Democratic Watchman.

Bellefonte, Pa., August 24, 1917.

THE LAND OF "PRETTY SOON."

I know of a land where the streets are paved
With the things which we meant to achieve.
It is walled with the money we meant to have saved
And the pleasures for which we grieve.
The kind words unspoken the promises broken
And many a coveted boon
Are stowed away there in the land somewhere—
The land of "Pretty Soon."

There are uncut jewels of possible fame
Lying about in the dust,
And many a noble and lofty aim
Covered with mold and rust,
And, oh, this place, while it seems so near,
Is farther away than the moon.
Though our purpose is fair, yet we never get there
The land of "Pretty Soon."

The road that leads to that mystic land
Is strewn with pitiful wrecks,
And the ships that have sailed for its shining strand
Bear skeletons on their decks.
It is farther at noon than it was at dawn,
And farther at night than at noon.
Oh, let us beware of that land down there—
The land of "Pretty Soon."

WHO'S HOOVER?

Strange to say, Herbert Clark Hoover is little known. That is, while the whole world has heard of him, and while a very large part of the world admires, respects, and honors him because of his masterly administration of Belgian relief, comparatively few know anything of the past of the man, or of his struggles and successes in private life.

He is a native of West Branch, Ia., in which place his boyhood was spent. He had none of the advantages which the sons of people in easy circumstances may enjoy. His parents were poor Quakers, and the first great fact to present itself to the consciousness of Herbert Hoover was that he must "get out and make his own way." But he had one possession of which he could not be deprived by poverty or by any other circumstance within the domain of his own effort and control. This was an aspiration to succeed in the world. His bent was toward engineering, an inclination developed by reading of the achievements of John Hays Hammond and others who had won eminence and position in the field of mining engineering. He longed, like these, to do big things in many lands, and he realized that the first thing he must do was to get an education, at any cost of personal exertion and individual sacrifice.

To get an education involved getting money, and the getting of money involved earning it in any honorable way that might present itself. It is related to his credit that, while studying engineering in Leland Stanford Junior University, he worked as a laundry agent and took on other jobs equally menial. All this, however, he had fully discounted. It mattered nothing to him where he worked, or what he had to do, so long as it was toward the attainment of his legitimate principal object. As usual in such cases, he made his way through college creditably, and from this point onward his progress was not only remarkable but exceptional.

The sketch of his career which is oftenest consulted is necessarily so compressed and condensed as to be little more than the recital of a string of bone-dry facts punctuated with dates. He is appointed to geological surveys in Arkansas, and in the Sierra Nevadas; he is made assistant manager of the Carlisle mines of New Mexico; he becomes engineer of the Morning Star mine in California; he goes on, holding higher and higher positions, gaining steadily in reputation until we find him filling the post of engineer of the Imperial Bureau of Mines in China. Then the details merge almost into the romantic, for the little barefoot Iowa boy becomes in succession the trusted consulting engineer of mining corporations in different parts of the world, the authorized representative of a hundred millions of capital, director of properties almost beyond price, and the employer of 50,000 men. He is brought to London for consultation by the heads of international enterprises. He is recognized, in reality, as a second John Hays Hammond. He is looked up to as a potential Cecil Rhodes. He is accorded distinction as one of the big men of the world. He is consulted by cabinets. He is put at the head of the greatest philanthropic undertaking of modern times, if not of all times.

One of the circumstances that have escaped the scrutiny of his biographers, or that have been ignored by them as unessential or uninteresting, is the fact, that while engaged in analyzing, assaying, and estimating mineral deposits of priceless value, while negotiating with world capitalists, while managing huge properties; while submerged, as it were, in the material and the practical, in the technical and the scientific, this big, brawny, bustling business man, closeted with his wife, Lou Henry Hoover, like himself an A. B. of Stanford, is engaged upon a translation, compilation, and elucidation of "Georgius Agricola De Re Metallica," founded upon the first Latin edition of 1536, a monumental technical work published by the Mining Magazine, Salisbury House, London, 1912. This is not a performance to be dealt with in passing, but rather as one to be referred to for the purpose of indicating, in some measure, the real stature of the man.

Herbert Clark Hoover is a silent man. He allows those who interview him to do most of the talking. One of his visitors says: "You won't talk comfortably, either, while he is looking at you with his piercing black eyes. His big, broad shoulders and massive chin impress you with the fact that you are in the presence of a masterful man, a man with whom you can take no liberties and on whom you can practice no deception."—Christian Science Monitor.

France, in Fourth Year of War, Has 3,000,000 Troops in Battle Zone.

Washington.—France, the nation that suffered the brunt of the war at the beginning, as 3,000,000 men in the battle zone today. This is 1,000,000 more than rushed to the colors when the Teuton machine surged on toward Belgium.

She can maintain this number effectively for several years to come.

France, although unprepared and in the midst of war, so co-ordinateed her industries that now her production of munitions is almost inexhaustible even by the present employment of unheard of quantities.

While doing this for herself, the remarkable nation has completely re-equipped and re-armed the Belgian, Serbian and Greek armies.

Complete exposition of this wonderful work of France was given to Secretary of War Baker by M. Andre Tardieu, high commissioner of the French Republic, and made public recently.

M. Tardieu's letter to Secretary Baker reads:

"Dear Mr. Baker: I brought to your knowledge in a recent talk the surprise I felt in reading so often in American newspapers some utterly inaccurate information regarding the military conditions prevailing in Europe, and especially in the French army. In connection with our conversation, I believe it would be of interest to present to you some figures which, better than any comments, will expose to you the reality. These figures will show you France as she really is, vigorous and powerful in spite of three years of suffering without precedent in history.

STRENGTH OF MEN.

"The strength in men, now present in the zone of the armies alone, shows the maximum figure reached during the war. This figure, which amounts to a little less than 3,000,000 men, exceeds by more than 1,000,000 the number of men actually in the zone at the beginning and one must add to that figure the men in the zone of the interior and in the colonies.

"We are certain with the resources of our metropolitan and colonial depots to be able to maintain that number up to its present level for a long time to come. Our strength in men, by reason of a better command, and of better methods of instruction, has shown since the beginning of the war constantly decreasing definitive casualties (killed, missing and those taken prisoners.)

"The following figures substantiate this: Battles of Charleroi and of the Marne, 5.41 per cent. casualties (in proportion to the total mobilized strength.)

"First six months of 1915, 2.39 per cent. casualties.

"Second six months of 1915, 1.68 per cent. casualties.

"First six months of 1916, 1.47 per cent. casualties.

"Second six months of 1916, 1.28 casualties.

FRONT HELD.

"For measuring the offensive and defensive quality of the troops whose numerical strength I have indicated above, I can do nothing better than quote some more figures.

"The western front has an extension of 739 kilometers. Twenty-seven kilometers are held by the Belgians, 138 by the English, 574 by the French. The French army holds accordingly more than two-thirds of the western front—that is to say, of the front where the enemy has always directed its chief exertion. The German divisions in line on the western front were, moreover, in June, 1917, distributed as follows:

"Forty-two opposite the English, 81 opposite the French. A German division holds an average front of four kilometers, 4000 meters; a French division an average front of five kilometers, 5000 meters—that is to say one-sixth more.

ARTILLERY.

"We are amply furnished with '75s' since the beginning of the war. The number of these guns was constantly increased; it is adequate to our needs. As for heavy artillery, we had in August, 1914, 300 guns, grouped in regiments. In June, 1917, we had 6,000 of them, mostly modern. Our output of munitions was arranged in August, 1914, for 13,000 shots of '75s' a day. It is now arranged for 250,000 shots of '75s' and 100,000 shots of heavy guns.

"To be equal to this enormous production, invaded France did not hesitate in the midst of war to create new industries and to bestow on military industries the best of its productive strength."

M. Tardieu says there were fired on German trenches in one of the last offensives for one lineal meter:

"Field artillery, 407 kilogrammes; trench artillery, 203 kilogrammes; heavy artillery, 704 kilogrammes, and high power, 123 kilogrammes.

"Monthly expenditure of ammunition for the '75s' were: July, 1916, 6,400,000; September, 1916, 7,000,000; October, 1916, 5,500,000.

"During the last offensive the expenditure was 12,000,000 shots in all caliber. I might add also that we completely re-equipped and rearmed the Belgian, Serbian and Greek armies. The number of heavy guns given by us to the allies exceeds 800."—By D. M. Edwards.

Just One Fault.

Tim Malloy, a Texas farmer, applied for naturalization papers. The judge asked him: "Are you satisfied with the general conditions of the country?"

"Y-yis," hesitated Tim.

"Doesn't the government suit you?"

"Y-yis; bedad, I'd like to see more rain."

Trench Stuff.

"That 'ere Sammy's an educated toff from 'Arvard," said Tommy Atkins, leaning on his spade.

"I'm jolly well weary of 'is learnin,' too, that I am. We're ordered to throw up trenches along the Marne.

HEALTH AND HAPPINESS

"Mens sana in corpore sano"

Number 21.

WHAT ARE BACTERIA?

An article in last week's "Watchman, "The Bacterial Content of Milks Supplied to Bellefonte," raised the question, "How is the number of bacteria in milk determined?" It is not possible to describe here, in detail, laboratory apparatus and methods and yet without such a foundation it is difficult to answer the question as satisfactorily as could be desired. It is hoped a faint idea at least may be gathered from the following:—

HOW THE NUMBER OF BACTERIA IN MILK IS DETERMINED.

Preparatory to making the bacterial count, glassware and media (food substances) to be used have been prepared and sterilized. After the food material has been prepared and sterilized it is kept in sterilized glass tubes and flasks, and is protected from infection by cotton stoppers. One cubic centimeter (1. c. c., approximately 15 drops,) of the sample of milk to be tested, is taken in a glass pipette and added to 99 c. c. of sterile water, making a dilution of 99 parts water to one part milk. Higher dilutions, if required, are made in a similar manner. One cubic centimeter of the dilution is then mixed with melted agar on a sterile, flat, glass plate, quickly covered, and when the agar is solidified, the test plate is placed in the incubator. Two series of plates are usually made, one series kept at room temperature (70 degrees F., 20 C.) the other at the temperature of the human body (98 degrees F. 37 degrees C.) At the end of twenty-four to forty-eight hours, the individual bacteria have multiplied into colonies which appear as spots on the surface, or in the depth of the agar and may be easily counted. The number of these colonies, multiplied by the degree of dilution used in making the test plate, represents approximately the number of bacteria that were present in one cubic centimeter of the milk. Colonies are composed of an almost infinite number of individual germs, the result of the continued growth of a single germ or bacterium. Agar is a gelatinous product derived from a Japanese sea-weed, has a much higher melting point than gelatin and can be successfully used with those organisms whose optimum growth point is above the melting point of gelatin. It furnishes a solid surface upon which bacteria will develop and the peculiarities of their growth can be studied. As a food or culture medium, it is made up with beef broth, peptone and sometimes a little sugar, preferably lactose; these furnishing suitable food substances for bacterial growth.

WHAT ARE BACTERIA?

Bacteria are plants—the smallest and simplest forms of plant life known; so small that there may be millions in a single drop of milk. An individual bacterium is visible only under the highest powers of the microscope. "Colonies" or masses of bacteria that develop upon certain food-substances are apparent with simple lenses or with the naked eye. As a distinct group of organisms they were first distinguished by Hoffman in 1869, since which date the term bacteria, as applying to this special group of organisms, has been coming more and more into use. At the beginning of the ninth decade of the nineteenth century, bacteria were scarcely heard of outside of scientific circles; today they are almost household words. Their unlimited powers for producing profound changes in Nature make them agents for good and for ill; agents of such importance that they have become the basis of a new branch of science—Bacteriology.

It was Louis Pasteur who first brought bacteria to the front and if any one man can be looked upon as the founder of the science of bacteriology, that man is surely Pasteur. Up to the period of his investigations the role played by bacteria in various familiar natural processes, such as putrefaction, decay, and fermentation, had been, perhaps vaguely suspected but had not received conclusive demonstration. The memorable researches of Pasteur (1822-1895) upon spontaneous generation and fermentation imparted to the study of bacteria a broad biologic importance that it had not hitherto possessed. It was almost entirely through the work of Pasteur that bacteria and their allies took a conspicuous position in natural science as a group of organisms whose activities and capabilities were full of a far-reaching significance for all mankind. So difficult were the methods of work that for years there were hardly any investigators besides Pasteur who could successfully handle the subject. The difficulty of obtaining any one kind of bacteria, unmixed with others (pure cultures) rendered advance almost impossible. In 1882, Robert Koch devised solid culture-media, by which it became possible to isolate single species of bacteria and to thus obtain descendants of a single, living cell or germ without admixture with other organisms. With this simplification of method immediate advance became possible and the rapidity with which the study of bacteria has developed in the last fifteen years is truly startling. "The present important place accorded bacteriology among the biologic sciences" says a well known writer upon the subject, "is due quite as much to its general scientific significance as to the success of its practical applications. The discoveries of bacteriology have given the human race for the first time in its history a rational theory of diseases, for up to this time infectious diseases were not sharply differentiated from one another and the most fantastic hypotheses were advanced to explain their existence: It has dispelled the myths of spontaneous generation and set the processes of decay and kindred phenomena in their true relation to the great cycle of living and non-living matter.

The new conception of the microscopic underworld which bacteriology brought into biologic science must be reckoned as a conspicuous landmark, and, in so far as it has changed the attitude of man towards the universe, should be regarded as one of the most important triumphs of natural science."

MICROSCOPIC APPEARANCE OF BACTERIA.

Unlike higher plants and animals, a bacterium consists of but a single cell. Individual cells differ in size, shape, motility, method of cell division, spore formation and the like.

Size.—It is extremely difficult to convey, even a faint conception of the appearance of bacteria, to one unfamiliar with the microscopic world, for we are here dealing with forms of such minuteness as to be almost beyond comprehension. To say that if a hundred individual bacteria could be placed side by side, their total thickness would not equal that of a single sheet of paper, may give a faint idea of their size. As an average diameter, one thirty-thousandth of an inch may be taken. Different kinds of bacteria vary in size. The average rod measures about 2 microns in length and 0.5 microns in diameter (1 micron equals one twenty-five thousandths of an inch.) The bacillus of typhoid fever ranges from 1 to 3 microns in length. One large spherical bacterium is know to measure 2 microns in diameter; others 0.2 microns. The largest bacteria belong, as a rule, to the group of spirally-twisted or screw-shaped forms, one of these has been found to measure as much as 3.5 microns in diameter. The spirillum of relapsing fever may measure up to 40 microns in length. One of the smallest of the pathogenic forms is the influenza bacillus (0.5x0.2 microns.) Other germs, not surely known to be bacteria, are even smaller. The germ of foot-and-mouth disease will pass through the pores of the finest Berkefeld filter and is invisible even under the highest lenses. It is now believed that diseases, the causes of which are at present unknown, will be found due to ultra-microscopic organisms when methods successful in rendering them visible have been devised.

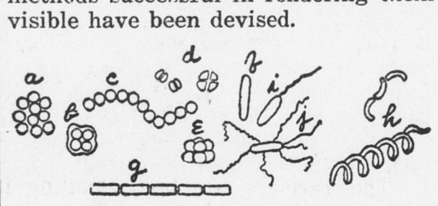

Fig. 1.—Forms of bacteria (Jordan.) High magnification. a, Staphylococcus (cluster coccus;) c, streptococcus (chain coccus;) b, d, cocci showing cleavage in two planes; e, sarcina (cubical mass or packet;) f, bacillus (straight rod;) g, straight rods connected to form filament or chain; h, spirilla (spiral forms;) i, j, bacilli with motile organs.

Shape.—The forms of bacteria are simple and comprise only three principal types—the straight rod, the sphere, and the spiral; well compared to lead pencils, balls and cork screws. To the rod-shaped bacterium is given the name bacillus, plural bacilli; to the sphere, coccus, plural cocci; to the spirally-twisted or screw-shaped form spirillum, plural spirilla. The rods may be long or short, thick or slender; may have rounded or square ends; may occur singly, or in filaments or threads. The spheres may be large or small, may occur in groups of two's, four's, or cling together like a string of beads, may be in bunches like a cluster of grapes or, again, in packets. The spirals may be loosely or tightly flexed, may have one or two or many coils, may be large or small. More bacilli have been described and enumerated than cocci, and more cocci than spirilla.

Motility.—Many species of bacteria have the power of independent motion accomplished by means of delicate, thread-like appendages called flagella and which, by their contractability, propel the bacterium through the water. Their arrangement on the cell body differs in different species of bacteria; some have a single flagellum at one end; others have a flagellum at each end; others have a tuft at one or at both ends, while others have flagella projecting from the entire body of the cell. Owing to their extreme delicacy, it requires skilful manipulation and special methods of staining to render these hair-like projections visible. In a drop of water suspended from a glass cover glass ("hanging drop" preparation) and watched under the microscope, the bacteria are seen as colorless dots or slightly elongated points tumbling end over end, darting rapidly about, or moving slowly across the field of vision—the movement sometimes so slow as to be scarcely perceptible, its rapidity depending largely upon the age of the culture. The typhoid bacillus may travel about 2000 times its own length in an hour.

Growth and Cell-division.—It is the extraordinary power of multiplication that makes bacteria agents of such importance in Nature. A single bacterium can increase in size up to a certain point. When this point is reached, the cell divides in the middle into two similar halves, each of which then repeats the process. This method of multiplication by simple division or fission distinguishes the bacteria from the yeasts which multiply by budding. A young bacterial cell attains full size and is able to produce in its turn another cell in a remarkably short time. Under favorable conditions, growth may be so rapid that division—reproduction of a new individual—will occur every twenty to thirty minutes. It has been estimated that the descendants of each bacterium would in two days number 281,500,000,000. Checks or hindrances to unlimited multiplication, however, are found in the injurious products commonly formed by bacteria during the breaking down of their food-substances and by other unfavorable influences such as insufficient food, lack of moisture and unsuitable temperature.

While all bacteria divide by simple fission there are differences in the results, particularly noticeable among the spherical forms or cocci. With these, division may occur only in one plane and the resultant cells remain attached forming a chain of cells resembling a string of beads and called streptococcus (chain coccus;) or division may be in two planes giving rise to irregular masses like a cluster of grapes known as staphylococcus (grape-like coccus.) If division takes place in three planes at right angles, a cubical mass or packet results called sarcina. While the scientific names applied to bacteria may sound formidable they are thus seen to be significant. There are only a few of these names in common use applying to the ordinary bacteria and it is well to fix them in mind as they are constantly appearing in the many health articles now being published, indeed even in literature of a general class.

Spores.—Some bacteria possess the property of forming spores, oval or rounded masses of protoplasm, capable of resisting adverse conditions which would destroy the vegetative or ordinary bacterial cell. Spore formation is supposed to be adaptation to hard times as it enables the bacterium to live through long periods of drying, famine or unsuitable temperature. In the spore-state, bacteria are highly resistant to high temperatures, poisons and the like; some species can withstand the temperature of boiling water for upward of sixteen hours; some are even capable of resisting a temperature of 360 degrees F. The vegetative forms, on the other hand, are mostly killed at 130 to 140 degrees F. by ten minutes exposure in the presence of moisture. It is the spore forms that resist the action of heat in pasteurized milk.

Few pathogenic bacteria form spores; the bacillus of tetanus or lockjaw and of anthrax are familiar examples of spore-forming, pathogenic bacteria. The spores of anthrax will germinate after remaining in a dry condition for at least ten years. That this inability, in the majority of pathogenic bacteria, to form spores is a fortunate circumstance is readily understood for otherwise the matter of disinfection and treatment of infectious diseases would be a more complicated and serious matter.

Next week—"Environmental Influences Upon Bacteria."

The Original Homes of Popular Plants

There are several classes of immigrants of which no records are kept by the department over which the United States Commissioner of Immigration presides; but there are immigrants that, in their own quiet way, have done much to make the new world more like the old. These are trees and plants; and if the new world has drawn somewhat heavily on the old in this particular, it has paid its debt in kind, as may be seen by the following: list

Celery originated in Germany.
The chestnut came from Italy.
The onion originated in Egypt.
Tobacco is a native of Virginia.
The nettle is a native of Europe.
The citron is a native of Greece.
Oats originated in North Africa.
The poppy originated in the East.
Rye came, originally from Siberia.
Parsley was first known in Sardinia.
The pear and apple are from Europe.
Spinach was first cultivated in Arabia.
The sunflower was brought from Peru.
The mulberry tree originated in Persia.
The gourd is an eastern plant.
The walnut and peach came from Persia.
The horse-chestnut is a native of Thibet.
The cucumber came from the East Indias.
The quince came from Crete.
The radish is a native of China and Japan.
The peas are of Egyptian origin.

Korea Sends Sons to America.

Twenty years ago the old Korean government was so afraid of new ideas that a Korean student in the Methodist Episcopal School for Boys in Seoul was arrested and put into prison. What was the henious charge? Simply that he had formed a literary society that discussed matters of general interest.

But times have changed and Korea now appreciates American ideas. The imprisoned boy named Cynn, came to America to study and later became the efficient principal of his old boys' school in Seoul. And how the boys discuss current events nowadays! Mr. Cynn has since then distinguished himself in a general conference by a speech notable for its thought and its English. He is just one of the many Korean youths who have tested Uncle Sam's tree of knowledge and found it good.—World Outlook.

Beats Church all Hollow.

Bobbie had been taken by his father to the circus. The youngster came home round-eyed with excitement and flushed with enthusiasm. "Oh, ma," he exclaimed, "if you go once to the circus with me you'll never want to fool away time going to church again."—Boston Transcript.

FARM NOTES.

—When cabbages are packed in a pit they are pulled up by the roots and laid usually in three rows, directly on the ground and upside down. On top of these three rows, two rows are laid; then the pile is banked exactly as described for root crops, excepting that the straw is not necessary. And as the roots of cabbage are fairly long, these are usually allowed to protrude from the earth pile. Mild freezing improves the flavor of cabbage, so it is not necessary to cover with manure unless in the extreme north.

—Onions must be both cool and dry, and an attic that does not freeze is a good place for them. They will sprout if too warm and rot if too moist, so one must be very careful to see that they have exactly the right conditions. Like flowering bulbs, they are best kept on slatted trays or in slat baskets which admit free circulation of air, and if you must have them in a cellar, hang the basket from the rafters rather than allow it to stand on the floor, and provide at opposite points of the room small openings in the walls for cross ventilation.

—Beginners in poultry-keeping often wonder why some hens will lay steadily when eggs are worth but ten cents a dozen and lay only an occasional egg or loaf continually when eggs are thirty-five cents a dozen. I used to blame the hen, but now I know it isn't her fault.

I have found that the time of year that the hens lay best is in the spring when there is plenty of green feed and an abundance of exercise. By feeding green products in the winter and compelling them to keep in action I can best imitate nature and bring spring conditions to my hens. The question is, "Does it pay?" It pays me.

Cabbage and any of the beet family are green feeds which I used profitably to feed my chickens in the winter. Green cured alfalfa and clover, which has been steamed or boiled, sprouted oats, or pumpkins have also been profitable green feed for chickens.

—During the past winter several pig-feeding experiments have been conducted by The Pennsylvania State College school of agriculture and experiment station, to determine the relative values of tankage, linseed meal and chopped alfalfa hay as sources of protein, and to compare ear corn with shelled corn and cornmeal (ground shelled corn) as to cheapness of grains.

Two lots of seven pigs each, averaging about 110 pounds live weight, were used. The feeding period covered 84 days. Pigs fed on ear corn and tankage made 100 pounds gain at a cost of $7.85. These figures are based on corn at 80 cents a bushel and tankage at $2.75 per 100 pounds. The cost of 100 pounds gain on a ration of cornmeal and tankage was $8.65, at the price of five cents a bushel for shelling the corn and five cents a bushel for grinding. The cost of 100 pounds of gain with shelled corn and tankage was $8.45.

The largest gains were made by pigs receiving cornmeal and tankage, an important point to consider when rapid gains are desired.

The experiment indicates that when corn is 80 cents a bushel ground corn is not a profitable hog-fattener, a conclusion contrary to results of previous experiments conducted at the college. Linseed meal, when fed dry, did not prove a satisfactory protein feed for hogs. Chopped alfalfa was unsatisfactory because of the sharpness of the short portions of the stem.

—Choosing Breeds of Swine.—To assist hog raisers and prospective hog raisers in determining the best breed of hogs to keep the United States Department of Agriculture has recently issued a new Farmers' Bulletin 765, Breeds of Swine. According to this bulletin, there is no best breed of swine. Some breeds are superior to others in certain respects and one breed may be better adapted than another to certain local conditions. The essential point is that after the farmer has once decided upon the kind of hog to raise he should stick to his decision and develop the chosen breed to its highest possible standard. It is not feasible for one individual to raise several different breeds and bring them to perfection. In making his choice, too, the farmer should be guided by the kind of breeds already established in his locality. If he selects one of these he is not likely to make a mistake.

There are two distinct types of swine, namely, the lard and the bacon types. Swine of the lard type far outnumber those of the bacon type in the United States. The lard type is preferred by the people of this country, consequently the majority of feeders produce a rapid fattening, heavy fleshed lard type. The bacon type is not raised extensively in the United States. The production of choice bacon is more general in those sections where the feed of the hog is more varied and where corn is not relied upon as the principal grain for hogs.

The principal breeds of the lard type are the Poland China, Berkshire, Chester White, Duroc Jersey, and Hampshire. The lard type of hog is low set and compact, with a very wide and deep body. The shoulders should be full although not coarse, with full hind quarters and hams carried out straight to the root of the tail and thickly fleshed down to the hock. The flesh should be thick and evenly distributed throughout the body.

The size and weight are largely determined by market conditions. At present pigs weighing from 175 to 250 pounds ordinarily command the highest prices.

The principal breeds of the bacon type are the Tamworth and large Yorkshire, both of British origin. The bacon type is very different from the lard type, being longer in leg and body, with less width of back, and lighter in the shoulders and neck. The first impression that this type conveys is one of leanness and lankness. Much emphasis is laid on the development of the side, because it is the side of the hog that is used for the production of bacon. On the other hand, large, heavy hams are not desirable on a bacon hog.

Detailed descriptions of the various breeds, with discussions, are contained in the bulletin already mentioned.