

THE FUTURE OF THE RACE

A Series of Radio Addresses



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THE SURVIVAL OF THE FITTEST

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This is the first in a series of broadcasts sponsored by the Eugenics Society of Canada which is designed to deal broadly with the subject of population policy. There are many angles from which the subject of population can be approached, and my task tonight is to try, as an anthropologist, to indicate some of the factors in human history and prehistory which have affected man's position in the natural order and given rise to what is usually called the problem of population. When we are clear about the conditions under which our ancestors lived, we are better able to judge the prevailing trends in our own conditions of living.

The human species as we know it today seems to have become standardized in appearance, shape, size, colour, in physical make-up generally, during the last third of the Pleistocene period, approximately fifty thousand years ago. All the earlier types of sub-men had disappeared by then, and the world was inhabited by a human creature who did not differ very much in any physical respect from man as we know him today. It is true that since that far-off time enormous changes have taken place in the way man lives, in the things that he knows, in the way that he behaves; but it is frequently overlooked that man as a physical organism has changed scarcely at all. This fact is most often forgotten in the important matter of intelligence. It seems fairly clear that just as the average height or the average weight of the human race is pretty much the same as it was 50,000 years ago, so the average intelligence of man has not noticeably increased or decreased. The man who discovered the use of fire was at least as intelligent as any of our modern inventors, and in those far-off days many other things besides fire were invented under conditions which were certainly not as favourable to invention and experimentation as in these days of well-endowed research institutes. Man's progress since he became man has not been made by increasing his innate powers, not even his power of thinking. He arrived in Asia towards the end of the Pleistocene with a pair of hands and a pair of eyes and a brain-case containing a certain quantity of grey matter; and he has ever since been using the same sort of hands and the same sort of eyes and the same quantity of grey matter to make himself more comfortable in the universe in which he finds himself; that is, in the technical phrase, he has been trying to adapt himself to his environment.

But at any time in history, and particularly in earlier times, the environment is usually a hostile environment. It is not a static neutral thing which can be taken or left alone; it is itself made up of numerous other living things of various kinds which are

also struggling to adapt themselves to their environment. In early times, man, in order to live, had to kill wild animals, for instance deer. As long as he possessed just his bare hands, he was probably not very successful as a deer-hunter. But when he became the possessor of a spear, he was obviously much better adapted to an environment which included deer than he was before. On the other hand, the deer were less well adapted to their environment when the spear-using men appeared than they had been before. The deer in their turn, in order to survive, had to evolve some new way of coping with this new menace in the environment. It was the recognition of the part played in nature by this preying of one species upon another, and the consequent adjustments that were constantly becoming necessary for one species as another species altered its way of living, that led Herbert Spencer to coin the phrase "survival of the fittest" to describe it. The survival of the fittest is that constant warfare between different kinds of life which has to be carried on by every species if that species is to survive in the universe and not become as extinct as the dodo.

In this world of competing and predatory forms of life, man arrived; and had to set about the business of survival. He did not, of course, sit down and rationally think out what he should do about it, as Rousseau would have us believe, but reacted rather blindly and impulsively along the lines most suited to his bodily make-up. For good and sufficient anatomical reasons he happened to be a creature who walked on two legs, and hence had two extra limbs which were relatively free for whatever use he wanted to put them to. He therefore used them in a way that was impossible for instance to a horse. He manipulated objects with his front limbs. He could, moreover, focus both eyes at once on any object he was interested in, and thus obtain a better idea of its dimensions than could animals which lacked that power. He had a brain-case that contained more grey matter than any other animal. And though he was born more helpless than the young of most animals, this was not entirely a disadvantage to him, since as a result of it he had a capacity for learning by personal experience, and hence a plasticity in behaviour, that was denied to animals which were born more set in their life's ways. These features of man, over which of course he had no conscious control, dictated the main lines along which his adaptation to his environment should proceed. Many of the species with whom he was competing could run faster than he, or were stronger; or could breed more quickly and numerous, or were more ferocious: but none of them could manipulate their environment better, play about with things, and learn more quickly from the results of their manipulation, than he could. As this was the line he excelled in, he followed it, and in the course of time was able to become reasonably comfortable and safe in his environment. He invented fire and spears and bows, he built houses, he tamed and domesticated ani-

mals and plants. In the course of many thousands of years of living on the earth, he went further and built boats and bridges and wheeled vehicles and pyramids and temples, invented writing and science and medicine. As a result, he built up an extremely complex artificial man-made environment in place of the comparatively simple natural environment in which he had found himself when the species first became established.

There is no need for me to stress this point. We are all aware of the enormous complexity of the culture in which we live today. But it is important to realize that it has been brought about by the human race carefully learning from the experience of previous generations. We do not learn from experience any faster than previous generations did; but, being late in time, we have more previous race-experience to guide us and more accumulated knowledge of the world we live in to draw upon in coping with our environment. But we still have to cope with it; the environment and the need to adapt to it are still there. It usually takes a flood or an earthquake or an epidemic to remind us that we really have not conquered or abolished nature, but have, as it were, put a barrier between nature and ourselves, through which barrier nature still occasionally breaks. As a species we have learned more tricks; as individuals we are just as vulnerable as our ancestors, if not more so. This point needs stressing, not in order to minimize the value of modern culture, but because of our tendency to confuse the hereditary and environmental factors. We are apt to believe that because we have science and medicine and central heating and aeroplanes we are therefore more intelligent than previous generations or peoples who had none of these, and because we think we are more intelligent, are therefore less subject to natural laws and natural processes. This is, of course, absurd. None of our science is contrary to natural laws: all of it is based upon the utilization and control of nature, not upon the denial or flouting of natural processes. Nobody is more aware that the laws of gravitation are still operative than a man in an aeroplane.

Man's adaptation, then, may be said to be largely achieved by attempting to manipulate his environment. By so doing, he has established by now a fairly effective control over nature. But he is constantly finding that any manipulation of one part of the natural order has often most unforeseen and disturbing consequences in another part. The importation about 100 years ago of a few English rabbits into Australia looked at the time like a very small interference with nature, but the consequences nowadays are of such a kind that the whole Australian economy is affected, and according to some writers the whole Australian mentality is warped, by the rabbit problem. The reason for this problem is quite clear. Australia is a continent without any wild animals of a flesh-eating sort. Therefore every rabbit born has a very high chance of reaching adulthood and consequently of reaching parent-

hood. In other parts of the world, where there are natural checks upon rabbits in the form of rabbit-eating animals, a much smaller proportion of rabbits born reach adulthood and parenthood, the rest are killed off young. It is obviously the case that most of those which are killed off young will usually (not of course invariably) be the weaker, slower, duller members of the species, whose senses are dull, whose pace is slow, whose colouring is conspicuous,—who, in fact, are the unfit members of the species. The faster, quicker, keener rabbits will escape the dangers of the environment more often, reach maturity more often, and become the parents of the next generation more often than the less fit rabbits. This is the process I referred to earlier, the survival of the fittest, and it is equally operative among all forms of life, including man. Among our earlier ancestors and among the more primitive peoples of the present day the same selective action of the environment goes on. The weaker, duller, less intelligent babies born into the community reach adulthood and parenthood less frequently than the brighter, healthier babies. Life under primitive conditions is harder, food is more difficult to obtain, disease is more prevalent and less understood, situations are constantly arising wherein those able to save themselves have to do so and leave the others to perish. Life is too severe for sentimentality or altruism, and it is (again speaking generally) the healthy and strong, the mentally alert, those who have learned their culture best, who survive, and by surviving into adulthood become the parents of the next generation. It is the physically and mentally weak who die young. This selective process has been going on in earlier societies ever since there has been society, and it has not noticeably improved the innate qualities of the human race but merely kept them up to about the average of the past. Despite the rigorous selection in primitive and early societies for the past fifty thousand years, the human standard of physical and mental equipment has not gone up but remained at the same level. What then is likely to happen if the selective process is interfered with or rendered non-operative?

This is really the crux of the population problem of the modern world. For there is no doubt that the process of the survival of the fittest has been impeded among human beings in recent years by the advances of modern knowledge, especially scientific knowledge and applied science. Diseases—one of the biggest selective factors in primitive societies—are being brought more and more under control. The span of human life has been increased greatly. Infantile and child mortality is decreasing. Numerous institutions exist for the care and protection of children who would never reach adulthood in primitive society. The artificial environment makes life more comfortable for the individual and holds nature in check on practically all fronts more effectively than ever before. And this checking of nature includes among many other things the checking of one of the oldest and most powerful of natural pro-

cesses—the rule of the survival of the fittest. Science knows nowadays enough about natural processes to know that nature has an unpleasant habit of reacting and coming back on a new front after man has put up a barrier on an old front. Nature did not put rabbits in Australia, man did. And in so doing he raised a host of new problems for himself which were not there before. In the same way man, by his medicine, his science, his humanitarianism and his creation of new food resources (all of them in themselves advances in human knowledge)—man, by his culture generally, has interfered with the process of natural selection; and it is quite clear that, by so doing, he has raised new problems of the first importance. The details of these problems I do not propose to discuss, nor the possible solutions of them. All I have attempted to do tonight is to point out that basically the population problem is the result of the way in which man has adapted himself to his environment. Unlike most mammals, man's adaptation has taken the form of building up an artificial environment within which he would be more comfortable and less vulnerable than in the natural environment in which he started. In order to build that artificial environment he has had to interfere with and try to control the natural environment, and in so doing he has gradually produced a condition of affairs, wherein the process of natural selection is no longer operative to the extent it hitherto has been in the history of life on the earth.

GERMAN POPULATION POLICY

Honourable Dr. Herbert A. Bruce

Last Tuesday Prof. Hurd in his most interesting address on world population stated that the decline in the birth rate was becoming very manifest at the end of the 19th century. This evening I will attempt to continue this subject up to the present time. In doing so, I am compelled to use the statistics given by Germany, because no other country has made such an exhaustive study of this subject.

In 1933 about a million children were born in Germany whereas in 1901 there were over $2\frac{1}{4}$ millions. It is estimated that the fall in birth rate in Germany during the 15 years following the War resulted in a loss to the nation many times greater than the number of lives lost in the War. Unfortunately, this loss occurred mostly in the best elements of their population. This was due to reluctance in this class to marry early, or even to marry at all. If they did so, they greatly reduced the size of their families to a point far below the other sections of the population. In striking contrast, families suffering from hereditary disease propagated at a greater rate than did the better elements of the population. As a result, the level of general efficiency will be greatly reduced if this condition continues.

The falling birthrate was partly attributable to the general decline in the family spirit, which was accompanied by the development of an individualistic outlook. The collapse of moral ideals in the post-war period, and the preaching of the right to do with one's own body as one wished contributed the final impetus towards hastening the fall in the birthrate.

In 1932 the number of marriages in Berlin was greater than the number of births, so that one child families seemed to be in danger of dwindling to a fraction of a child per family. The Director of Statistics has calculated that by the end of the present century the population of Germany will have dwindled to about $\frac{2}{3}$ of its size, unless a change for the better takes place in the present fertility rate. This calculation, of course, was made before Austria or the Sudetan area was added to Germany.

In Italy with 40 million inhabitants the annual number of births exceeds the number in Germany, and in Poland with a population of only 32 million the annual number of births is equal to the German number.

From 1929 to 1932 there were 6 million unemployed and a steady decrease in marriages. As soon as the National Socialist Government came into power it set about devising means to deal with the situation. Something had to be done to make marriage possible for young people who were not in an economic position to face its responsibilities. The Government realized that only

with the family as a starting point could the work of regeneration begin.

Their first enactment was the law for the promotion of marriages, dated June, 1933, intended to encourage marriage among young people who were postponing it for economic reasons. By it, young people wishing to get married could obtain a loan of 1,000 marks without interest. This provision of marriage loans is at the same time a practical means of combating unemployment, for the positions left vacant by the women and girls who got married were filled by unemployed men. The applicants for these loans must be free from inheritable mental and physical defects, contagious diseases or other illnesses that would prevent the marriage from being in the interest of the community. Thus it is hoped that these marriages will produce healthy offspring free from inherited mental disease.

The loans are not given in cash but in the form of coupons which can be exchanged at the shops for furniture, linen and domestic utensils. The couples have to repay the loan at the rate of 1 per cent per month. But a quarter of the initial loan is cancelled with the birth of each child so that when four children are born the entire loan is wiped out. Up to the end of last year, 800,000 marriage loans had been made as a result of which 600,000 children had been born.

The German Secretary of State summarizes the result of this Population Policy as follows:

1. 800,000 women were withdrawn from the labour market.
2. The increased prosperity of the industries affected by the loans, viz., those engaged in the manufacture of domestic goods, will provide places for another 150,000 employees.
3. The monetary requirements of the unemployed relief fund will be reduced by about 300 million marks annually.
4. The annual turnover in business will be increased.
5. There will be a steady increase in the demand for furniture and household utensils.

Further and quite apart from these marriage loans—single contributions have been given to large families among the poorer classes. Such families must have at least 4 children under 16 years of age. Up to the end of 1936 there were 350,000 families assisted in this way by a grant to each family of 350 marks.

Since then these measures have been expanded so that regular child allowances are now given—10 marks per month for the 5th child and every further child under 16 years. This is paid automatically through the post office, and is tax free. The present taxation laws safeguard the existence of the family first. The

State realizes that a large number of children must not be the cause of poverty in a family; since it is these families that guarantee the future of the people and the State.

Further, while the tax on wages of an unmarried worker is 16%, on a married man it is 10% and on a married man with children it is reduced in proportion to the number until it becomes only 1% for a married man with more than three children. In every large family the financial problem causes much more anxious consideration than in families where there are no children or only one or two. Hence, the purpose of the adjustment measures is to bring about a fairer balance between the financial burdens that have to be borne by families with a large number of children and those families which have no children or only a few. But, at the same time, care has been taken that financial incentives to have more children are not given to those families which are of little value to the community.

A much needed reform in the adjustment of economic burdens has been organized for the various professions. Take as an example the medical profession, an adjustment office has been established for all panel doctors. Speaking generally, the doctor has usually a small family—an average of 3.6 for each marriage. For the third and each subsequent child an allowance of 50 marks per month is paid until the child is 21 years of age. If the boy or girl has to go through a further period of education, the grant is continued until the 24th year.

Early marriage is encouraged and made possible amongst those who are respected because of the positions they hold and the example they set. For instance, there is now a regulation which entitles those entering the Civil Service to receive the highest rate of salary in their respective grades as soon as they marry, instead of waiting for the yearly advance.

Another measure adopted is the so-called sponsorship plan. A number of towns have undertaken to sponsor the subsequent children of parents that have already two in the family. The City of Berlin pays an honorary sponsorship grant for the 3rd and 4th children. 30 marks per month are paid during the first year of the child's life and 40 marks per month thereafter until the child reaches its 14th year.

The plans adopted for the provision of adequate housing accommodation and especially the settlement of the people on the land are measures that are also of decisive importance from the viewpoint of population policy. For the man who is in immediate and permanent communion with his native soil, as settler or farmer, wants to continue possession of that soil through his blood. Throughout the ages and in every land, the country people who own and till the soil have been the most prolific section of the population and are indeed the inexhaustible source from which the nation renews its manhood.

As a consequence of the measures which I have mentioned the annual number of births has increased by 300,000. Germany is endeavouring to remould living conditions in such a way that the relative positions of men and women will be properly balanced. This does not mean that women engaged in the various professions and trades will be dismissed wholesale. More than 10 million women in various employments help their husbands in the struggle for the upkeep of the family or earn their own living. The present policy of the state is to extend special protection to the family and the mother. For it is the woman who has to share nature's task of maintaining the human species and she must be protected in such a way that she can properly fulfil this natural function. German leaders make no secret of their belief that women's duty is primarily domestic, and that women's particular field is the care of the coming generation. There is a special section of the Penal Code dealing with the family. A husband may not give away his property by will to anybody except his wife and children. Everything is done to protect the race. Industrialists are punished if they overwork expectant mothers, and anybody sneering at motherhood in word or writing is liable to a heavy penalty. In this fashion a cabinet of women, who for the most part have no children, seek to protect the family system.

In the short time at my disposal I have given you a brief account of what Germany is doing to combat the serious situation brought about by a falling birth rate.

Other countries also are beginning to devote attention to the population policy. Political leaders and professional men in France, Belgium and the Scandinavian countries are drawing attention to the national danger involved in a falling birth rate. All these measures have one purpose in view. That is to maintain the existence of the nation from the point of view of numbers.

Apart from the measures which Germany took to maintain her existence quantitatively, she quickly took advantage of recent progress in hereditary biology to improve the quality of the coming generation. The essential physical characteristics which the individual has inherited cannot be changed during the life of the individual. The man who is born a negro will remain a negro. No experiments with feeding, change of climate, etc., can produce any radical alteration in bodily formation, colour, character or intellectual ability. He is bound irrevocably in his hereditary chain. The same is true of mental diseases and defects which have been inherited. The science of eugenics has taught us that even the best-intentioned and best-planned alteration of the environment cannot change the natures of such people. In the same way no matter how favourable the surroundings may be amid which a born dunce is brought up and no matter what efforts be made to educate him, he cannot be transformed into a scholar. Schooling, no matter how

intensive it may be, cannot make musicians or artists of those who have no inborn talent whatsoever for these things. So too those who are mentally deficient by heredity, though they may undergo the best training and education will always remain below the level of average intelligence.

Therefore, the men whose task and duty it is to direct the destinies of a nation must naturally concern themselves with the question of what the quality of the coming generation is going to be and are bound to encourage every practical means of improving the general physical and mental standards of the race. For that reason they will not set chief importance on charitable measures to care for the lives of the unfit but rather on measures that will help to prevent hereditarily diseased and defective people from propagating their kind, and at the same time on positive measures for encouraging the best hereditary stocks to transmit their qualities to future generations. According as this policy makes headway insane asylums, homes for the weak-minded, hospitals for incurables and other such social institutions, will diminish in number and size and will gradually be transformed to serve other purposes. They will belong to a new branch of public hygiene the purpose of which will be to improve the hereditary endowments of the national population.

It is on this subject I will speak to you next Tuesday evening.