

THOMAS ROBERT MALTHUS (1766–1834)

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ABSTRACT

Thomas Robert Malthus was born into a wealthy intellectual family in 1766. Malthus tried to discover the reasons for great changes in economic, social and demographic development and he saw them in the overly rapid pace of population growth in relation to the availability of sources of subsistence. He was the first person to formulate a simple mathematical expression for this problem. He published an essay on the problem anonymously in 1798 as a reaction to the optimistic views of his father's friends and he was surprised by the large response it got from the public. His essay had its admirers but also some harsh critics. He was aware of the shortcomings of the text; it was more a pamphlet than a scientific work. He devoted the next five years after the essay's publication to studying this subject, visited several countries, and published his findings in another essay in 1803 that was three times longer and was released under his name. This second essay presented many new ideas and he put much more emphasis on the moral restraints of population growth.

Keywords: Thomas Robert Malthus, population growth, overpopulation, checks of population growth, Malthusianism

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LIFE AND FAMILY

Robert Malthus (he did not use his first name) was born on 13 February 1766, just 250 years ago, as the seventh child and the second son of Henrietta Catherine and Daniel Malthus. He grew up in Westcott, near Doting in Surrey. His father Daniel was a free-thinker from a well-off family and a friend of David Hume and Jean Jacques Rousseau. Malthus's discussions with him father very much influenced his intellectual development, although the two men often differed in their views. He received his earliest education at home, when the family was living in Bramcote, Nottinghamshire, and he then went on to study at Warrington Academy, which was a school run by dissenters from the Church of England and at that time the school was approaching the end of its existence. It closed in 1783, when Robert was 17 years old,

and a year later he entered Jesus College in Cambridge. He received a scholarship to study English declamation, Latin, and Greek, ultimately graduating with honours. He also successfully studied mathematics. He received an MA degree in 1791 and was elected a Fellow of Jesus College two years later (*Wikipedia*).

He resigned the fellowship after eleven years in order to marry. The Church of England allowed clergymen to marry, but Cambridge was not as liberal towards its fellows. He married his cousin Harriet in 1804 (he was 38 years old by that time), the daughter of John Eckersall of Claverton House, St Catherine's, near Bath, Somerset. The couple first had a son (he was born 8 months after the marriage) and then two daughters. In 1805 he was appointed to the first chair of political economy in England, at the East India College (which later became Hailey bury), where he remained until his death. He passed away sudden-

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ly of heart disease on 29 December 1834 (although a different date, 23 December, is given, for example, can be found e.g. in the *Encyclopaedia Britannica*, 1911) aged 68 in Bath, Somerset. He was buried in Bath Abbey. His contemporaries describe him as tall and good-looking, but with a cleft lip and palate, which affected his speech. He inherited this defect from his ancestors (*Wikipedia*; *Himmelfarb*, 1960; *Šubrtoová*, 1989; *Loužek*, 2010). He refused to have his portrait painted up until the last year of his life, so there is only one portrait of Malthus that exists.

THE IMPORTANCE OF DEMOGRAPHIC REPRODUCTION

Demographic reproduction is basically a biological process that is identical to processes in any population of mammals. Human beings are born in the same way as individual members in the species of apes, wolfs, and elephants. They acquire the social part of their existence as soon as they are born. It is not just the first light in their life, but caresses and the maternal voice that are equally or even more important, as they involve emotions and are the start of the individual's further education. Herein lies the emotional significance of the maternal language. Every child born has to be accepted into society. His exposure, even if saved by other than human population, prevents him to become a human being. The vocal cords are not completely formed at the moment of birth; they gradually develop as the child repeats the words he or she hears. Both basic demographic processes occur within a biological frame. Natality is limited by the duration of a woman's fecundity and mortality is limited by maximum age. All human beings are mortal, like every other living creature. Demography, by studying the renewal of the human population, is therefore a bio-social discipline.

The renewal of any population is essential for its natural continuation. Were it to cease, that would be the end of human existence. Sufficient food or sources of food generally is another precondition for life and the reproduction of any population. Leaving aside changes in climate, which have effects over very long periods of thousands or millions of years, the amount of food does not affect the existence of the population as a whole, but has a decisive effect on its size. Data

are not available for the prehistoric period, so we can only speculate. The numerical growth of the human population was very slow on average in that period because the differences between the levels of natality and mortality were very small or the levels were equal or the mortality was even higher in certain periods. The numerical size of individual populations was very limited during the hunting and gathering period before permanent settlement. Migration was important at that time for social development for two main reasons. The first reason was that it safeguarded the biological unity of the human subspecies *Homo sapiens sapiens* by mixing genes from various populations.

Human populations became societies in the process of development, as advances occurred in the division of labour, social groups (structures) emerged, and more sophisticated forms of social organisation took shape. This came with the Neolithic revolution based on agriculture, which required stable settlement and allowed the emergence of large populations by increasing food sources to previously unthinkable level. We call these societies civilisations, and they developed specific cultures with the strong rules, traditions, and ideology. Stability is very important for this kind of culture, but there is a danger that further improvement will stop if stability exists for too long. Migration can have a stimulating effect on an immobile culture, and this is its second important reason for the importance of migration for human development. However, a harmonious balance must be maintained between the cultural stability and new impulses, otherwise chaos could emerge.

The renewal of human populations in relation to their sources of subsistence was the main concern of mankind in history, and it still is so now and will continue to be in the future. Speculations about prehistorical times could be replaced by following the history of thought about population, in which two lines of thinking can be identified:

- 1) The optimistic belief in the harmonious development of population, which existed especially during the Enlightenment with its idea of human equality, and the unshakable believe in the omnipotence of human reason and knowledge;
- 2) The dread of overpopulation, the fear of surpassing certain limits of growth. In its less exagge

rated form this outlook sought to determine an optimum population size or a stable number of people, usually in reference to specific countries. An interest in the planet as a whole began only in the second half of the 20th century, when the demographic revolution entered its second period. It was ending in developed countries and it spread to developing ones.

People have been formulating ideas human renewal and sources of subsistence since even before the existence of literature, doing so for millennia years ago with the aid of various pictures and statues. The statuettes of Venus and the pictures of hunting beasts in the Palaeolithic period confirm this. Pictograms, followed by cuneiform and hieroglyphic writings in Mesopotamia and Egypt were the next step in the development of literature. Different scripts emerged (e. g. Semitic, Sino-Tibetan, Greek, Latin), which originally expressed a certain notion gradually acquiring the notion of a sound in speech, which evolved into a syllable and finally into words. This process differed in individual language groups.

True literature emerged in the third millennium before Christ and it would be impossible to trace all its further progress here. We can only state that Thomas Robert Malthus had many predecessors in addressing the relationship between population growth and available sources of subsistence, although none of them is as well known. Writings of this nature often had a religious, ethical or judicial context (Šubrtová, 1989). It is interesting that first notable writings originated in Mesopotamia, which is situated at a point of contact between three continents – Africa, Asia, and Europe. We can assume that all intercontinental migrations had to cross this location and brought with them new impulses. This territory was also very well suited for the development of agriculture. The Code of Hammurabi is the oldest known work of writing; it was created during the reign of King Hammurabi (1793–1750 BCE). Mention should also be made of the Bible already from the 1st millennium, the Old Testament, the Torah, the Talmud, and the writings of Zarathustra (660?–583 BCE), Confucius (552–479 BCE), Buddha (563–483 BCE) and many others. Religious texts usually take a favourable view of population growth. Confucius' writings are one exception. He sought an optimal relationship how many people were necessary in a population and the available agrarian

land. He advised the ruler to ensure the granaries were full for periods of poor harvest. However, were such periods to recur too often, the emperor would have limited ability to deal with the problem, so he suggested also forcing people to migrate to less populated areas and admitted that very high population growth leads to poverty and social problems. Some other Confucian authors assumed that the insufficient supply of foodstuff would cause an increase in mortality levels (Šubrtová, 1989: 24).

Many diverse civilisations existed in the world up to now. Some of them vanished completely, others transformed into new ones. The world-renowned historian Arnold Joseph Toynbee (1889–1975) identified first 21 and then 31 civilisations, while Samuel Huntington (*1927), in his famous works on the clash of civilisations, pointed first to 6 and later 8 civilisations that exist today. Our Western civilisation is affiliated with the former Hellenic and Assyrian civilisations that now only exist as subjects of historical study. These problems of historical civilisations have also been extensively discussed in an excellent book by Jaroslav Krejčí (1916–2014). He showed how various civilisations transformed over time and described the complicated evolution of different societies and states and the economic, social, and political consequences of their development. Thereby he touched the general and specific patterns of development (Krejčí, 2002).

THE ORIGIN OF WESTERN CIVILISATION

Greece is considered the cradle of Western civilisation. This is not surprising when we look at the map. Its relative geographical proximity to Mesopotamia, Egypt, and the Aegean islands helps to explain this. Greek thinkers had a decisive impact on the development of Western culture. Plato (427–347 BCE) and Aristotle (384–322 BCE) were contemporaries of Confucius. According to Plato, in the perfect state, people would not produce children if they lived in fear of poverty and war. He argued that it was up to the guardians of the state to ensure an optimal population size and keep it stable. Today these ideas smack of social engineering. He also recommended the supervision of marriages. When the population

size decreased below a stable level, the guardians could introduce measures to restore the optimal number of people. He mentions migration as one measure for keeping the population stable. Aristotle followed with similar ideas. He was strongly against leaving numerical population growth up to people and without any restrictions (Šubrťová, 1989: 47). These opinions surely served as a good source of inspiration for Thomas Malthus. Aristotle's writings were also important for the development of science: He distinguished the first and second philosophy, the first being mythology and the second the study of objective reality (which comprises all the scientific disciplines known today).

Roman culture was a continuation of Hellenic civilisation and the transfer station to Western civilisation. The organisation of Roman society and its political system were also considerably shaped by Greek intellectual influence. The Roman republic acquired through war large territories in Africa, Asia, and Europe, around the Mediterranean Sea, the southern borders of the Black Sea, and almost all of southern and western Europe. Roman expansion continued even after the republican establishment was finally removed and the Empire was established by Augustus in the year 27 BCE. Long-running wars required soldiers, so the numerical population growth and the growth of families were officially endorsed, for example, by law. Marriages and families were supported in the famous '*lex Papia et Poppaea*' from the beginning of the first century A.D. Roman law was well developed and is still taught at many universities around the world to the present day. The New Testament, which was gradually compiled on the basis of the Revelations of the Apostles, also adopted a favourable attitude towards families, children, and population growth. It became the basis of Christian religion, represented first by the Roman Catholic Church, which acquired its name when its main representative and first pontiff Peter moved from Jerusalem to Roma in the year 42 AD. Other Christian churches were later created, Christianity with one Christ – God became a world religion and one of the fundamentals of Western civilisation.

Scholasticism was the leading ideology in the Middle Ages; Thomas Aquinas (Doctor Angelicus, 1225–1274) was its main representative. He followed the Bible's commandment: the population

should multiply and fill the Earth (*crescite et multiplicamini et replete terram*). From this point of view he criticised Aristotle's idea about the need to keep the size of the population stable. The scholastic ideology was not favourable for the development of science, with the exception of such formal disciplines as mathematics and logic. Some ancient scientific writings were banned. Western civilisation entered a new period of development in the 15th century. The new continent of America was discovered, the bishop of Siena Francisco Patricio (1412–1494) stated in his book *De institutione Reipublicae* (published first in 1569) that a too large population in relation to a lack of land and unemployment could create problems. He quoted Aristotle and agreed with his ideas concerning migration (Šubrťová, 1989: 149). He is also one of the predecessors of Robert Malthus. Niccoló Machiavelli (1469–1527) is another one, as he equated population size with wealth and power, but stated that if the number of the population surpasses its means of subsistence and even emigration cannot help overpopulation, then famine and disease would follow.

Important steps forward were made in the 16th and 17th centuries. Francis Bacon (1551–1620) had probably the biggest influence on the formation of natural philosophy and the rejection of scholasticism. His life work was the Great Instauration, which remained incomplete. He sought to lay the foundations of the sciences entirely anew, with a new inductive method and logic, and subjects such as Phenomena of the Universe, natural history, and finally the New Philosophy or Active Science (Hesse, 1964). He was the first representative of empirical science. Concerning population, he focused more on the quality of population than its number. In the absence of demographic data he expressed the opinion that England had a larger population than it needed. His imminent successor was Thomas Hobbes (1588–1679), who in his youth was Bacon's secretary. He wrote several books, some of them are widely known, such as *Leviathan* and *De Cive*. In the latter he related the number of people to the quantity of food, and argued that if it were not possible to nourish all the population, then some people would have to be sent to the colonies; if the world became too full, the last remedy would be war (Flew, 1964).

THE WRITINGS CLOSEST TO THE TOPIC OF THOMAS ROBERT MALTHUS

Many other authors touched on the population problem in the 18th and 19th centuries, when Thomas Robert Malthus published his famous essay. Some of them were a source of inspiration for him in a positive or negative sense, and here they will be mentioned in order of preference for him. François Marie Arouet (known as Voltaire; 1694–1778) was one influence. In his *Philosophical Dictionary* (1764) he ridiculed the opinion that the world was more populated before the deluge and had 5 milliard inhabitants. He mentioned the growth of cities in recent centuries. Never in the past had the world population size been so big and it was steadily rising. Jean Jacques Rousseau (1712–1778) was not only the author of the Social Contract, but also a friend of Robert's father Daniel and Robert's godfather. He devoted considerable attention to population questions. He was aware of the complexity of the various causes of population development, both external (climate, quality of land, geographical position) and internal (social organisation, legislation, religion, good governance). The full acceptance of human rights would guarantee harmonious population development. His ideas served as the basis for the Declaration of Human Rights (1789) and for the Jacobin constitution (1793), even if he was not revolutionary. From his writings it is possible to sense that he was in favour of attaining an optimal population size without actually saying so. He did not however fear overpopulation (Šubrťová, 1989: 194).

Three other authors should be mentioned in this context. Robert Wallace (1694–1771) thought that the population increase was slowing compared to previous ages. It is interesting that he noticed lower population growth in cities and then in the countryside. He supported population growth as a believer of physiocratic ideology. Benjamin Franklin (1706–1790) ruminated in his writings on different cases of population growth in Europe and America. He estimated that the population in America doubled every 25 years. However, he was an optimist about the future. He did not expect any shortage of food but he was aware that in every country the situation would be specific. (Šubrťová, 1989: 226). The third name mentioned here deserves much more attention than we will give him here. It is the famous philosopher David Hume

(1711–1776), who touched on many social problems, among them demographic reproduction. He thought that the parental instinct is so important for every population that only a bad government would try to prevent its fulfilment. Population growth is then a sign of good government (Flew, 1964). Without a doubt, Malthus was familiar with all their writings.

Robert Malthus was an economist, but his significance for demography is similar to that of its founder John Graunt (1620–1674). Malthus's essay drew wider attention to population problems. John Graunt was a follower of Bacon's ideas of natural philosophy, as he stated modestly in the introduction to his *Political Observations* (1662). He was also the cofounder of statistics together with William Petty (1623–1687). Robert Malthus was mainly an economist and follower of Adam Smith (1723–1790), who subordinated demographic reproduction to economic reproduction. He stated that the demand for people, like any other form of demand, necessarily also determined the 'supply' of people (Smith, 1958: 96; Pavlik et al., 1986: 594). Malthus did not criticise this statement, so we must assume that he agreed with it. This idea is the basis for his population law. I have not discovered whether they were in contact, but Malthus was 34 years old when Adam Smith passed away, so they may have been. After Smith's death he became the main representative of the classical economic school together with David Ricardo (1772–1823), with whom he was in frequent contact. Although they represent the same school, they differ slightly on several questions. Adam Smith could be labelled an optimist about population growth. A larger population is favourable for the economy, because it allows a more advanced division of labour. Robert Malthus, on the other hand, deservedly earned the mark of a pessimist owing to his population law. If his law were right, then mankind would be on the road to ruining itself. This is the law of geometrical progression.

The next two authors are directly responsible for Malthus's work. Both of them were friends of his father David, who agreed with them. Marie Jean Antoine Nicolas de Condorcet (1743–1794) was the older one. He was a representative of the age of the Enlightenment, a philosopher, mathematician, and friend of Voltaire and of Ann Robert Jacques Turgot (1727–1781). Condorcet was an incorrigible optimist but

a rational thinker. He was of the opinion that nature did not place any limits on human ability and that the potential for human improvement is unlimited. The only limitation lies in the Earth's existence, not among the people. He criticised social organisation that leads to the inequality of states and human beings, to nationalism, to international duplicity and to the efforts of powerful states to divide the world according to their interests. The hope of a better future for society is tied to three requirements: removing inequality among nations, establishing equality among human beings, irrespective of their origin, and improving human character through education and health care. He did not fear overpopulation. He believed in permanent and continual progress. According to him, it would be necessary to stop population growth in the future, but that time was still far away. The people would find enough food before then or would rationally stop growth. In his writings it is possible to identify the feeling of certain features of the demographic revolution, which had already started in France, unnoticed, by that time. Condorcet died in prison from exhaustion and his main work about the progress of the human spirit was published only after his death (Šubrtová, 1989: 257).

William Godwin (1756–1836) was the second author who inspired Malthus. He was considered as utopian with anarchist leanings. His work on political justice (1793) sparked a wide response, as did Malthus's essay later on. His publication was especially welcomed by radical proponents of social reforms and the emancipation of women and by artists and writers. Godwin attacked the throne, religion, and leaders. The content of his writings can be summarised in the following points. Man made significant progress in the past. Evil stemmed from the ill functioning of institutions, which are the means of oppression and domination. All governments should be liquidated. The ideal society consists only of free individuals. No bigger organisation of authority should be accepted than the parish. The unequal distribution of wealth should be removed. Marriage as an institution should disappear. Man is capable of unlimited progress in the future if people control themselves with the use of reason. He went beyond the limits of the Enlightenment with his irrational support for individualism and refusal of the state authorities.

He was very optimistic about population size, too. According to him, three-quarters of the Earth was still unused and even populated land could support more people than it was. The size of the population could grow for a billion years and the Earth would provide them with enough food, and he felt that it was likely that overpopulation would not occur even in the distant future (Godwin, 1973, II: 893). In spite of the utopian character of Godwin's writings it is interesting to observe that he had certain ideas about future changes in the character of demographic reproduction. He envisioned a situation in which reason would overcome the libido and so the number of children born would be managed accordingly. He had the same ideas as Condorcet. However, the features of the coming demographic revolution were more evident in France than in England. Given the lack of statistics it is difficult to say more. The first population censuses were not held in France or England until 1801.

THE FIRST EDITION OF MALTHUS'S ESSAY

The title of Malthus's book characterises its content well: *An Essay on the Principle of Population as it affects the future improvement of society with remarks on the speculations of Mr. Godwin, M. Condorcet, and other writers*. First, we have to imagine the social situation of the majority of the working population in England during the last decade of the 18th century. The first accumulation of capital was occurring in this period. Industry was already in the stage of rapid development and needed workers. There was a sufficient number in the countryside, where there was not enough employment, so those people were ready to move to the cities. However, cities were not prepared to receive a huge number of immigrants from the countryside. There was a lack of dwellings for families with many children and the city's infrastructure was insufficient. Children had to work instead of going to schools. Working time was long. The level of mortality was high but already slightly decreasing, and health was also poor. Poverty could be felt everywhere.

We cannot be surprised that Malthus, in confrontation with harsh rough reality, after reading the writings of Voltaire, Condorcet and Godwin, and after the discussion with his father, who shared their

opinion, was led to adopt the approach to the population problem that he did. Daniel Malthus belongs among the many English intellectuals who responded sympathetically to the French Revolution and admired the utopian writers. He was a country gentleman and a great admirer of Rousseau. One of Rousseau's essays, 'Avarice and Profusion', published in the *Enquirer* (1797), propounded the thesis that a state of cultivated equality is the most consonant with the nature of man, and the most conducive to the extensive diffusion of wellbeing. Daniel Malthus defended Rousseau's ideas and this led to a conflict with his son Robert. Against his father and against all utopians Robert argued that there was one fatal obstacle to such a state of equality and felicity: the inevitable tendency of the population to exceed the food supply. His father encouraged him to write down all his arguments. He developed these ideas quickly and had published them anonymously by 1798; the preface is dated 7 June (*Himmelfarb*, 1960: xvi). The essay is generally attributed to him, but it is probable that his father read it before publication.

The essay consists of nineteen chapters and a short preface and a total of 143 pages. The aim of the essay is in the beginning of the preface: 'The following Essay owes its origin to a conversation with a friend, on the subject of Mr. Godwin's Essay, on avarice and profusion, in his *Enquirer*, [i.e. the volume of his essays, published under the title *The Enquirer*, in 1797; note of ZP]. The discussion started the general question on the future improvement of society; and the Author at first sat down with an intention of merely stating his thoughts to his friend, upon paper, in a clearer manner than he thought he could do in conversation. But as the subject opened upon him, some ideas occurred, which he did not recollect to have met with before; and as he conceived that every last light, on a topic so generally interesting, may be received with candour, he determined to put his thoughts in a form for publication.' He apologised further that he had written the essay quickly and that he was aware that 'a collection of greater number of facts in elucidation of the general argument would be needed'. In the preface he expressed his main thesis that it 'is an obvious truth, which has been taken notice by many writers, that population must always be kept down to the level of the means of subsistence;

but no writer that the Author recollects has inquired particularly into the means by which this level is effected: and it is a view of this means which forms, to his mind, the strongest obstacle in the way to any great future improvement of society.' At the end of the preface he displayed his modesty. He wanted to draw attention to the more able men who are able to conceive what the principal difficulty is on the path to improving society, promising if we as a result 'see this difficulty removed, even on theory, he will gladly retract his present opinions and rejoice in a conviction of his error' (*Himmelfarb*, 1960: 3).

Robert Malthus was aware of the great progress that had been made in the 18th century in all social processes and in the sciences and technology. Without mentioning Francis Bacon he picked up on his natural philosophy and used inductive methods to study society. Let's give him the opportunity to express himself. At the beginning of the first chapter, he clearly summarised his opinion: 'The great and unlooked for discoveries that have taken place of late years in natural philosophy, the increasing diffusion of general knowledge from the extension of the art of printing, the ardent and unshackled spirit of inquiry that prevails throughout the lettered and even unlettered world, the new and extraordinary light that gave been thrown on political subjects which dazzle and astonish the understanding, and particularly the tremendous phenomenon in the political horizon, the French revolution, which, like a blazing comet, seems destined either to inspire with fresh life and vigour, or to scorch up and destroy the shrinking inhabitants of the earth, have all concurred to lead able men into the opinion that we were touching on a period big with most important changes, changes that would in some measure be decisive of the future fate of mankind.' (ib, p. 5)

Further he expressed two postulates: 'first that food is necessary to the existence of man and secondly that the passion between the sexes is necessary and will remain nearly in the present state. These two laws, ever since we have had any knowledge of mankind appear to have been fixed laws of our nature, and, as we have not hitherto any alteration in them, we have no right to conclude that they will ever cease to be what they now are, without an immediate act in that Being, who first arranged the system of the universe, and for

the advantage of his creatures, still executes, according to fixed laws, all its various operations.' (ib., p. 8) He continued in a similar way: 'Assuming then, my postulata as granted, I say, that the power of population is indefinitely greater than the power in the earth to produce substance for man. Population, when unchecked, increases in a geometrical ratio. Subsistence increases only in arithmetical ratio.' (ib, p. 9)

'This implies a strong and constantly operating check on population from the difficulty of subsistence... Among plants and animals its effects are waste if seeds, sickness and premature deaths among mankind, misery and vice. The former, misery, is an absolutely necessary consequence of it. Vice is a highly probable consequence, and we therefore see it abundantly prevail, but it ought not, perhaps, to be called the absolutely necessary consequence. The ordeal to virtue is to resist all consequences of evil.' (ib, p. 10) In the next chapter Malthus developed the idea of the geometrical ratio of population growth when no restrictions exist. He was fascinated with this invention and this is probably also one of reason for its popularity. It is a simple mathematical formula, which anyone with an elementary knowledge of mathematics can understand. We would call this growth exponential. In reality, no social process could be expressed in such a simple way. No growth can be permanently exponential. P. F. Verhulst, four decades after Malthus, developed his own logistic curve (1838), based also on the idea of exponential growth, but comprising a fixed limit. It can be called a compound exponential curve and it fits the population growth of some countries – for example, the United States in the period from the beginning of 18th century up to the Second World War (*Pavlik et al.*, 1986: 393). The logistic curve was first accepted with great enthusiasm, which gradually disappeared. Malthus considered 25 years to be the doubling time for a population without any restrictions. This means a yearly growth of 2.8%. Such growth is possible, but it is exceptional and only occurred in the short period of the demographic revolution, when the level of mortality had already decreased and the intensity of natality remained temporarily high. The highest rate of world population growth, 2.1%, was recorded in the late 1960s, when the demographic revolution was starting in developing countries (it was already completed in developed countries).

When we speak of Malthus's essay, we must keep in mind what the situation was like in all social strata/social classes at that time. Mankind has made enormous progress since then. The estimated time of the world's existence then was 6,000 years (*Himmelfarb*, 1960: 77). The essay became a classic and is worth reading. The reader understands that Malthus was a sincere writer, whose goal was to contribute to the improvement of society. An essential part of the book is devoted to a critical debate with Marie Jean Antoine Condorcet and William Godwin. It is not possible to mention all the topics that the essay comprises, but we can mention at least some of them. He stated that 'the farmers and capitalists are growing rich from the real cheapness of labour. Their increased capital enable them a greater number of men. Work therefore may be plentiful, and the price of labour will consequently rise' (ib, p. 16). He discussed the poor laws. 'Fortunately for England, a spirit of independence still remains among the peasantry. The poor-laws are strongly calculated to eradicate this spirit.' (ib, p. 33). 'The labouring poor, to use a vulgar expression, seem always to live from hand to mouth.' (ib, p. 34) He expressed opinions on population growth in history, on justice, and on the equalisation of property, and he criticised the bad social situation in the colonies. It is interesting that Malthus did not use the demographic data from John Graunt's publication, but the data from the tables of Johann Süssmilch (1707–1767). They are the sole data on the number of births, deaths and marriages (ib, pp. 43–45). Malthus was not as pessimistic as might be judged from his writings. He states that the numerical growth of people could also have positive consequences. 'As the reason, therefore, for the constancy of the laws of nature seem, even to our understanding, obvious and striking, if we return to the principle of population and consider man as he really is, inert, sluggish, and averse from labour, unless compelled by necessity, ... we may pronounce with certainty that the world would not have been peopled, but for the superiority of the power of population to the means of subsistence. ... Had population and food in the same ratio, it is probable, that man might never have emerged from the savage state.' (ib, p. 131) This mosaic of topics should present a picture of the essay's content; it is very extensive and also forms a mosaic.

FURTHER EDITIONS OF MALTHUS'S ESSAY

Robert Malthus was surely surprised by the strong response to his publication. He had more modest expectations, as we can see from the title and preface of his essay. The main purpose of the essay was to express in writing his main ideas, which stem from his discussions with his father, with the marquis de Condorcet and with William Godwin. Nothing in his life suggests the pessimistic content of his essay except the ideas of his opponents in the long discussions, confronted with the real situation in society. This probably irritated him. His essay earned admirers, but also some harsh critics, who even used hoaxes against him. They spoke about his eleven daughters, and how he then presumed to preach to others about the virtues of celibacy. This myth has persisted to this day. 'Nor was Malthus the ruthless, mean-spirited, hard-hearted man his enemies made him out. His associates all remarked upon his exceptionally amiability, good-nature and gentleness, in contrast to Godwin who was inconstant on his affections querulous in personal as in intellectual affairs.' (*Himmelfarb*, 1960: xvii) Malthus himself described his feelings in the preface (he referred to himself as the 'author'): 'The view which he has given of human life has a melancholy hue, but he feels conscious, that he has drawn these dark tints, from a conviction that they are really in the picture, and not from a jaundiced eye or an inherent spleen of disposition.' (ib, p. 4)

He was aware that the essay had been written quickly and that his arguments were not sufficiently substantiated. The unexpected success of the essay led him to spend the next five years studying the subject and he ultimately prepared a second edition of it as a real scientific work without changing the main idea. He spent much time reading, reflecting, and travelling. His first trip took him to Germany, Sweden, Norway, Finland, and Russia. After the war with France, he went to France and Switzerland. He collected information, theories, and data (censuses occurred in some of these countries after 1800). The population of England was more numerous than he expected. This was the first census and so no population growth could be calculated from its results. However, a certain estimate could be made from the data.

The second edition appeared in 1801, five further editions up to 1834 and the seventh edition in 1872. Extensive changes were made to the second edition and only minor changes after that. The length of the second edition was about three times that of the first. The essay was given a new title: *An Essay on the Principle of Population, or, A View of its Past and Present Effects on Human Happiness; with an Inquiry into our Prospects Respecting the Future Removal of Mitigation of the Evils which it Occasions*. The names of Condorcet and Godwin almost disappeared entirely from it; they are mentioned in the whole text only twice; this is a big difference from the first edition, where the discussion with them took up a considerable part of the text). The title promised a great work, which could not be completely fulfilled given the lack of necessary information and the size of the goal.

The structure of the essay also changed dramatically. Instead of nineteen chapters without headings, the whole text was divided into four books, which were further divided into chapters with headings that facilitate an orientation in the text. These are as follows (a few chapters were omitted in the seventh edition, because they are the same as in the first edition or they were considered unimportant): Book I: Of the checks to population in the less civilized parts of the world and in past times: Statement of the subject – ratios of the increase of population and food (I); Of the general checks to population, and the mode of their operation (II); Of the checks to population in the lowest stage of human society (III); Of the checks to population in the islands of the south sea (V); Of the checks to population among the ancient inhabitants of the north of Europe (VI); Of the checks to population in China and Japan (XII); Of the checks to population among the Greeks (XIII); Of the check to population among the Romans (XIV); Book II: Of the checks to population in the different states of modern Europe: Of the checks to population in Switzerland (V); On the check to population in France (VI); Of the checks to population in France – continued (VII); Of the checks to population in England (VIII); Of the checks to population in England – continued (IX); On the fruitfulness of marriages (XI); General deductions from the preceding view of society (XIII); Book III: Of the different systems or expedients

which have been proposed or have prevailed in society, as they affect the evils arising from the principle of population; Of systems of equality – continued (III); Of emigration (IV); Of poor-laws (V); Of poor-laws – continued (VI); Of poor-laws – continued (VII); Of the agricultural system (VIII); Of the commercial system (IX); Of systems of agriculture and commerce, combined (X); Of corn-laws – bounties on exportation (XI); Of corn-laws – restrictions on importation (XII); Of increasing wealth, as it affects the condition of the poor (XIII); General observations (XIV); Book IV: Of our future prospects respecting the removal or mitigation of the evils arising from the principle of population: Of moral restraint, and our obligation to practise this virtue (I); Of the effects which would result to society from the prevalence of moral restraint (II); Of the only effectual mode of improving the condition of the poor (III); Of the consequences of pursuing the opposite mode (V); Effects of the knowledge of the principal cause of poverty on civil liberty (VI); Continuation of the same subject (VII); Plan of the gradual abolition of the poor laws proposed (VIII); Of the modes of correcting the prevailing opinions on population (IX); Of the direction of our charity (X); Different plans of improving the condition of the poor considered (XI); Continuation of the same subject (XII); Of the necessity of general principles on this subject (XIII); Of our rational expectations respecting the future improvement of society (XIV).

In the preface to the second edition, dated 8 June 1803, Malthus explained the differences from the first edition. Every reader can feel how the second edition differs from the first in several points. While the first one comes across as a pamphlet, the second is based on a wide and intensive study of reality and has a scientific character. It is much more general and large (this is also seen in a comparison of its size). 'It is curious that so drastic a change as that between the two versions of the Essay should have been largely ignored both by Malthus' contemporaries and by later commentators.' (*Himmel-farb*, 1960: xxxiii) They did not see the importance of the introduction of moral restraint to population growth as another check to population. Malthus approached to the theory of the demographic revolution, the first features of which could already be seen in the more developed countries of Western civilisation

in the second half of the 18th century. In the last chapter of the essay he mentioned that in Norway, Switzerland, England, and Scotland it was already possible to find prevalence of preventive checks and at the same time a decreasing level of mortality. He also confessed 'that the evils resulting from the principle of population have rather diminished than increased, even under the disadvantage of an almost total ignorance of the real cause' (ib. p. 592). Malthus ranks among the first few authors to use inductive method recognise the early features of the dramatic changes accompanying the demographic revolution.

CONCLUSION

Thomas Robert Malthus became a symbol of the ideology of Malthusianism, which is based on a negative attitude to population growth, which was especially observed during the period of large growth in the first phases of demographic revolution. This ideology is against using any unnatural means of contraception. This changed with the doctrine of Neo-Malthusianism, which in the first half of the 19th century expressed approval of all contraceptive methods, while maintaining the same attitude towards population growth. A new wave of Neo-Malthusianism emerged in the middle of the 20th century, when the demographic revolution started in developing countries. The biologist Paul Ehrlich expressed a catastrophic opinion that cannot be found in the Malthus's works when he wrote: 'The battle to feed all of humanity is over. In the 1970's the world will undergo famines – hundreds of millions of people are going to starve to death in spite of any crash programs embarked up to now. ... Our position required that we take immediate action at home and promote effective action worldwide. We must have population control at home, hopefully through the system of incentive and penalties, but by compulsion if voluntary methods fail.' (*Ehrlich*, 1968: 7) A similar catastrophic scenario was published as a report for the Club of Rome, using sophisticated models based on a simple extrapolation of past data (*Meadows*, 1972). The results were no different from those of Ehrlich and were labelled Malthusian, or were described as Malthus with a computer (*Loužek*, 2010). A similar discussion had already taken place

at the World Population Conference, which was organised jointly by the United Nations and the International Union of Population Studies in Belgrade in 1965. The numerical growth of the world population was then the highest in the history of mankind, reaching 2.1% annually. This meant a doubling of the population size in 33 years, if the conditions remained constant. Two opposite approaches developed during the conference, where a suggested population clock was presented. The first group of participants

asserted the idea of family planning in all developed countries; the second group saw overall economic and social development accompanied by free access to family planning to be more effective. The last World Population Conference, held in Cairo in 1991, was organised already under the title 'Population and Development'. The demographic revolution as a universal process will end on the international level in the second half of this century. New problems will emerge; and one of them is already present: international migration.

References

- A Cambridge Alumni Database, University of Cambridge.
- Ehrlich, P. R. 1968. *The Population Bomb*. New York: Ballantine Books, 223 p.
- Flew, A. G. N. 1964. Hobbes. In: O'Connor, D. J. (ed.): *A Critical History of Western Philosophy*, Collier-Macmillan, London, pp. 153–169.
- Flew, A. G. N. 1964. Hume. In: O'Connor, D. J. (ed.): *A Critical History of Western Philosophy*, Collier-Macmillan, London, pp. 253–274.
- Godwin, W. 1793. *An enquire concerning political justice and its influence on general virtue and happiness*. London: G.G.J. and J. Robinson.
- Hesse, M. B. 1964. Francis Bacon. In: O'Connor, D. J. *A Critical History of Western Philosophy*. London: Collier-Macmillan, pp. 141–152.
- Himmelfarb, G. (ed.) 1960. *On Population – Thomas Robert Malthus*. New York: The modern Library, 602 p.
- Krejčí, J. 2002. *Noticeable flows of history* (In Czech). Praha: Slon, 563 p.
- Loužek, M. (ed.) 2010. *Malthus, Thomas: 175 years since death* (In Czech). Praha: CEP.
- Malthus, T. R. 1798. *An Essay on the Principle of Population as it Affects the Future Improvement of Society, with Remarks on the Speculations of Mr. Godwin, M. Condorcet and other Writers*. London: J. Johnson, in St. Paul's Church –Yard,
- Malthus, T. R. 1789. *An Essay on the Principle of Population*. In Oxford World's Classics reprint
- Meadows, D. H. – Meadows, D. L. – Randers, J. – Behrens, W. 1972. *Limits to Growth. A report for the club of Rome's project on the predicament of mankind*. New York: Universe Books.
- Pavlík, Z. – Rychtaříková, J. – Šubrtová, A. 1986. *Principles of Demography* (In Czech). Praha: Academia, 732 p.
- Petersen, W. 1999. *Malthus*. London: Heineman, 1979, 2nd ed. 1999.
- Smith A. 1776. *The Wealth of Nations*. Czech translation (1958), Praha: SNPL.
- Sydney, L. (ed.) 1893. *Dictionary of National Biography*. London: Smith, Elder & Co.
- Šubrtová, A. 1989. *History of Population Thoughts and Population Theories* (In Czech). Praha: Ústav československých a světových dějin, 691 p.
- Wikipedia, the free encyclopedia. Available at: <http://en.wikipedia.org/wiki/Thomas_Robert_Malthus>.

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