

## What do Malthusians believe is the relationship between population and hunger?



### Introduction

In 1973, the movie *Soylent Green* followed on from a similarly themed movie called *Z.P.G.: Zero Population Growth* in 1972. Both had dystopian themes reflecting Malthusian theory, which is one of overpopulation in a finite space reaching beyond the limits of any sustainable food source. As dramatically as movie producers can represent the storylines of the books from which they came, the plots indicate radical solutions to this dilemma through cannibalism and birth control, respectively; both solutions are horrifying but point out what ultimately may have to be done when there appears to be no other way of solving the dire problem of “do or die” (Olszynsko-Gryn & Ellis 2018; Scott & McMurry 20114).

At a much more basic and somewhat extreme level, and as can be seen on the cover page, an analogy of the human situation could be similar to when flies die when they enter a flytrap from which they cannot escape (for humankind, no leaving planet Earth soon): they (the flies) have no food and plenty of their kin rotting at the bottom of the cage. It is a horrible but hopefully vivid analogy to human beings in a finite space with nothing to eat, together with our equally unfortunate brothers and sisters dying and polluting the space that we have left to live in; it would be a rather grim future to look forward to. We are in a finite space, and even with technological solutions for improved food supply and cessation

of population growth, we still have a pollution problem that also appears to be unsurmountable (Watkiss et al. 2023; Romanello et al. 2023).

This essay will not hover over grim extremes but look at the more positive outcomes that can be realised in solving our problem. We shall start by discussing Malthusian theory, his prognostications and detractors and his theory's relation to global conditions of population growth, food supply, food security, and hunger. This will discuss the ethnographic evidence reflecting on the anthropological consequences of social changes. Our objectives, therefore, will be to identify the intersection between Malthusian theory and its effect on our understanding of the conditions contributing to the present-day dilemma of meeting the demand for food with a sustainable supply that offers future food security.

### **Malthusian theory**

In 1798, Thomas Malthus was considered a political economist and a cleric with the Church of England who wrote "An Essay on the Principle of Population" (Cremaschi 2017). The central thesis of this publication is that under favourable conditions, a population will increase geometrically whilst agricultural production will increase arithmetically with this disparity resulting in food shortages, hence famine and starvation (Meiring 2020). Malthus makes the point concerning uncontrolled human production that it "stands in the way of an improvement of the well-being of the population". Thus, catastrophe looms when population growth is larger than food production growth (cited in Andersson et al. 2021).

Although pointedly referring to humanity's "propensity to propagate", which is arguably quite correct and certainly presents an increase in demand for nutrition, the implication that the linearity of the food supply is insufficient has gained its detractors (Kallis 2019; Rose 2002; Smith 2013). It is sufficient to say that two principal arguments against Malthusian theory are the mathematical inaccuracies in rates of increases for humanity and food supply and technological advances to meet these differences. However, with the present concern of climate change and its complex and often damaging interactions with biodiversity, an "eco-scarcity theory" has now been introduced, which confirms rather than denies the underlying problem of too little supply for too much demand. This theory, considered "neo-Malthusian", recognises that the increasing population that creates environmental pressures results in diminishing resources, social conflict and political unrest (Friedrichs 2014).

It is also reasonable that in stable Western urbanity, many can see first-hand that the climate is changing and affecting populations through heat extremes and flooding, causing pressure on natural resources. However, it is not so easy to see millions of extra people populating the planet other than perhaps by watching infrequent media clips that are remote from touch; for instance, people crammed on small craft on the high seas with the hope of escaping to a better life away from conflict and starvation – or both. Nevertheless, increased population pressure, even though it may be indirect, affects all of us. It is to these unfortunate populations that we shall shortly address the changing situation; after all, it is widely accepted that the dominating, capitalist and so-called advanced economies are responsible for the predicament of those populations in developing countries who have been most harmed (Corvino 2023).

### **Population Growth**

Only in the 1960s was it realised by many that the world was changing dramatically. Testament to this and a turning point in our view of humanity's destruction of nature was via research commenced in the late 1950s by Rachel Carson. The culmination of that research, together with her prior publications, was the environmental science book *Silent Spring*, which could be recognised as a wake-up call to not just how ecosystems were being decimated through the pollution of pesticides and insecticides but also how it was and still is, affecting overall human well-being (Norwood 1987). This was considered “a landmark event stimulating the growth of the environmental movement” (Beyl 1992).

It was not much of a leap for consideration to be given to all aspects of the environment and its finiteness, where natural resources were being depleted or destroyed by overuse and the polluting effects of humanity's need for economic progress. It is to these issues that Paul Ehrlich addressed the problem of overexploitation of natural resources by exponentially increasing global population in his text “The Population Bomb” (1968). In many ways, this endorsed Malthusian theory and assisted in igniting neo-Malthusianism. This publication was quickly followed by Garret Hardin with his “Tragedy of the Commons”(1968) and Meadows et al.(1972) with “The Limits to Growth”. These publications also, in the main, concurred with much of Malthusian theory and have generated much philosophical discussion, resulting in the creation of other fields of moral philosophy, including environmental ethics, which has evolved from concern over the ecological damage created by increasing human population (Andersson et al. 2021).

Today, our global population has reached approximately 8.1 billion at this time of writing (Worldometer 2024). At this rate of growth, the population is “expected to increase by nearly 2 billion persons in the next 30 years, from the current 8 billion to 9.7 billion in 2050 and could peak at nearly 10.4 billion in the mid-2080s” (UN 2023). This projection gives pause as to how we shall accommodate this increase in population with enough nutrition and, with the accelerating migration of populations escaping climatic extremes, how it is to be delivered and where it is most needed at that time.

Furthermore, to add to the looming difficulty, in 2022, the IPCC produced a paper detailing this burgeoning threat of climate change, now producing more frequently occurring weather events oscillating from extended heat waves to excessive inundations. Ripple et al. (2023) refer to this as uncharted territory where the intensity of severe climatic events is increasing in frequency. These conditions create alarming threats to food supply and food security.

### **Food Supply, Food Security & Hunger**

With more mouths to feed, more food will be required; when food is absent, we have hunger. Vernon (2007, p.2) avers that “perpetual presence and apparently unchanging physical characteristics belie the way in which its meaning, and our attitudes toward the hungry, change over time” and that “Distinct from acute malnutrition and starvation that describe the effects of a (near) total absence of sustenance, food insecurity defines persistent *precarity* of subsistence” (Strong 2021).

Then, it is not just a case of providing sufficient food but ensuring its continuance through sustainability and security. Based on the 1996 World Food Summit (Shaw 2007), Food Security is defined as having “physical and economic access to sufficient safe and nutritious food that meets one's dietary needs and food preferences for an active and healthy life at all times”. We wish to avoid anyone going hungry; to do this, we must make more significant efforts to fulfil the UN Sustainable Development Goals set in 2015: establishing food security and eliminating global hunger. Action towards this needs to identify limitations on production and the economic cost of sufficient products transported and delivered to consumers where needed.

In Meadow et al.'s (2013) “Limits to Growth,” the summation of their work indicated that the greatest limiters were “population, agricultural production, natural resources, industrial

production, and pollution” (ibid.), but the most recent studies (IPCC 2022), as mentioned earlier, indicates that the latter is the main culprit – not population growth in itself.

However, there are further limitations, among which are income inequality (not everyone can buy what they need), some living in poverty, possibly through unemployment, or aging. Also, there is environmental migration resulting from extreme climate disruption (Han et al. 2024), scarcity of local public goods (like drinking water), changes in staple demand (rice v potatoes), population migration and political will.

All of these create a tangled web of complications. Still, looking to the future, with AI, more objective analyses could be made to augment the usually conflicting ideas often produced by politicians (Komararaju 2021). Still, one thing that will constantly move population growth forward is sex, and the increasing human population demands a greater supply of food.

### **Social changes, at home and abroad**

However, despite this almost unstoppable human action, efforts have been ongoing to improve the overall food supply. Steps in the right direction, considered to be at the advent of the Green Revolution, were initiated by Norman Borlaug (Borlaug 2002) in the mid-1960s when he began the race to fight global hunger with the genetic mutation and production of disease-resistant strains of wheat that could cope with harsh climates. This development assisted India, for instance, to dig its way out of its poor economic situation “after more than two centuries of colonial exploitation (along with three wars in first two decades of Independence) resulting in chronic poverty” (Meena & Sahay 2022).

Much improvement has been made since then, with bare land and water use resources being optimised (in many cases), many additionally accessible food sources, and financial assistance from the World Bank to labouring countries (The World Bank 2024).

It should, however, be recognised that the information so gleaned, indicating the depreciating scenarios of food supply, escalating prices, and even climate extremes, has been acquired from those areas that predominantly represent capitalist economies. In stark contrast, it is interesting to have discovered that my best friend and old colleague recently returned from living in Moscow as an electrical engineer (J. Angel 2024, pers. comm., 5 March) and has experienced something else. Unlike the increasing cost of food obtained presently at Australian retailers (Backholer & Zorbas 2024, p.1), his family’s experience living in Moscow for the last two years and his frequent business excursions to

Siberia in the course of his work even until last month, has, by sending frequent videos and video-linked conversations, indicated that the cost of food there was less than one-fifth of that realised for the same products in Queensland; they considered Moscow not only to be culturally advanced but to be the safest city they have ever lived in. This testimonial questions if the capitalist system is all that it is boasting to be and what is relayed to us via the media we are accustomed to. The only answer to this anomaly appears to be fresh produce being obtained from local small-scale agricultural enterprises such as family-run farms. This is quite a contrast from bulk buying from huge conglomerates, with plenty of intermediaries adding charges to support themselves, resulting in higher prices.

But we are in Australia, and part of what represents Western society, democratic and capitalist, with recognised concerns regarding food supply and its security, and we are not alone in the Antipodes in our concern for future food supply and security. There is adequate literature describing some of the non-conventional enterprise solutions to food supply and security that may be used in urban environments, such as vertical farming, hydroponics, and waste recycling (Artmann et al. 2021; Wirth et al. 2021; Babbitt 2020), but different approaches could be reverted to by indigenous communities who may or may not be urban dwellers.

Aboriginal and Torres Strait Islanders in Australia managed a sustainable food environment to meet their needs for over 60,000 years (Sherriff et al. 2022) before European colonisation. This was through a deep understanding and connection to their traditional lands. Food supply and security were not seen as a problem that the average Australian of today would recognise; after all, there were fewer people. Now, they are “among the most socially and economically disadvantaged communities in Australia, and experience challenges purchasing adequate quantities of food, as well as adequate high-quality healthy food, due to financial and other constraints” (ibid.)

While it is essential to identify these issues, how we deal with them requires more effort. Ethnographic research has identified concerns affecting the indigenous populations that include being financially disadvantaged and in constant debt, limited transportation, lack of appropriate shelter and amenities, easy access to fast food outlets, disruption to family structures, “loss of healthy food knowledge and preparation skills; and an inability to maintain family, cultural and community commitments and responsibilities” (ibid.). This

indicates the desecrating effects on a subjugated population, together with a severely and possibly irreversibly damaged environment.

For the population in the research programme thus mentioned, remedies were suggested that included domestic care programs, community gardening, better transportation available and food subsidies. It was felt that “culture and values should be at the heart of new food security initiatives, with the expectation that they would positively impact community participation, mental health, and overall well-being” (ibid. p.17). Indirectly, this could be considered a Malthusian result, where populations become too large, seek greater space, find it, populate it, and, in doing so, leave damaged environments and people in their wake. Significantly and positively, in this scenario described, there was a strong sentiment among the Aboriginal elders that culture and values should be prioritised in the new food initiatives. This would be an opportunity for the education of younger generations to learn more about their ancestral methodologies used to produce a sustainable and sufficient food supply. We should address these issues to reverse much of the damaging influence of colonisation. It would be of no surprise if this situation in our backyard, Australia, were not a reflection of other indigenous populations, particularly those in the Oceanic region, to which the effects of colonisation have also influenced in a similarly less than optimal manner.

## **Conclusion**

This discussion covered the four areas of Malthusian theory: population growth, food supply, food security and hunger, and social changes at home and abroad. These are all significant subjects, and there is regret in the inability to encompass all topics more comprehensively. Even so, with the Malthusian theory, we can see that it has many modern-day supporters and that the problem of sufficient food production and security is a prime concern. Some critics are hopeful about the improvements made and expect advanced technology to provide solutions, particularly when or if population growth reaches a plateau. But this is theoretical, and it is humanity’s disposition to follow the evolutionary path of reproduction even though some critics are sure that smaller families are on the increase and part of the future solution to reduce the increasing number of mouths to feed. This, though, brings up other issues, such as the age demographics rising upward, such that the reducing younger population may not be able to support the increasing number of elderly.

Then there are the looming threats to food supply and security due to larger populations and our ability to provide sufficient agricultural production, maintain natural resources, industrial production, and pollution. The latter still includes an increasing volume of atmospheric pollution, feeding global warming and producing the growing frequency of climatic extremes that destroy the natural resources needed to grow food; there is still a question mark over how insecure we are becoming. Finally, albeit too briefly, we have visited how efforts have been made in one nation's effort to improve its food security and economic revival by the advent of the Green Revolution, which Norman Borlaug reputedly started. Then, we reviewed an example of local ethnographic research uncovering problems of food supply and security for indigenous populations and identifying factors that have given impetus for remedial action. The desire for indigenous knowledge regarding food supply and sustainability to be taught to younger generations is significant and highly likely to become a global necessity.

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