

# REAPPEARANCE OF THE GHOST OF MALTHUS.

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"Towards the close of the eighteenth century, a sudden glow of sanguine faith in man's future spread over the world. A new era seemed to be opening for humanity. Not only the unthinking multitudes, not only the young and ardent, but the old and the contemplative, dreamed of perfection as well as progress—of a state of things in which every man, having enough of the necessaries, comforts and even luxuries of life, should have no motive to envy or despoil his neighbor. But in 1798 an unpretentious Essay appeared, from the pen of an English clergyman of singular benevolence, modesty and piety, which rudely shattered all such brilliant pictures of an earthly paradise and overwhelmed the philanthropic dreamers with despondency and gloom."

So wrote in substance one of the most sober and thoughtful of the critics of Malthus, some seventy years after this epoch making work was published.\* But a still greater shock than that inflicted by Malthus must have been felt by believers in the speedy coming of a social millennium when, almost before the ink was dry on Godwin's work entitled "Political Justice and Its Influence on General Virtue and Happiness," to which the Essay of Malthus was primarily a rejoinder, the French Revolution broke out bringing terror to all. And when only a dozen years after Malthus' death in 1834, a frightful famine ravaged one of the most fertile of the British Isles, his Essay was vividly recalled. It was in Ireland, that "the population increased from 2,845,932 in 1785 to 5,356,394 in 1803. They married and were given in marriage. Wise men foresaw the deluge but people who were already half starved every summer did not think their case could well be worse. In 1845 the population had swelled to 8,295,061, the greater part of whom depended on the potato only. There was no margin, and when 'the precarious exotic' failed an awful famine was the result."† Elsewhere in Europe there were also famines in the nineteenth century, but none that came so near home to Americans as that here referred to which was caused by overpopulation, poverty, and especially a total failure of the Irish potato crop.

For American biologists Malthus and his doctrines have been kept alive

\*W. R. Greg. *Enigmas of Life*, 1872.

†*Encyc. Britt.* 9th Ed., XIII, 270.

largely through Darwin's acknowledgment of his fundamental indebtedness to Malthus, for Darwin states that it was while dwelling upon the checks to the natural and unlimited increase of the human species, as laid down by Malthus, that there flashed into his mind the idea that in the struggle for existence due to overpopulation there must be a natural selection bringing about survival of the fittest. In other respects Malthus and his doctrines have had chiefly an academic interest for Americans hitherto, and for obvious reasons. America has long been and still is the "new" world. It has been occupied by civilized man only about three hundred years, whereas the "old" world as we still call it—namely, Europe, Asia and Africa, and especially Asia—have certainly been thus occupied as many thousands of years and probably much longer. When the French sailed along the coast of Maine and established their temporary settlements three hundred years ago, and when the English at about the same time settled on the soil of Virginia and of Massachusetts, they found only a very sparse population, and that composed of savages living mostly upon wild animals. At that time the soil was absolutely a virgin soil. But ever since then emigration to America as well as natural increase have steadily and rapidly added to the population; and so slow and gradual has been this change from wilderness to fertile fields and urban life that even yet American life is preëminently rural.

The time is apparently at hand, however, when, after three hundred years of immigration and natural increase with a for the most part comparatively crude agriculture, the population of the United States is beginning to encroach seriously upon the means of subsistence, and for the first time in history the ghost of Malthus may be descried approaching our shores. It is not easy to show beyond peradventure that there is serious danger ahead, but so many straws indicate that the wind is blowing in this direction that all students of food problems should be watchful and preparing to meet the danger if it comes.

The tendency of population to increase more rapidly than the means of subsistence was only too familiar to the ancients. Plato and Aristotle carefully considered the problem and undertook to solve it in their theoretical discussions. More recently Hume and many others have been interested in the question of the populousness of nations, but it was Thomas Malthus who, in 1798, first really fixed the attention of the modern world upon this great problem. So startling was the effect of Malthus' treatise (which is in fact a large and solid volume rather than an "essay") and so unfamiliar and unpopular are his doctrines in America today, that we shall do well to recall very briefly their more salient features.

Malthus' title is "An Essay on the Principle of Population," the principle involved being the theory of the improvement of society. As already

stated, it is really a rejoinder to a glowing work of William Godwin on the perfectibility of human society, Malthus holding that for the improvement of mankind two things are needful, namely, first, to investigate the causes that have hitherto hindered the progress of mankind toward happiness, and second, to consider the probability of the total or partial removal of such obstructions in the future. Malthus deals chiefly with only one of these, namely, *the constant tendency of all living things to increase beyond the food supply*. It was this universal tendency to enormous and indefinite multiplication which Darwin seized upon as one cause of the universal struggle for existence, and this in turn as the basis of natural selection or survival of the fittest. "Malthus worked out his problem relentlessly and came to the conclusion that, when unchecked, population doubles itself every twenty-five years. It has even been calculated that it may double in thirteen years." Computations of this kind are comparatively easy, but much more difficult are estimates of the possible increase of food supply. Can this also be doubled in twenty-five years? Here the answer depends upon the conditions with which we start. If these are essentially those of the crudest form of agriculture, then unquestionably the answer may be in the affirmative, but obviously only for the first or the second twenty-five years. In the third or fourth twenty-five years the problem would be much more difficult and we soon reach a condition in which we must abandon the geometric ratio for increase of food supply though not necessarily for population; hence, applying this idea to the whole world population increase soon outruns food increase and famines arise.

Malthus's famous Essay, because of its convincing character and fundamental significance, has always had the most respectful consideration of economists, although both author and essay, because of the pessimistic note involved, have at all times been roundly abused and even detested by optimists and others who for one reason or another dislike the cold facts and unwelcome conclusions which the Essay presents. John Stuart Mill, however, and all other important economists from Malthus's time to this, have paid close attention to his views, but as already stated these have hitherto had but scant attention from the average American. The reason why is sufficiently obvious. Dwelling as we do in a new world with almost unlimited areas of virgin soil; possessing a population sparse in comparison with that of the old world; wonderfully favored for the most part by climate and rainfall, the North American continent has hitherto enjoyed not merely food sufficiency but food abundance. "Bumper" crops have repeatedly followed one another in quick succession, and a fortunate adjustment between industrialism and agriculture has hitherto kept our population comfortable. All this too, has continued in spite of rapid natural increase of population, to which has been added

enormous immigration. Of recent years, moreover, a diminishing birth rate, at least in certain classes and communities, has acted favorably in restricting overpopulation, although a declining death rate has worked in the opposite direction.

At length, however, there are many and significant symptoms of an approaching change. Most conspicuous of these is the so-called "rise of prices," and although this rise is doubtless due in large measure to other causes, such as an overproduction of gold, it is difficult to avoid the belief that some of it at any rate is due to a diminishing food supply associated with an increasing demand for food.

Until quite recently the flesh of wild animals was to be had in our markets in competition with that of domesticated animals, *e.g.*, prairie chickens, partridges, venison and wild ducks, while formerly bear meat and the like were often met with. Now, however, in the east the prairie chicken has disappeared, the sale of partridges is practically forbidden, and venison and other forms of game are sold only under the narrowest restrictions. It is notorious that game animals are rapidly disappearing except where special pains are taken for their conservation. And the same thing is true of wild fish. Our eastern shores formerly swarmed with lobsters, clams, oysters and other shell-fish, while cod, haddock and similar ground fish were both abundant and cheap. Today lobsters are very scarce and dear and apparently rapidly disappearing, and the same is true of clams and oysters excepting where these have been specially preserved, while cod, haddock and the like fetch two or three times as much a pound as they brought even twenty years ago. Beef, formerly cheap and abundant, is now scarce and dear, with prices steadily rising, and the same is true to a greater or less extent of other animal foods such as lamb, pork, veal and eggs.

Our exports of surplus corn, wheat, beef and the like are also either actually diminishing or diminishing in proportion to the population, while, on the other hand, our exports of manufactured goods are rapidly increasing;—all of which means that we are gradually changing from an agricultural country, characterized by abundant food production, into an industrial nation, characterized by heavy food consumption and relatively moderate production.

Another significant phenomenon of the last fifty years is the enormous development of urban life in America. Fifty or a hundred years ago large cities were few, while today they are abundant and, acting like magnets, attracting an ever increasing immigration from the rural districts. Conversely, rural depopulation is a marked feature of many districts once given over to agriculture but now growing up to wilderness or forest, and it needs only the briefest reflection to perceive that in this movement vast numbers of persons are shifted from the ranks of food pro-

ducers to food consumers and, therefore, effectively diminish the available supply.

Happily, we have not yet reached or even approached the terrible conditions which prevail in countries suffering from really serious overpopulation, such, for example, as those described for China by Professor Ross of the University of Wisconsin in his interesting volume entitled "The Changing Chinese."

Less than ten years ago my friend, the late Edward Atkinson, one of the most prominent economists of his time, but an inveterate optimist, assured me that Malthusianism was now really dead and even the ghost of Malthus forever banished. Cheap fuel and power were to come soon from peat and later from sunshine, and cheap food from intensive agriculture. Lentils were to replace animal food and slow cookery using little heat, and therefore cheap, to make coarse foodstuffs appetizing as well as nutritious.

But what do we actually see? A population already vast, and increasing by leaps and bounds; a virgin soil largely ravished and already showing signs of exhaustion; timberlands mostly depleted; wild animals and game almost exterminated; exports of foodstuffs diminishing; huge cities growing up side by side with rural depopulation; fisheries, and especially shell-fisheries, showing ominous symptoms of coming failure; and everywhere outcries and complaints of the high cost of living. Meantime, although the cost of coal increases nobody seems to be using peat for power, very few want lentils in place of meat, fish or eggs, although these staples are already dear, while intensive agriculture has thus far failed to put in an appearance, or at least to reduce the cost of cereals, fruits or potatoes.

If it had not been for three great scientific inventions, namely, cheap *transportation*, the art of *canning* and conservation by *cold storage*, the cost of wholesome foods would be today far greater than it is. These three alone at present keep the ghost of Malthus in the background. These alone save the surplus of one place or season to overcome the scarcity and want of another. If it had not been for these, prices would today be much higher than they now are, and the ghost of Malthus not merely vaguely discernible in the distance, but a palpable and startling spectre.

*Improved transportation* became effective early in the nineteenth century with the application of the steam engine to railroads and steamboats, and its wonderful development and efficiency in transporting the surplus of one place or time to overcome the scarcity of another place or time are familiar to us all.

*The art of canning* dates from Appert, a French technologist, who first preserved fruits and the like by a kind of canning about 1810. One of the earliest, if not the very earliest, canner in this country was William

Underwood of Boston who, about 1820, began to apply the principles of Appert, and whose descendants are still engaged in the same business in the same city. Many of those still living can remember easily enough when canned foods were either non-existent or rare, and how recent the enormous development of the canning industry is may be appreciated when it is stated that in our Civil War canned foods were practically unknown.

*Cold storage* is even more recent in its beneficent influence upon the conservation of the food supply of the United States. For although the principles involved in cold storage have been known and acted upon from the earliest times, ice houses and domestic refrigerators were almost unknown fifty years ago, while cold storage plants equipped with devices for producing cold artificially have only been common for a score or thereabouts of years.

When we reflect upon the comparatively easy transfer of vast quantities of food from one region to another by rail or steamship, and upon the enormous amounts of food now canned and otherwise preserved, and finally upon the millions of eggs, tons of butter and cargoes of beef, fish and fruits kept in cold storage, it is not difficult to realize how much these three inventions have had to do with keeping the wolf of hunger away from the homes of Americans by the successful conservation of perishable food.

It is not, however, enough that these three inventions should exist. In order to make them effective, some return must be made for all of them. A poverty-stricken country cannot buy food, even if famine comes, and *wealth* is no less essential to the securing of a proper food supply than are the transportation of food and its preservation and cold storage. It will not do to assume that even the three great inventions referred to, either alone or taken together, are sufficient to prevent famines and hunger. Transportation was fairly well developed between the British Isles in 1847 and, doubtless, there was food enough for Ireland at that time within a very few hundred miles. *Poverty* played the leading rôle then as it generally does in famines. Game and other excellent foods are sometimes exported from one part of China while devastating famine is ravaging another part. The food supply problem has at the bottom an economic basis and it is probably safe to say that today no country need dread a shortage of food provided it enjoys wealth widely distributed. Such a condition, however, neither exists anywhere nor is likely to exist in the near future. On the contrary, we must start with the assumption that for some time to come poverty is likely to be always present among large numbers of any population, so that the problem of food supply becomes almost hopelessly complicated. No one will go to the trouble and expense to provide quick or abundant transportation, or canneries and canned food,

or cold storage warehouses and cold storage plants, unless somebody is ready and able to pay for all these things.

Anyone who notes the tendency of the times, or who observes that on the continent of Europe the meat problem, as for example in Germany and Austria has become so acute that in the former not only much horse flesh but also dog meat are now being used, can fail to recognize the fact that in spite of improved agriculture and the opening of the vast areas of the new world, both North and South, there is imminent danger of the exhaustion or shortage of the local food supply. Famines occur almost every year in some of the out of the way portions of the earth, such as China, India and some parts of Japan, and there is every reason to believe that a series of bad crops or a cattle plague in the new world would not only cause great suffering in the old, but would so far reduce the means of subsistence in the new as to cause virtual famines, of which as yet we have happily had no experience.

The moral of the situation is obvious. Because of the abundance of our food supply we have hitherto been not only well fed but actually prodigal, or even wasteful of our resources. At last, however, the unthinking multitude is reminded by the pinch of the universal high cost of living that it is no longer possible for everybody in America to have everything he wants. It has been well said that the trouble is not so much with the high cost of living as with the cost of high living, and this clever epigram certainly covers a multitude of sins. Extravagance probably plays an important part in the present unhappiness, and yet we have little reason to suppose that *in proportion to the population* there was not nearly, if not quite, as much extravagance twenty years ago as there is today.

The one conclusion to which students of food supply are driven is that no safe and wholesome food can be wasted. We dare no longer require that all food shall be of the first quality. It is easy but foolish to say, for example, that "there is only one kind of an egg and that is a good egg" making the implication that the grading of eggs is needless and that everybody should have only the best. We must in the future have different grades of food adapted to different purses. Only the rich will be able to afford the best, many must put up with a second quality, and some with grades decidedly inferior. We can, however, require that the food shall be safe and wholesome, but sometimes only that it can be made safe and wholesome by cooking or otherwise. We must, nevertheless, always insist upon decency in food supply, even if this requirement is not always imposed by strict sanitation. There should be no place, even among people hard pressed for subsistence, for food that is filthy or otherwise disgusting. Unless food is reasonably inviting rather than repulsive it loses no small part of its nutritive value, so that the line must always be drawn in such

a way as not to disgust or offend. Outside of this requirement, however, we ought to save all food which is safe and wholesome or capable of being made so in any way, and especially by cooking.

To this end the grading of foods is all-important, and precisely as we have beef, mutton, veal and fish of various grades, qualities and prices, so likewise we must have eggs and fruits and all other foods of various qualities and prices. We must also change some of our ideas and customs to meet the new conditions. "Bob" veal, for example, which is now under the ban of most boards of health, is, so far as known, good and safe and wholesome food, which we can no longer afford to destroy. The use of preservatives must probably be considerably extended in the future, so that foods which now go to waste in remote and out-of-the-way places may be preserved and transported to points of need. Honest labeling will always be requisite and proper, and bob veal, oysters taken from uncertain sources but rendered safe by cooking, and fruits preserved with benzoate or otherwise, should always be plainly marked as to their origin, character and mode of preservation.

Meantime, we must encourage in every possible way intensive agriculture, conservation, and increased production. Cheap and abundant food is the corner stone of a prosperous and healthy people. With such food civilization may or may not reach high levels; but without it the best forms of civilization cannot long endure.