almost entirely of farm men and women, often elected to the job at community mass meetings. These public meetings take place at various stages in the planning process and form the democratic base of the procedure.

First step is to hold local public meetings, discuss the whole idea, elect or appoint a community committee with representatives from each neighborhood. Much depends on the caliber of these representatives. The community committee then makes a preliminary study of local problems, draws up a map of land use areas showing the main characteristics of each, especially in relation to their suitability for farming, and makes recommendations. The county committee gets preliminary maps and reports from all the communities, makes necessary adjustments, consults with technical experts, drafts recommendations in a report for the State committee. Further adjustments may then be made after consultation with the county and community committees.

Next stage is to get action on the recommendations, which may involve new programs or modification and coordination of existing programs. Local farmers and every kind of public agency, county, State, or national, concerned with rural problems may be drawn into the unified action program finally decided upon for a county.

The authors illustrate the procedure by giving details of what occurred in Culpeper County, Va., and Ward County, N. Dak., where unified programs have been developed. For example:

Ward County, N. Dak. (hard hit by drought), was divided by the county committee into 23 areas, mostly grouped in two major classes—those suitable for general farming and those suitable for livestock. Greatest problems were in the second group; they included absentee ownership, too-small farms, shortage of capital, overemphasis on cash crops, needed improvements in range management and conservation. County-wide problems in both types of areas included poor tillage methods, feed shortages, short-term leases, overcapitalization, inadequate farm buildings, unequal taxes, heavy tax delinquency, difficulty in financing local government. Broad recommendations were made for a long-range program covering most of these problems, and action has begun in cooperation with local taxing authorities, the State experiment station, the Bureau of Agricultural Economics, school authorities, the county commissioners, the county treasurer, the County Welfare Board, the Farmers' Union, the State Governor, the Farm Security Administration, the Extension Service, and the Biological Survey.

Practical action is not the only worth-while result of this procedure. It has had a very great educational effect. Nor are action programs by any means confined to public agencies. Local people are getting together in many ways to do things themselves. Cooperative purchase or use of purebred sires, power equipment, sawmills, farm supplies, cold-storage locker plants are among the examples of this kind of action.

Looking ahead, the authors see agricultural planning of this type as above all a means to develop competent leadership and skill in democratic processes.
The authors express the belief that more and more will be done by cooperative private action in dealing with farm problems and that this should reduce the need to resort to Government aid. Much attention should be paid to "the possibilities of private action, by farmers among themselves and in cooperation with other private groups, to deal even with such difficult problems as agricultural surpluses, production control, submarginal croplands, reemployment of farmers displaced by technology, and the creation of opportunities for farm youth."

**Part 7. Essentials of Agricultural Policy**

_Some Essentials of a Good Agricultural Policy_

Tolley sums up much of the preceding material in the Yearbook from the standpoint of its bearing on agricultural policy.

Agricultural policy, he says, must rest firmly on the desires of the people. Now, what farm people have demanded in every farm revolt since the Civil War is equality for agriculture. But what does this phrase mean? Essentially it means that farm people want as good a chance as any other group to achieve a good life. Going a step further, what does a "good life" mean? It means such things as these: Enough food to be healthy; a decent house to live in; decent clothes to wear; reasonably adequate medical care; means of getting around, because this is an age of movement; means of keeping in touch with the world, because this is an age of highly developed communication; security, in the sense of a chance to get along by one's own efforts; a decent education; personal dignity—a sense of being of some value in the world; opportunities to join with others in social activity and to share the privileges and duties of citizenship in a democracy.

Farm people want a good life in this sense. It is to the Nation's interest that they should have it. But they are still relatively at a disadvantage compared with other groups. Farmers make up a fourth of the population and rear a third of the Nation's children, yet they have only a tenth of the national money income; half of them are inadequately housed and a third poorly clothed; an immense number of them are definitely below the poverty line; few have access to so simple a thing as a library for reading material; schools in the country are relatively inferior.

The farm movement is essentially a struggle to overcome such handicaps. In the struggle, group action is now being used as never before to develop "new devices of consultation, cooperation, and administration looking toward the satisfaction of these demands." The struggle will go on. But Government cannot give people "a good life" by decree; it can only help to equalize opportunities. Local and individual responsibility are vital. Policies expressed in legislation must not only come from the desires of the people in the first place; they must also be constantly judged by the people in the process of administration.

"In the policies of today," says Tolley, "formed as they have been in response to emphatic though generalized instructions of the people as a whole, it is possible to see, at least partly, the shape of some of the things to come."
Two conditions have been especially important in shaping agricultural policy during the past decade: (1) Lack of industrial opportunities has backed people up on the farms; (2) the demand for farm products has not increased as fast as the ability of farmers to produce them. Greater efforts than ever have been made to improve the income of commercial farmers, but these conditions have also forced two other kinds of effort—to do something for those who must stay on the land whether or not they have a commercial function; to develop the great, untapped possibilities of the domestic market as a means of making up for the loss of foreign markets. A third major line of effort forced by current conditions has been concerned with achieving better land use and conservation. Along with these greater issues are many others centering around such things as credit, taxes, land values.

Tolley discusses these various aspects of agricultural policy under five headings.

(1) Efforts to increase buying power include the highly significant food-stamp plan. In effect, this is dumping the surplus on the domestic instead of the foreign market. Our own consumers, instead of consumers abroad, get the benefit in the form of better diets and improved living standards. The plan has met with such popular approval that it seems more likely to be expanded than curtailed.

Efforts to improve the foreign market will depend largely on two things—the achievement of an enduring peace, and the degree of our willingness to import as well as to export.

(2) Control of production and marketing have come in response to the imperative demand of farm groups. There is little chance that it will be discontinued as long as production outruns demand. Acreage control, marketing quotas, commodity loans, marketing agreements all have certain inherent difficulties. These devices are essentially designed to give farmers some of the advantages that labor gets through organization and business through concentration of financial control. With continued experience they are capable of refinement and improvement to overcome weaknesses. They need to be put on a stable financial base.

On another aspect of marketing, economic studies indicate that substantial cuts in distribution costs could be made by changes in the marketing system, but this is largely a question of public demand.

(3) Financial adjustments to improve the condition of farmers have taken many forms. Crop insurance, now being tried with wheat, is a significant new departure. Credit policies, of course, are of major importance. The farm credit system is now reasonably adequate, but there are still problems to be solved—notably in relating credit to land use practices and to security of tenure. There is also need for further development of credit in relation to rural rehabilitation.

(4) It is now generally recognized that conservation problems are closely tied up with economic and social conditions in agriculture. Educational campaigns are not enough to solve them. But progress toward better patterns of land use will probably be slow. It is likely that conservation will be even more intimately connected with other agricultural adjustments than it is now. In the case of certain submarginal lands, Federal acquisition is difficult; there is a chance for States and counties to step in and do a constructive job. What to
do with the people living on land too poor to furnish a livelihood remains a knotty problem. The older generation in many cases will have to remain while effort is concentrated on opening up opportunities for the younger generation.

(5) The great problems of social adjustment within agriculture cannot be ignored, and it is here that new ground is most likely to be broken in the next decade. A third to a half of the farmers in the United States are poverty-stricken. Many more people are now on farms than are needed for commercial production, and the number is increasing steadily. It is not the American way to hand out doles to these people, but there are several lines of effort that fit our traditions. The most likely include (a) more attention to the needs of the small-scale producer in acreage allotments, benefit payments, soil-conservation practices; (b) help in moving from tenancy to ownership of family-size farms, and also improvements in tenancy itself; (c) employment on worth-while public works projects especially adapted to rural needs; (d) vocational guidance, and assistance in the form of credit based on character, for those capable of getting a toehold in the commercial system, either as individuals or as cooperative groups; (e) further development of part-time and more or less self-sufficient farming on a modernized basis for those who must remain outside the commercial system. One rather special and urgent problem concerns farm labor— at least the migratory labor used in specialized farming. As the very least that can be done here, public opinion seems to favor decent camps and educational opportunities for the children of workers.

Tolley quotes M. L. Wilson to the effect that our need today is to avoid equally a pigheaded adherence to old ways just because we are used to them, and a violent resort to new ways just because they look like cure-alls.

A policy can be truly called "good" if it deals with the needs of every group in the agricultural population and, by giving the farmers of this generation a chance at the good life, conserves the human and natural resources from which will spring the life of the future.