CHAPTER VII

THE SOCIOLOGY OF NUTRITION (Continued)

MEAT

The amount of meat and meat products required in a normal mixed diet is much lower than the amount consumed in the United States. If the normal consumption of milk be maintained, the necessity for meat from the standpoint of intake of balanced proteins is much reduced. If each individual in the United States consumes a half pint of milk per day, the amount of meat that may be regarded as necessary does not exceed two ounces per capita per day. If milk and dairy products are absent from the diet, meat ought to be increased to a minimum of four ounces per day. The per capita meat consumption in this country is somewhere in the neighbourhood of 160 pounds per annum. Contrasted with this figure, the amount denominated as advisable from the nutritional point of view, is only about nine-sixteenths of the present consumption. From the standpoint of their content in fat-soluble vitamin beef and mutton
are superior to pork. Lard and bacon are indeed almost devoid of the substance. A diet of white bread and butter is a competent diet from the standpoint of the fat-soluble vitamine, but a diet of white bread and lard is not a competent diet. This argument holds only for the small fraction of meat denominated as essential from the standpoint of vitamine. Mutton represents the first choice, pork the second, and beef the third, from the standpoint of economy in flesh production. By this is meant that a unit of mutton is produced at the least cost of cereals, a unit of pork second, and a unit of beef third. This brings to the fore another feature of milk that is invaluable, considered from a national standpoint. Using protein as a criterion, in the production of milk, beef, and pork under what may be regarded as standard conditions in this country, one-third of the protein of the feed of milch cows is recovered in the milk; from 15 to 20 per cent of the protein of the swine feed is recovered in the pork products; and only 10 to 15 per cent of the protein of the cattle feed is recovered in the beef products. In other words, feed given to a milch cow returns during the course of a year three times as much protein as when fed to beef cattle. A good cow will produce in the course of a year’s milk supply two or three times as much protein as will be contained in her flesh. As a par-
tial offset to this from the economic point of view is the labour involved in the dairy as against that involved in the feeding of beef and swine; but even with this included, there is no question of the fact that the production of milk represents the highest recovery of feed units in terms of human food.

A reduction in the per capita consumption of meat is to be recommended entirely apart from any consideration of the total protein of our diet. Nutritionally we need only two ounces of meat per person per day. Meat represents under ordinary conditions an expensive form of protein as compared to that of cereals, though always a cheap source of protein compared to that of most vegetables, including for the most part in this country even the potato. As a source of protein the potato was last spring practically ten times as expensive as meat. Our protein intake is so far above the needs of our body that we may without any question whatsoever reduce the per capita consumption of meat to three or four ounces per day without the slightest hesitation. This does not mean vegetarianism, but it does mean eating meat once or at most only twice a day. To see an American woman serving meat at her table three times a day would impress the French housewife as nothing less than scandalous; and this is as true
from the nutritional as from the economic point of view.

On the other hand increase in the use of fish is to be recommended. From the standpoint of vitamine fish flesh is poor; but considered in the diet in excess of the minimal amount of meat required, fish is in every way equal to animal flesh, unit for unit of protein and fat. The use of salt water fish and other sea food is therefore to be recommended under all circumstances. Meat drawn from the sea is, from the standpoint of nutrition, a clear gain, involving no nutritional losses in its production. In particular, the use of sea food is to be encouraged by the well-to-do. For large classes of our population sea food is out of the question on account of high price. Every pound of sea food consumed by the classes of means saves a pound of beef, mutton or pork for the consumption of the poorer classes or sets free a pound for exportation to our Allies. It is a mistake to urge simplification of the diet upon all classes. The classes who possess means should as far as possible subsist upon the rare, expensive foods, delicacies if you please, like oysters, lobsters, artichokes, in order that a saving may be accomplished in staple meats, resulting in a larger supply and a lower price for the poorer classes and for export. This does not represent favouring the wealthy. It
is a mere economic situation to be utilized for the purpose of a saving in foodstuffs. A comparison of the consumption of meat with that of dairy products indicates that of approximately 33 per cent of the calories of our diet thus ingested about 19 per cent falls to meats and only 14 per cent to dairy products. When these figures are contrasted with the figures for efficiency in the recovery of feeding units, the extent of the inversion becomes apparent. This ought to be just the other way around. From every point of view, it would be preferable to have the meat consumption reduced to 14 per cent and the dairy consumption increased to 19 per cent. There is much truth in the dictum of Lusk addressed to the housewives of New York City: “Do not buy a pound of meat until you have purchased three quarts of milk.”

SUGAR

The pre-war consumption of sugar in this country was the highest in the world, very close to four ounces per day. There are four uses of sugar in the diet sense: (1) in the conservation of fruits; (2) in the cooking of food; (3) upon the table; and (4) in the form of sweets, using this term in the broadest sense to include candies, soft drinks, etc. In peace time sugar was a cheap article of food. Sugar presents no advantages over starch
in the diet except in rapidity of absorption. Sugar is available in the muscles of a working man 15 minutes after it is eaten while starch will not be available for hours. There is a craving for sugar that is natural in children. Sugar contributes enormously to the psychology of the diet and a reduction in sugar, like a reduction in milk, is apt to so upset the cuisine as to make the diet unsatisfactory. With the fullest appreciation of the value of sugar in the preparation of the diet, the fact remains that the American consumption of sugar is nothing less than a luxurious excess and one that ought not to be maintained in war time.

The necessity for a reduction in the consumption of sugar is based upon a sharp reduction in the supply available to the Allied nations. The sugar ration in France and England has had to be reduced to about two ounces. It is imperative therefore that the sugar ration in this country should be arbitrarily reduced or it will be difficult to supply the Allies with even the reduced amounts. It is not advisable to attempt a reduction in the use of sugar in the conservation of fruits, upon the table or in the kitchen, unless the desired result can be obtained in no other manner. The first point of reduction should be in the use of candies, soft drinks, and such articles; the second point of reduction in the cutting down in table use of sugar, using less
sugar in coffee, upon desserts, fruits, and cereals. If Americans will reduce their consumption of candies and soft drinks and the table use of sugar to the plane of peace-time consumption of sugar in continental Europe, we should at once reduce our total sugar consumption by not less than 40 per cent.

Under these circumstances, appeal to the people of this country to reduce the per capita consumption of sugar one ounce per day cannot be regarded as anything less than a most reasonable injunction. A reduction of one ounce per capita per day will set free for export over 1,000,000 tons of sugar per annum. One of the developments of recent years is the multiplicity of shops devoted almost exclusively to the sale of sweets and soft drinks. These cater to the spoiled tastes of juveniles and adolescents and represent an undesirable excrescence in our social development. A distinguished Senator of the United States once remarked that an army of 2,000,000 men could be conscripted between the ages of 18 and 25 if throughout the United States the men who spend their time loafing in candy and soft drink shops and pool rooms could be drafted. The Germans were famous for their conditorei prior to the war; but the exigencies of war have practically compelled the elimination of candies, cakes, and soft drinks from the German
dietary. This is one of the most direct measures of conservation available to us.

FRUITS AND VEGETABLES

A traveler observing upon our streets the profusion of shops in which fruits and vegetables are displayed in the most attractive manner might infer that our total consumption of fruits and vegetables is high. Our consumption of fresh fruit is high and our consumption of the exotic fruits and vegetables in general is relatively large; but our total consumption of fruits and vegetables, measured by their rôle in the diet, is low. Not over 15 per cent of the total calories of our diet are contributed by fruits and vegetables. This is due to the fact that we are low consumers of the staple fruits and vegetables. Our consumption of potato, cabbage, beets, and turnips is low. We consume relatively large amounts of string beans and green peas, but small amounts of mature beans and peas. The potato consumption in this country is probably year in and year out not 200 grams per capita per day.

One of the most striking differences in the productivity of Germany and the United States is to be seen in the yield in potato. Within the small available domain of the German empire the annual yield of potato is 45,000,000 tons; in this whole country the average mean yield is 9,000,000 tons,
the difference in favour of Germany being due partly to large acreage in the relative sense and partly to extremely heavy yields through intensive cultivation. Potatoes in Germany have three uses — as foodstuff, as stock feed, and in industry, particularly in the manufacture of alcohol and starch. We do not raise potatoes for stock feed in this country. We feed the culls to live stock only when it is quite as convenient to do so as to throw them away. The fabrication of alcohol from potatoes in this country has never been successfully accomplished and potato starch is a curiosity in our trade. In the south the white potato is rarely consumed; in the north, while the potato appears regularly on the table of most classes once a day, and of some of the labouring classes three times per day, the amounts consumed are small. It is regarded not as a staple, but as an addendum in the same sense that a green vegetable is esteemed. The potato contains only 20 per cent of starch and if it is to form a staple in the diet it must be consumed in relatively large amounts.

In war time the world over the potato has been surrogate for grain. Practically speaking, in a mixed diet five parts of potato equal one part of grain. Agriculturally, in terms of nutritional units, it is easily possible to produce five nutritional units in the form of potato to one in the form
of grain from a unit piece of land. There are of course difficulties in the sudden expansion of the growing of potatoes, as the selection of seed, preparation of the soil, proper fertilization, adequate spraying against parasites. Nevertheless, what can be accomplished is already shown in the potato yield of this year, which is practically one-third more than the mean of pre-war years. The potato yield of this year, sweet and white combined, will be over 500,000,000 bushels, the equivalent of 100,000,000 bushels of wheat, and therefore equal to a sixth of our wheat crop, whereas under average conditions the food value of our potato crop does not exceed a twelfth of the wheat crop.

Now, these potatoes must be eaten in substitution of grain, otherwise, the labour that was expended as a result of an appeal to the patriotism of the country to produce increased foodstuffs is lost. The utilization of such a crop of potatoes brings with it problems of harvesting, storage and distribution, the question of tonnage being one of especial difficulty. Potatoes are raised intensively in certain sections of the country, as Maine, Michigan and eastern Colorado. Many other sections of the country do not raise enough for local consumption. A survey of the marketing of potatoes over a period of five years indicates to what a surprising extent potatoes are shipped from one farming
community to other farming communities. Potatoes are available to enable each individual in the United States to consume four ounces per day in excess of the average consumption of our people, and this is urged upon all classes in all sections; but it is necessary for the authorities so to organize the marketing, transportation and distribution of potatoes as to bring the price down at least to that of grain when viewed from the standpoint of food values.

The potato has certain particular properties in the diet. It is very rich in mineral matter. The potato contains both of the vitamines, and the proteins are more balanced than is usually the case in vegetable proteins. Potato starch is as digestible as cereal starch and the reputation possessed by the potato as a food tending particularly to create obesity is entirely unfounded. There is a very large wastage in the use of potato in the kitchen. In ordinary use this is frequently as high as 25 or 30 per cent, and a careful supervision of the preparation of potatoes in the kitchen represents one of the best opportunities for elimination of waste.

The mean consumption of leaf vegetables in America is low. Of cabbage, spinach, Brussels sprouts and the like, which are especially rich in the growth-stimulating substances, the American
consumption is much too low. There are whole sections of our population to which these vegetables are unknown. Consumption of root vegetables, beets, turnips, carrots, is also low, except among the foreign born population. The Allied armies on the western front have had worked out for them what is believed to be an apparently ideal vegetable ration. The mixture is as follows: Potato, 40 parts; carrots, 20 parts; turnips, 20 parts; cabbage, 10 parts; and onions, 10 parts. These are dried and the total weight reduced to about 17 parts. The difference in the use of vegetables is clearly shown in the employment of such a dried vegetable mixture on the two sides of the northern fighting lines on the west front. On the British side a day's ration of this means a soup prepared through the allowance of 100 pounds of the dried mixture to 6000 men. When the writer calculated the food value of this vegetable ration he remarked that here was at least one good reason why the British "Tommies" were fighting so hard; they were trying to get across the line into Belgium in order to obtain food supplies from the Commission for Relief in Belgium,—since the Tommy's individual portion of this vegetable ration has a food value of not over 20 calories. On the other side of the line, the German portion for a day of such a vegetable mixture represents not less than 200 calories.
Now, that is the whole situation in a nutshell. We use vegetables as flavouring substances. Our French and Italian Allies use them as sources of energy and food values.

When, however, one attempts to urge upon the American people the consumption of more vegetables, exclusive of potatoes, as sources of food-values, one realizes our limitations when the price of the unit values are calculated. Vegetables, estimated as a unit, are today in America from the standpoint of food values, almost the most expensive of foods; in unit cost, tomatoes almost rank with champagne! In order to secure material amounts of protein and carbohydrate from common leaves and tubers, exclusive of the potato, it is necessary to consume relatively large amounts, and at the current American prices this becomes impossible to the poorest classes of our population. The marketing and distribution of vegetables must be so organized as to bring the prices within the range of substitution, so that when a family reduces the use of staples and increases the use of vegetables it can do so at no financial loss.

It will not be possible in all cities to effect such organization on account of extreme congestion of population. It will, for example, never be possible for the East Side of New York to double the consumption of vegetables and reduce the consump-
tion of staples for the same outlay in money; but apart from the congested areas of a few of our largest cities it ought to be possible to accomplish here what has been accomplished in Europe, namely a reduction in the retail price of staple vegetables — including under this term the vegetables that can be kept throughout the winter under ordinary conditions of careful storage — to such a point as to make it possible to substitute them in the diet, without financial loss, for grains or animal products. Nothing indicates more clearly the inter-relation between the purely physiological contemplation of the diet and the economic factors. It is from every point of view desirable to increase the consumption of vegetables. The production of vegetables has already been increased to meet the expected demand; but all of this will go for naught unless the crop is so handled, distributed and marketed as to make the substitution one that does not involve a financial sacrifice. Some vegetables can be stored; others must be canned; others must be dried. There must be correlation over the entire field. From the agricultural point of view, the question is important because a great deal of vegetables can be raised outside of what might be termed formal agriculture, without imposing any additional hardship to a material extent upon labour and fertilizer required in formal farming.
FATS

Fats are contained in dairy products, meats, cereals and vegetables; but the subject of fat in the ration is so important in war time that it is necessary to give the subject a special consideration. The fat of milk contains, as previously stated, the indispensable growth vitamine and is therefore of fundamental importance in the nation's ration. The fat of beef and mutton contains a moderate amount of this substance; that of pork a much smaller amount, reflecting the difference in the diet of these animals. The vegetable oils contain little or none and the fat of cereals also but a small amount.

But fat has other objects in a diet. Fat is indispensable in the preparation of food and, according to Anglo-Saxon custom, almost indispensable in the consumption of cereals. The amount of fat that we have named as a reasonable minimum in the ration of our people is greatly exceeded in fact. The per capita consumption of fat in this country is in the neighbourhood of $3\frac{1}{2}$ ounces. There is a tremendous disparity between the fat contained in food production and fat consumed. A great deal of the fat contained in the extra-edible parts of slaughtered animals is lost, not in the great packing-houses but in the small rural slaughtering-houses
from which proceeds about 40 per cent of the meat
of our people. The recovery of vegetable oils is
very faulty; we do not begin to recover for human
food the oil contained in the various oleaginous
seeds that grow within our borders. It is per-
haps a fair statement to say that the fat consump-
tion of our people is not over 50 per cent of the fat
offered in the produce, disregarding in this calcu-
lation the fat contained in cereals that go directly
to the feeding of animals. Part of this fat goes
into the manufacture of soap and into other in-
dustrial uses; part is used in the feeding of ani-
mals; part is lost as waste. In the domain of re-
covery and utilization of fat lies one of the largest
opportunities for conservation, and the present
campaign of conservation is rightly directing most
energetic efforts in this direction.

Fats have become very scarce. We used to im-
port large amounts of the oils of palm, cocoanut,
soya, and other seeds from Africa, South America,
and Asia. These imports have almost ceased, due
to scarcity of tonnage. These fats were employed
in part for the manufacture of soap, in part for the
manufacture of cooking fats after hydrogenation
either alone or mixed with animal fats. They were
also employed in the manufacture of margarin.
Now with the shutting down of importations of
fat, it is incumbent upon us first to recover a larger
amount of vegetable fats grown within our own borders, then to prevent excessive use of fat in industry, to eliminate wasteful use of soap, and finally to reduce fat in the ration. The injunction to reduce the fat in the ration, let us say by one-half ounce per day, will yield a very large amount of fat for shipment to our Allies, to whom fat is more important at present than to us, since their fat ration, viewed as a unit, is not in excess of two ounces per day. The actual working out of such a repression in consumption will, however, in all probability, have a different outcome than the one directly expected. When the attention of our people is strongly extended to the subject of waste in fats and they are advised to reduce the consumption of animal fat one-half ounce per day, in all probability the result will be that the ingestion of fat will remain the same but one-half ounce per capita per day less will be wasted. This is already indicated in the figures for recovery of fat from garbage in cities that possess reduction plants. What one saves for the diet one loses for industry, so far as these cities are concerned.

It is also necessary to effect a re-distribution of the several fats among the different classes of our people. Too much butter is consumed in one class; too little in another. There is too great neglect of dripping fats and also an avoidance of vegetable
oils. What is needed is more equitable distribution of all the fats throughout the strata of society. Our people must be taught to limit the use of butter in time of war to table use. Butter ought not to be employed in cooking, but ought to be reserved for table use and, in particular, for children and adolescents. Dripping fats when properly employed are quite as successful for most purposes in the kitchen. The use of lard ought to be restricted; replaced, in other words, by other fats, because, together with other pork products, it represents the most staple exportable form of fat.

We must furnish our Allies with meat and fat. Their herds are depleted, their feeds are reduced, their entire agricultural productivity is greatly restricted and the result is a marked lessening in the products of animal husbandry. Importations from Australia have become practically impossible; those from the Argentine difficult; and in any event Argentine and South America supplied very little of pork products. Our Allies, of course, will use beef drippings and mutton tallow; but the transportability and keeping qualities of lard exceed those of the other products and in any event it is more comformable to the diets of the people to whom fats are to be exported. The rules, therefore, to be applied over the entire country run to the following effect: Elimination of butter from
the kitchen; restriction of butter to table use, especially for children and adolescents; limitation in the use of lard, bacon and fats; increase in the use of beef drippings and increase in the use of vegetable oils in the preparation of food. Estimated by their food value in the ordinary sense of the term, all these fats are equivalent as food. Variation in use represents mere difference in taste, and it is necessary during the war to curb the taste for butter, lard and bacon and to cultivate the taste for vegetable oils.

One of the particular values of fat in the diet is prolongation of the act of digestion; this has a sociological value because it is of direct influence on the consciousness of alimentation. Cereals consumed without fat are much more rapidly digested than when eaten with fat. A breakfast of 600 calories of bread and jam will be more rapidly digested than a breakfast of 600 calories of bread and butter. Since the sensation of hunger is connected with the termination of the digestion of the previous meal, the individual whose diet is low in fat, even though it is high in calories and protein, will feel under-fed. Now the sensation of underfeeding, the lack of satisfaction, the early return of the appetite after a meal, when it occurs in a population, inevitably leads to unrest. The lack of fats in the German diet is the principal cause for
complaint against the diet. Even when, as in some sections of Germany, the diet was adequate in calories and protein derived from bread, potatoes and other vegetables, but almost devoid of fat, it did not give satisfaction. This lesson must not be overlooked in our cities. It is imperatively necessary that the fat supply of the working classes in the large American cities be maintained. Otherwise, conditions of unrest will inevitably arise, reflecting the physiological fact of the too rapid accomplishment of the act of digestion as a result of deficiency of fat in the diet.

**TABLE BEVERAGES**

We are entirely dependent upon importation for tea, coffee, cocoa and chocolate. The importance of these table beverages is very slight in the individual sense but it is large in the population viewed as a whole. They contain no nutrients. They do, however, contain substances, like caffeine, that are apparently real stimulants. It is not probable that the majority of people are dependent upon the stimulating action of these alkaloids and that this dependence represents the basis of our desire for such beverages. It is more probable that the beverages owe their place in public esteem to psychological qualities. A beverage at a meal is a practical necessity, all proponents of long mastication
without fluids to the contrary. A warm drink at meals is in particular grateful to the majority of people. These substances have pleasant tastes and aromas. They serve also as a vehicle for the taking of sugar. To a very large number of people a meal will appear incomplete in the absence of one of these beverages. This is particularly true in the working classes. Under these circumstances, deprivation leads to dissatisfaction and unrest. When these articles disappear, the people at once seek substitutes and all manner of leaves, herbs, plants, grains, roots and other substances are brought out to supply a beverage that can be taken warm with the meals, that possesses taste and aroma, and fulfils in a partial sense the psychological contribution of the normal table beverage. Now the persistence with which a people deprived of tea, coffee, cocoa and chocolate seek substitutes indicates the importance of these beverages in the diet and the necessity for maintaining them, certainly with the uneducated classes, if unrest and dissatisfaction are to be avoided.

GARBAGE

Directly connected with the problem of the utilization of food is the question of garbage. In the past the public point of view towards garbage was summed up in the words: “Get it out of the way.”
A few years ago cities began to install reduction plants for the recovery of the products of garbage that had an industrial value. A survey of the situation indicates the following recommendations:

(1) In the collection of garbage, inorganic garbage should be separated from organic garbage. In other words, ashes, glass, and street refuse should be separated from garbage of the kitchen and table, and from the very considerable garbage collected from wholesale and retail shops that deal in perishable foodstuffs.

(2) Organic garbage should not be subjected to incineration. It contains two elements of importance that under practically all circumstances can be advantageously used, fat and protein. In large cities regular reduction plants are employed that produce three end-products: fat, a protein-containing fraction that is comparable to tankage, and a residue that is of lesser value. In smaller cities it is often of advantage to extract the fat only, disregarding the other contents. In still smaller cities it does not pay to extract the fat, but it does pay to collect the organic garbage, dry it, sterilize it, pack it into briquettes or powder it. If the collections are made in a proper and cleanly manner and decomposition is not later permitted, the feed value of city garbage is high. The powder containing the dried residue of mixed city garbage,
from which inorganic collections have been excluded, will run high in protein and fat. Such a powder makes an excellent feed for poultry, swine or dairy cattle, depending in part upon the composition.

In cities where regular reduction plants are in operation the fats recovered are used primarily for the manufacture of soap, though it is possible also to use these fats in the feeding of domesticated animals.

The whole subject of the utilization of garbage in the United States is a problem in chemical engineering, and is to be approached and solved only in this way. A campaign of education directed against waste in foodstuffs produces very remarkable reduction in the garbage. During the past four months the garbage of certain cities where an intensive campaign against waste has been conducted has been reduced about 12 per cent, so far as components derived from the kitchen and the table are concerned. The reduction in waste grease has amounted to 29 per cent. Reduction and incineration plants that previously operated day and night, now operate only through a portion of the day. There will always be a certain garbage that cannot be avoided; and for this inevitable garbage, the problem of recovery as an engineering feat remains always and must be solved here, as it has been largely
solved in Germany during the war, if we are to succeed in the conservation of our resources. People must be brought to see that they have the choice to a certain extent between repression in waste and repression in eating; and with this fully understood, repression will be transferred to waste and will show at once in the collection of garbage.

The common American attitude towards garbage as a source of disease is erroneous. Naturally when a community is so slovenly as to dump its ashes, tin cans, broken glass, refuse vegetables, meats, and everything else, including sometimes even its sewage, on the lowlands, to undergo decomposition and drying, to be blown about by the winds, an eye-sore to every one and an offence to the nostrils, people regard the word "garbage" as almost synonymous with "disease." Under these circumstances it is not to be wondered at that the public believes incineration is the correct solution of the problem. Now this is of course entirely unscientific and represents the verdict of prejudice over efficiency. At the time that excess vegetables in retail shops, kitchen waste and table scraps leave the places where they originate, they are hygienically clean. Undergoing simple decomposition does not render them hygienically unclean, except for human consumption. Even considerable degrees of decomposition do not render the material
unfit for animal food if it is later dried and sterilized; but decomposition does represent economic loss always and is therefore to be avoided.

If every community of any appreciable size in the United States installs an equipment for the disposition of its garbage through reduction and utilization, not only would there be enormous savings accomplished in food and feed units but there would be marked improvement in the aesthetic appearances of unoccupied land surrounding American communities. For the smaller cities the problem of profitable recovery is difficult of solution. Up to the present there is no profit in garbage recovery in cities of under 50,000 inhabitants, but this in itself does not justify complete neglect of garbage. It is worth while to dispose of garbage properly even at a loss. We spend a great deal of money for public parks, for the recreation of the people and in a hundred other ways that do not bring a return in money but do bring a return in elevation of the surroundings of life. Certainly the handling of garbage belongs with these other public functions. We do not attempt to make money out of sewage in the American city. The disposition of garbage, where it can not be accomplished with commercial profit, ought to be ranked with the disposition of sewage; and until this point of view is obtained we shall find not only
that garbage represents a large loss in food and feed units but represents also a reflection upon our civic efficiency.

REGIONAL RATIONS

One of the fundamental principles in the food control of a people at war is the avoidance of the use of powers conferred in the exigency to accomplish anything else than the alleviation of nutritional problems arising as a result of the war. A food administration in a country at war must necessarily be endowed with extremely wide powers, powers even including those of repression of consumption of particular articles. The wide powers granted to the food administration in time of war are granted solely for the protection of society against the results of war; they are not intended to be used for the advancement of ideas, no matter how meritorious, whose application in no wise relates to the war-time exigency. In other words, national problems in diet of peace time must not be solved through coercion in war. This is a field for education and not for legislation.

In a small country like Germany or France it is possible to place the entire population upon a fixed ration to be applied to all classes. This is not possible in the United States, nor is it desirable, and for two reasons. In the first place the natural diet
of different sections is widely variant. A traveller transported from the plains of Texas to the hills of New England would regard himself dietetically in a foreign country. The diet and preparation of food in the German and Swedish agricultural classes of the Middle West are entirely different from those of the Mediterranean immigrants in California. While the facilities of modern transportation have made it possible for people of means to select a diet that practically represents the production of the world, nevertheless, the regional influences of production upon the diet of a people is still heavy. Viewed physiologically this state of affairs is both desirable and undesirable; but there can be no question that in the exigency of war time the independence of the population of a certain region represents a factor of importance.

In the present condition of transportation in the United States it would be impossible to ship food about in such a fashion as to give the same diet to people of each of our states. Transportation being such an important factor, it becomes imperative for each State to subsist to as large an extent as possible upon the produce of that State. Certain States, for example, Georgia, had until within a few years pursued so one-sided an agriculture in the production of cotton as to have been a food-importing State in the same sense almost that New
York City was a food-importing city. This may have been efficiency in peace time, since each area produced the crops to which it was most fitted,—although there is a wide difference of opinion upon this point. It is certainly not at all a system of efficiency in war time. This was the basis for the appeal sent out by the President early this year, calling upon the people to produce more largely in foodstuffs in order to render themselves less dependent upon other states.

The tremendous element of trade in connection with the nutrition of a complex people cannot be disregarded in time of war. For example, the flour mills of Kansas City have a regular trade in the country around Buffalo and the Buffalo mills have a regular trade in the country around Kansas City. Now in war time such a state of affairs is absurd. The centralization of the slaughter of meat animals in a few large cities may be efficient in time of peace; but decentralization in the slaughter of domesticated animals, if proper inspection can be maintained, would be unquestionably better in time of war. It is not possible in time of war to alter the normal customs to more than a certain extent; but it is imperative under present conditions of transportation that the people of each State realize fully the importance of this problem, restrict themselves in so far as it may be
possible to the produce of their own State, and so long as the war lasts increase the local production of foodstuffs in order to render themselves independent of importations through the channels of trade.

Of course, this is an injury to the trade, but an injury to trade that is unavoidable in war time and one counterbalanced by gain to the people as a whole. Profit in trade is directly proportional to the multiplicity of transactions. Efficiency in war time is directly proportional to simplicity of transactions. A survey of the regulations and experience of the European countries indicates that with each month as the war life becomes more and more direct, the manipulations of trade become reduced in number and the factors of trade, as contrasted with production and consumption, become more and more relegated to the background.

"Business as usual" is an impossible slogan in war time, since "business as usual" means a multiplicity of trade operations that are not designed to secure the nutrition of the people in the simplest and most direct manner and at the least expense—which is the rôle of a food administration in war time. The same statement holds for the relations of trade in articles of agricultural production. In everything that comes to the farm in the form of fertilizer, seed, and agricultural
implements, and goes from the farm in the form of crops and live stock, the application of the rule, "business as usual," leads to an inefficiency, under the exigency of war time, that has its effect not only on the consumer but also on the producer.