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## Malthus, Medicine and Mercy.

**J. T. Aitken, Professor of Anatomy at University College, London, discusses the rising population of the world and the problems which face mankind, the medical profession and the individual doctor both as a result of this rise and of increased medical knowledge. He insists that compassion for the individual must always remain a characteristic of Western medicine.**

Thomas Malthus, the economist and demographer, lived from 1766 to 1834. His economic studies have had more lasting effects than his population studies but he is best remembered for the latter, more particularly because they exerted a great effect on the thinking of Darwin and Wallace. In economics Malthus was a pessimist. He was against giving too much help to the down-and-outs because he thought it pampered them and encouraged laziness. What he would say about the present welfare state is obvious from his writings. His basic thesis was that population will always outrun production, more especially in the non-industrialised countries.

The Malthusian problem faces the world today as never before, chiefly because the physical limitations of our planet are now obvious. Of the 30% of Earth's surface which is land, much is desert, tundra or too high for cropping. In fact the great majority of people live in narrow coastal strips, especially round the estuaries and for short distances up the hillside.

In the undeveloped tropical bush, there is quick easy cropping with little incentive to improve. There are plentiful banana crops for about eleven months in the year! Strangely enough, the only hope for agricultural improvement in the developing countries seems to be around the towns. Urbanisa-

tion produces the necessity for a cash crop, and so there is better utilisation of water and of the land generally. In the towns, there is specialisation of effort, a measure of industrialisation, and cash is available to buy what cannot be grown in the town.

Proteins and fats are mainly obtained from animals and so are very expensive. In economic terms the profitability of land in developing countries is such that potatoes will produce about 30 units, wheat about 14 units and beef only two units of profit. Thus half the world now lives on a very low protein, fat and vitamin diet, while in this poorer half some ten per cent of all children suffer from protein deficiency (Kwashiorkor "first/second") disease.

Part of the blame for this state of affairs lies with the customs and taboos of the people concerned. Some groups of Indians will not eat wheat which can be more easily grown in bulk, but demand their customary rice. Many tribal groups will not allow eggs, milk or fish to be eaten by a pregnant woman. Correction of these views, which must be undertaken jointly by educationalists and medicals, is not easy. In some places the fight for education and literacy is losing ground — overcome by increasing numbers. Radio propaganda may, however, provide the remedy.

In the most advanced countries, man has ill-treated the land, much being eroded by quarries and mines or covered by towns, waste-tips and air fields. The oaks of the old forests are now largely replaced by conifers which yield a quicker monetary return, yet little of value grows under conifers.

The impelling need for conversation has been much to the fore of late but the perennial problem of distribution of the available food between the places of plenty and the places of want is not easily solved. At the local level, this means the ability to buy food from the producing farmer. Even on an international scale some token payment is needed, if only continued dependence and restriction of spheres of influence. This allows the producing country to sell its surplus hardware and to find employment for some of its own surplus population. The result is a sharp stratification of the developing society into the poor indigenous peasant and the wealthy expatriate specialist.

In places like India and China, the problems are vast. India adds at least 12 million to her population each year. She has made noble efforts to produce food and in 1969 almost had a surplus in some parts. But is it impossible to store much food in India both for religious reasons (vermin can't be killed) and economic reasons (grain silos are expensive to build), so there is little hope of storing surpluses to meet further deficiencies. Only the well-developed Western countries can afford to store food and thus the underdeveloped countries have become largely dependent on USA and Canada.

### *Population Statistics*

A sound stable economy depends on the ability to conduct rational forecasting. The collection of national statistics really started a century or so ago. Before the 18th century only rough estimations, or even unsupported guesses, were available. The collection of census data is never easy, especially in an underdeveloped country, and their publication and interpretation are often matters of prestige rather than determinants for policy making. Nations, like people, often have an axe to grind. Even in a country like the UK prognostications in the 20's and '30's of a future declining population proved quite wrong until the late '60's. Now, with an increasing immigrant population a different pattern of reproduction has appeared which may take decades to conform with the statistical expectations of yesterday, if it ever does.

The proper harvesting of land and sea also demands forecasting and this, like population statistics, is difficult. As for the final outcome some, such as Colin Clark<sup>2</sup> are more optimistic about the future than others<sup>1, 4, 7</sup> but neither party is blind to the obstacles.

Christians should set an example in showing how needs can be met. Unfortunately the agricultural missionary is a much rarer person than the teacher or the healer. Again, if the UN in the '50's had devoted as much energy to the Food and Agricultural Organisation as they did to the World Health Organisation, things might have been different today.

Hutchinson<sup>4</sup> claims that a country should be regarded as over-populated if the resources available from its land are inadequate to support its population. In the case of the UK,

resources have in the past included coal which we exchanged for food from outside, while the land available included much of the Empire or Commonwealth which we probably exploited more than we usually admit.

All nations must now accept some significant social controls and limitations so as to preserve freedom for future generations. Otherwise they will inherit only the painful pressures of natural ecological control — starvation, plague, disease and fights for living space.

### *Population Problems*

Successful planning for man's welfare must, as we have noted, involve prediction of the population in the years ahead. Such estimates tend to be highly inaccurate even in the UK where the unpredicted advent of the Pill, coupled with housing difficulties, has delayed child-bearing and encouraged smaller families. The birth rate may be expected to drop below the replacement level of 2.15 after 15 years. The increasing immigrant population with its different pattern of reproduction may cause new problems. In less advanced countries the difficulties are much greater than here. The cycles of activity are hard to analyse let alone control. India has tried to encourage men to have a free vasectomy (sterilisation) by offering transistor radio sets. The equivalent here would be a colour T.V. and a life rental.

Estimates have been made of the total world populations over the centuries. The time taken for the world population to double has come down from about 200 years (1650-1850), to 100 (1850-1950), to 30 (1950-1980). The rapid change in the rate of increase is largely due to medical successes in lowering the infantile death rate and increasing longevity. There is little sign that the rate is flattening much. Donald Arthur<sup>1</sup> who draws attention to population plateaux and spurts, likens the situation to the modern control system with its feed-back mechanisms. Malthus thought that overpopulation would augment undesirable features such as conflict and malnutrition and so bring the population back to a base line. If the checking factors are all removed, then an explosion is imminent unless there is voluntary restraint in family size and more food is produced.

In the mid '60's, the estimates of world population were around 3,000 million. Everyday about 270,000 were born and 143,000 died. There was a daily surplus of 128,000 babies between the 4th parallels in Africa, Asia and S. America where the average annual increase is about 2.5%.

In the temperate northern hemisphere, the increase is about 1.3% per year. In these well-developed northern countries, and possibly all over the world, the age of maturity is falling by about 6 months in every 10 years because of better health, nutrition, etc. In time this might result in younger marriages and earlier children, and could compensate for the fear of an ageing population who are mostly unproductive of basic commodities. But the many young children and young wives also, do not contribute to the growth of basic commodities.

In the past, problems of over-population in the UK have been solved by emigration to America and the Commonwealth, but now not much virgin land is left and fresh water is in short supply in many lands. There is no one to lead the modern Pilgrim Fathers out into the new worlds of space! Indeed, emigration is becoming replaced by immigration and among immigrants it often happens that only a small proportion are bread winners (e.g. less than 10% of one sample in 1966<sup>1</sup>).

Many Christians want to show mercy to those in need, regardless of wealth, religion or race. But the help needed is first and foremost agricultural if survival is to be ensured. Over the past 30-40 years especially, modern medicine has vastly reduced the hazards of being born and of growing up. In India and Ceylon, for example, malaria has been almost eradicated by the use of insecticides, chiefly DDT, but the number of mouths to be fed has increased accordingly! In India, Ceylon, probably China and elsewhere this has led to a stark Malthusian problem.

There have been minor eruptions of resistant mosquitoes but the benefit done by DDT or exfoliating chemicals is far in excess of any known genetic damage. The recent banning of DDT and some other chemicals is an example of the hysteria which affects mankind, especially in the western countries. The number of possible mutations laid at the feet of DDT is

a mere drop in the bucket of the spontaneous mutation pool in man. These problems must be kept in proportion.

The Christian doctor is motivated in his desire to help individuals by his philosophy of man whom he holds to be distinct from the beasts in that he is made in God's image. For him, human life is a sacred trust: the way in which it is lived will exert a marked effect on a man's life in the hereafter, whether it is to be spent in God's presence or not. Because of these factors human life and death differ from animal life and death.

### *Family Planning*

In view of the world population situation, all must take a responsible view of parenthood. For the Christian, this is enjoined frequently in Scripture. Parents are responsible for their children's care and welfare. They, not the State, must provide the food, clothing and shelter. There is certainly no direct command in Scripture against planning or spaced children. Nowhere is it implied that the sex act is only for the procreation of children. In this the teaching of the Roman Church differs from most Protestant churches. The Roman teaching is difficult to uphold from Scripture where man and woman are told to be 'one flesh' (husband and wife). At times, the Roman Church appears to be quite irresponsible in not curbing population increases, as also in its view that the mother and unborn child have an equal right to live.

It is generally conceded by Christians that killing is wrong, but methods of family planning which prevent fertilization do not destroy human life. The sperm may be killed by the million by a mercurial compound and in any case, many are naturally voided without being placed in the female canal. The more permanent methods, tying of the male ducts or the female tubes have legal implications because of the irreversibility. If a woman is widowed, she may want to marry again and her new husband may feel cheated if she has been sterilised. A similar state can occur with the man.

Supposing fertilization has occurred, what then? Everything which results from the union of human sperms and ovum is potentially human. It may never reach independent life separate from the mother, so this potential is not realised.

The unborn child is totally dependent on the mother and so has limited rights as an individual. Only after birth does it assume the full rights and privileges of an independent human being.

The great majority of abortions occur spontaneously and when the conceptus is examined most carry chromosomal abnormalities and many are found to be grossly deformed. Thus spontaneous abortion is a natural defense mechanism. Up until recent times, the reasons for surgical abortion were medically defined and limited broadly to danger to the mother's health. The law has been extended now to include certain socially- defined conditions. It is hard enough to define the medical limits and many a woman who desperately wants a child can be successfully carried to term with quite severe illnesses. To define and limit social reasons is almost impossible. The excuse in some cases is merely a matter of convenience. If however the human conceptus is not qualitatively different from that of the apes and other animals, then little objection to the Act can be raised in this over-populated planet of ours.

Unfortunately the added load of surgical abortions has brought some hospital departments to a stand still. These women may take the places of others who are waiting operations for urgent medical causes. Is this right and who is to decide?

The ease of obtaining an abortion in some places and the widespread adoption of the 'Pill' has removed all restraint and the need for discipline on the part of some men. However, there is always a need for a responsible attitude to the sex act, even more so, when it is not a procreative act.

In Old Testament times, accidental miscarriage and also purposive miscarriages were recognised (Ex. 21: 22). If no injury was done to the mother, then a fine was demanded by the husband and agreed by independent elders. If the mother was injured, then just retribution was demanded up to life for life. In these cases the value of the unborn child was obviously recognised though not as highly as the wife and mother. It must always be realised that though abortion may be less dangerous than having the baby, the operation is not without its hazards even today in the UK. An act of apparent



mercy to the mother may occasionally end in a greater tragedy, her death.

In most of our big hospitals there is a unit for dealing with babies prematurely born. The intra-uterine age when a foetus can be incubated and rescued back to independence is being pushed further and further back. Someday, it may be possible to put a very young child on a heart-lung-incubator machine and so carry him to term. This is not yet possible and there are many technical problems to be overcome. Some people question the ethics of such an attempt.

At the moment, the dead foetuses are usually disposed of by incineration. If it should become possible to obtain from the foetus some rare hormone or chemical which could be used to help others, then I see no reason why this should not be done. After all the placenta, the afterbirth, is part of the foetus (not of the mother). It is derived from the fertilised ovum and its chromosomes and genes are just like those of the foetus. Yet the umbilical cord is cut after the child is born and when later the placenta comes out, it is put straight into the bucket without any qualms of conscience. Many animals are much more economical of tissue and eat the placenta which is rich in blood (iron) and in hormones that help its uterus to contract and involute.

Already tissue obtained from foetuses has proved invaluable in research into certain types of acute leukaemia. In the present circumstances, as in many occasions in life, the liberty to research must not become license to give offence or to act regardless of the consequences. In the future, rules and red tape may so restrict research that progress becomes very difficult or even impossible. The present uncertain situation has produced an embargo on much research work on foetuses obtained at surgical abortions. However, all present research is a long way from the experiments done in Nazi concentration camps, but the emotive words "commercial dealings" or "slaughter" do not cool down the situation. The Christian doctor and researcher must have an extra-sensitive conscience so that he can speak out and warn of danger when necessary.

When the foetus actually acquires its soul and becomes truly human is still a matter for speculation and discussion.

Whatever is decided about this, potentially it is a human being and as such must be treated with respect.

In making abortion easier, the Government is working with Malthus, but the doctors appear to work against him because they are now able to give fertility drugs to a sterile woman and a multiple pregnancy may result. Of the three to six children usually born, most need very intensive care and it is yet to be seen how many will reach maturity.

Today, the doctors have a very massive armamentarium of drugs and devices to help their patients and so to prolong lives. Nowadays the newborn has almost twice the expectation of life he had 100 years ago and many centenarians are kept going with good nursing, antibiotics and loving care.

There are however two important questions to be asked: what is the *quality* of life that is lived?, and what is the *purpose* in living?

Quality is difficult to define but where, because of disease and disability, life is a real burden, most doctors would allow natural processes to take their course and leave the patient to die quietly and with dignity. The doctor should not officiously strive to extend the process of dying. If in any doubt, then of course, the necessary antibiotics, oxygen and all the other aids would be given.

Secondly, there is the question of the purpose in living. "What is man's chief end?" It should be to glorify God and to enjoy Him for ever. Where the person born is very badly deformed, or has been badly injured by accident that independent life and full comprehension is impossible, then again withholding treatment and allowing natural processes to take their course is probably not wrong. In many car accidents irreparable brain damage is obvious. In these circumstances, the quality of mercy is being strained very far if a great deal of time, effort and money is expended, especially if it is at the expense of someone who has a better chance of a useful recovery.

In sophisticated Western countries, the problem has been thrown into stark relief by the development of the Intensive Care Units. The clock cannot be turned back nor ignorance pleaded as to the treatment. Those doctors who are involved in ICU's admit that their first duty is to their patients and

so they go all out to obtain the necessary funds for the kidney dialysis machines and the heart/lung machines, etc.

Some of these real and hypothetical problems of priorities have been discussed by Gerald Leach<sup>5</sup>. His approach is far from being Scriptural but he analyses many of the situations which confront or will soon confront us in Western countries. Unfortunately, he leaves the decision making to 'Society' but does not indicate how 'Society' is to produce its rules, whether by revelation, by democratic discussion or by Ministerial decree. In some places the attempt was made to decide who should go on the kidney dialysis machine by a Committee of doctors and laymen. The latter soon opted out because they had not been trained to make this kind of decision!

The cost of treatment in an ICU is enormous. This again must be set in the context of world need. Some developing countries have to finance their entire health service out of about 50p per head per year. There are numerous other problems of priorities too which Leach discusses.

### *Euthanasia*

Euthanasia poses yet another problem. In this connection Duncan Vere<sup>8</sup> draws attention to three important misconceptions.

1. Relief of pain is now possible by drugs which do not depress respiration, as morphia does. The administration of these drugs is *not* euthanasia-in-practice by the medical profession, as its advocates maintain.
2. The unconscious patient on a heart/lung machine who is totally dependent on the machine cannot be said to be 'alive', though he is not technically 'dead'. If the damage is so great that the doctors decide to turn off the machine, this is not euthanasia either. It is leaving to natural processes the outcome of a situation where medical intervention can no longer help. The decision to turn off the machine is a medical one based on the judgment of the doctors.
3. Few doctors are so arrogant to think themselves infallible. Estimates of the chances of life are difficult to make and nature often surprises even the most experienced by an apparent reversal of some process.

In euthanasia, some doctor, nurse or attendant would have to set about the deliberate dissolution of an adult, innocent of any criminal act. This, as Vere says, would be an innovation in the history of the UK. Up to now the doctor has been looked on as a friend, but the anxiety of the aged grandparent can be imagined when she sees the doctor preparing to inject what he says is penicillin but what she thinks may be cyanide! This would not be mercy.

However, there is an area of medicine dealing with old folk, geriatrics, where the pressure is on to keep the patients mobile and return them home as soon as possible. But often there is no one at home to look after them, or no room, so the inevitable tendency is to return to a bed in hospital, to vegetate and to die. It has been suggested that most people live until they are about 20 before ever coming near death. Our grandparents faced death regularly in their large families, but sex was rarely mentioned. Today, sex is everywhere, but death is never mentioned. This situation leads to lack of purpose and meaningless despair. The Christian can face death because the sting of death, sin, has been dealt with in Christ's death.

Whether applied to individuals or to populations the main aim of medicine is to prevent and cure disease. This by itself leads to more people being alive, who would otherwise be dead. Mercy and compassion would appear to be acquired characteristics and as such not handed on to children. The built-in character would appear to be "man's inhumanity to man". Those things we ordinarily label as 'bestial' are more indulged in by humans than by animals. One of the very early signs of the developing Christian conscience was when Christian families refused to kill their babies by exposure, as was the custom of many families in Roman times.

In modern times too, most of the medical successes started in Christian-based institutions and have reinforced the upward trends in the population.

Family planning is hard to sell in the 3rd world. (a) because folks know that the infant mortality rate is still far too high and the expectation of life (even after 10 when most childish hazards are passed) is also still very low. It is about two-thirds that of most western countries, (b) because folks

look upon family planning as a device invented by western countries to diminish the number of Afro-Asians in the world!

As in so many problems of today, there is both a technical and a moral side to be considered. All the 'know-how' without incentive and moral drive leads to despotism and great power to the so-called 'privileged' few. The vast majority are reduced to mere serfdom.

Individuals and countries must get their priorities right. A balance of population and food production by ethically acceptable means must be found. This may mean strict family planning and large food factories but each country has to decide whether it is striving for the moon or for maize.

Christians can restore the sense of purpose in life for many who seem aimless and leaderless. The Christian Church over the last two centuries has done much to help in agriculture, medicine and education. But the problems are rapidly getting greater, not less, because of the rapid rate of increase of the population. Is the quality of mercy being strained too far? It is hoped not.

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