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Malthus and Smith: Two Views on Population Growth

Both Thomas Robert Malthus and Adam Smith claim population growth is regulated by the finite capacity of the food supply. Malthus, in his *Essay on the Principle of Population*, describes a system of positive and preventative checks that act to keep the population below the limit. Similarly, Smith claims in *The Wealth of Nations* that scarcity has a regulatory effect on population growth, such that "no species can ever multiply beyond [the means of their subsistence]" (182). However, they reached different conclusions. Whereas Malthus claims that the conflict between the human urge to reproduce and the unavoidable limits on food production will lead to famine and suffering, Smith is optimistic and believes that growth can continue without serious consequence. The reality lies between these two extremes. Smith's famous economic theory about the power of division of labor allows him to claim that an increase in population is also an increase in available labor, which can provide food to support a greater population; Malthus's mathematical arguments about the food supply are flawed because they do not take this into account. However, though the population can continue to reach increasingly higher levels, the Malthusian scarcity of resources nonetheless results in suffering among the lower classes of society.

Malthus's *Essay on the Principle of Population* makes the controversial assertion that there are limits to human progress because natural resources have a finite capacity. The foundations for his argument are the unremarkable claims that "food is necessary to the existence of man" and that "the passion between the sexes is necessary and will remain nearly in its present state" (19). That is, the population has a natural tendency to increase, but if the food supply does not grow correspondingly, it will impose a limit on population growth. Malthus believes that the population grows at a higher rate than the food supply can: "population, when unchecked, increases in a geometrical ratio. Subsistence increases only in an arithmetical ratio. A slight acquaintance with

numbers will shew the immensity of the first power in comparison of the second" (20). Once the population grows to the maximum level that can supported by the food supply, any further increases will result in some part of the population suffering from inadequate subsistence: "The food therefore which before supported seven millions must now be divided among seven millions and a half or eight millions. The poor consequently must live much worse, and many of them be reduced to severe distress" (24). This distress will necessarily continue until it is offset by either an increase in agricultural output or a decrease in population.

Both Malthus and Smith claim that there exist factors that act to slow or reverse population growth as it reaches the limits of subsistence. Malthus believes that these factors, which he refers to as "positive checks," are the primary means for preventing societies from growing beyond their limits. The most direct example is famine: when there is not enough food available, starvation and malnutrition cause an increase in mortality, which acts against the population increase. Malthus observes throughout England an increase in "mortality among the children of the poor" and sickness among the lower classes "which can only be attributed to a want either of proper or of sufficient nourishment" (36). He does not believe that this problem can be solved by any type of economic policy, because there simply is not enough food to sustain everyone adequately: "I cannot by means of money raise a poor man and enable him to live much better than he did before, without proportionably depressing others" (38). Like Malthus, Smith also observes the increase in mortality that results from scarcity, claiming that "poverty, though it does not prevent the generation, is extremely unfavourable to the rearing of children" (182). He notes that "it is not uncommon … in the Highlands of Scotland for a mother who has borne twenty children not to have two alive," and uses this to support his claim that "the scantiness of subsistence can set limits to the further multiplication of the human species … by destroying a great part of the children which their fruitful marriages produce" (182). Similarly, war is another "positive check" that can take place when the population outgrows its means of subsistence. Malthus demonstrates this using the example of a nation of shepherds that have exhausted all the pasture lands available to them. When "want pinched the less fortunate members of the society, and at length the impossibility of supporting such a number together became too evident to be resisted," some of the

less fortunate members set out "to explore fresh regions and to gain happier seats for themselves by the sword" (29). The result is a war for natural resources, a "struggle for existence … fought with a desperate courage" (29). By causing deaths, war, like famine, can act to reduce population when it reaches the subsistence limit. Smith does not specifically discuss war as a result of scarcity, but it certainly follows as a reasonable consequence of the poverty he describes. In regard to the capability of positive checks to restrict population growth, Malthus and Smith are in agreement.

Both Malthus and Smith also consider the possibility that population growth can be slowed by factors that act to discourage reproduction before it reaches the maximum level supported by the food supply. Malthus refers to these factors as "preventative checks," but he is not optimistic about their effectiveness. Specifically, he claims that economic concerns can provide an incentive not to reproduce. Both marriage and raising children involve considerable expense, as a worker must provide not just for himself but for the rest of his family as well. As a result, he will not enjoy as much wealth or social status, and thus can be motivated by self-interest to resist his natural impulse to reproduce. This effect is even more extreme among the lower classes, for a poor laborer may realize that "no degree of frugality, no possible exertion of his manual strength could preserve him from the heart rending sensation of seeing his children starve" (35). This provides an even stronger incentive not to have children. Malthus refers to these motivations as "vice" and claims that they explain how many nations can have a "slow progress in population" in spite of the ever-present "passion between the sexes" (33). However, Malthus asserts that this check cannot effectively curb population growth because humans are not entirely rational and "guided either by a stronger passion, or a weaker judgment, [will] break through these restraints" and follow their urge to reproduce anyway (34). He also refers to "moral restraint" as another type of preventative check that occurs when people are aware of the dangers of unchecked population increase, though he is not certain that it can have a significant impact. Just as overeating results in poor health, "if we multiply too fast, we die miserably of poverty and contagious diseases. The laws of nature … indicate to us that we have followed these impulses too far" (131). Accordingly, he claims that it is a moral "duty of each individual not to marry till he has a prospect of supporting his children" (132). If this obligation is followed, it will reduce the rate of population increase. However,

Malthus is not very optimistic about the effectiveness of these preventative checks. He does not even acknowledge the possibility of moral restraint in the first edition of his essay, and he claims that while "vice and misery" may slow the process, the population will nonetheless grow until it reaches the maximum sustainable level.

Smith's arguments in *The Wealth of Nations* resemble Malthus's theory of preventative checks, but he is more optimistic about their potential. He takes an economic approach to analyzing this limit, viewing the population as labor and considering its supply and demand. When the population is low, the supply of labor is limited and its value increases, encouraging "the marriage and multiplication of labourers;" when the population is high, the market is "over-stocked with labor," lowering wages to an undesirable state and increasing poverty (183). Thus "the demand for men, like that for any other commodity, necessarily regulates the production of men; quickens it when it goes on too slowly, and stops it when it advances too fast" (183). This analysis leads to a much more optimistic conclusion than Malthus's theories, because it suggests that population growth will slow before it reaches the limit of maximum subsistence, allowing widespread famine to be avoided. However, viewing the human population strictly as an economic quantity is a problematic simplification because it discounts the power of the instinctual motivation to reproduce. As Malthus describes, even the strongest economic constraints will often be overshadowed by the reproductive instinct; Smith does not adequately account for this in his model. Accordingly, Smith is more optimistic about the capability of these preventative checks to regulate population growth.

The most significant difference between Malthus's and Smith's arguments about population lies in their predictions about the food supply. Malthus's assertion that the food supply can only increase arithmetically is central to his argument, yet it is one of the weaker points of his essay. He claims that it would be "contrary to all our knowledge of the qualities of land" that agricultural production could double in twenty-five years and then double again in the next twenty-five. "The most enthusiastic speculator cannot suppose a greater increase" than an arithmetical progression (22). However, Malthus does not provide any explanation for why this is the case; he merely assumes it to be true. Similarly, he claims that, even though "we do not exactly know where

it is," there must exist a "limit to improvement" for plants and animals: "No man can say that he has seen the largest ear of wheat or the largest oak that could ever grow; but he might easily, and with perfect certainty, name a point of magnitude at which they would not arrive" (63). Again, this reasoning is circular; he merely claims that the existence of a limit to progress is obvious. In reality, the situation is not so simple, because there are many complex factors that contribute to the amount of food available to support a population. It is thus unreasonable to suggest, based on this unconvincing argument, that the food supply necessarily grows arithmetically.

Smith presents "the division of labour" as "the greatest improvement in the productive powers of labor," and it provides an explanation for how the food supply can grow faster than Malthus assumes (109). By specializing in one particular area, workers can improve their productivity and efficiency. Smith uses the example of pin-making: a team of pin-makers can be thousands of times more productive than a worker who does not make make pins regularly, because they can be trained in the trade of pin-making, have access to the appropriate machinery, and spend all of their time making pins. This division of labor is naturally encouraged because it allows the society to be collectively more productive, and is therefore in every individual's self-interest. The same reasoning can be applied to agriculture. Smith does note that "the nature of agriculture does not admit of so many subdivisions of labour … the improvement of the productive powers of labour in this art does not always keep pace with their improvement in manufacturers" (111). Nevertheless, the division of labor can still serve to increase food production: "the most opulent nations, indeed, generally excel all their neighbors in agriculture … Their lands are in general better cultivated, and having more labour and expense bestowed upon them, produce more in proportion to the extent and natural fertility of the ground" (111). Division of labor also makes it possible for a society to support scientists and engineers, who do not directly produce goods but invent technologies that can make production many times more efficient. Malthus does not account for advances in agricultural technology. For example, improved farming machinery allows land to be harvested more efficiently; fertilizers and pesticides make it possible to grow crops in harsher environments. Modern biotechnology promises higher-yield crops with better disease resistance. These factors can cause the food supply to increase even without dedicating new land to farms. As a result of division of labor, overall agricultural

production can increase considerably faster than the Malthusian arithmetical progression.

Because of the division of labor, technological advancement, and other factors, the growth in population does not exceed the increase in the food supply as rapidly as Malthus suggests. This explains the obvious fact that the world population is now several times greater than it was when Malthus wrote his essay, and famine, while present, is not as widespread as Malthus's essay might imply. However, this does not invalidate his argument. At any time, there exists a limit on the maximum sustainable population, though this limit may be continuously increasing. As Malthus describes, the population will always have a tendency to expand to fill this limit, and as it approaches the limit, the positive checks of famine and war will be applied. Though these positive checks will control the population growth, they will also cause suffering and misery. Because of the unequal distribution of wealth, this suffering is felt primarily among the poorer classes. When workers are plentiful and food is not, "the price of labor must tend toward a decrease, while the price of provisions must at the same time tend to rise," causing the poor to sharply feel the effects of overpopulation (24). Malthus observes that "the histories of mankind that we possess are histories only of the higher classes," so this suffering does not always receive as much attention as it should, but it is no less present (25). Smith makes the same observation when he notes that the "great mortality" of infants is "found chiefly among the children of the common people, who cannot afford to tend them with the same care as those of better station" (182). However, while Smith recognizes the regulatory effect this has on population, he seems to neglect the importance of the suffering it causes. Even though Smith's division of labor allows increasingly large populations to be supported, it does not prevent misery due to poverty and scarcity. Indeed, the lower-class workers in the factories that make possible Smith's division of labor are often among those who suffer the most.

Though Malthus's prediction that misery and famine are the inevitable results of population growth is diametrically opposed by Smith's optimistic prediction of "continually increasing demand [for men] by a continually increasing population," their arguments have several similarities. Both view population as a self-regulating system that, when it grows too large, will be

forced to decrease by the “positive checks” of war and famine. Each also considers the potential for economic factors to slow population growth in accordance with scarcity of resources, but only Smith believes that this can effectively regulate the population, while Malthus claims that human instinct makes these “preventative checks” ineffective. Because Malthus neglects the power of the division of labor and assumes that population growth will necessarily substantially outgrow the food supply, he reaches an overly pessimistic conclusion. However, Smith’s belief that population can be regulated as an economic system in spite of human instinct and his lack of consideration of the suffering of the lower classes leads him to an overly optimistic conclusion. A combination of the two theories is required to explain the reality observed today: that the population continues to increase to ever-greater limits, yet poverty and suffering are still as present as ever.