A belief in the material progress of mankind is not old. During the greater part of history such a belief was neither compatible with experience nor encouraged by religion. It is doubtful whether, taking one century with another, there was much variation in the lot of the unskilled labourer at the centres of civilisation in the two thousand years from the Greece of Solon to the England of Charles II or the France of Louis XIV. Paganism placed the Golden Age behind us; Christianity raised heaven above us; and anyone, before the middle of the eighteenth century, who had expected progressive improvement in material welfare here, as a result of the division of labour, the discoveries of science and the boundless fecundity of the species, would have been thought very eccentric.

In the eighteenth century, for obscure reasons which economic historians have not yet sufficiently explored, material progress commenced over wide areas in a decided and cumulative fashion, not experienced before. Philosophers were not laggard with an appropriate superstition, and before the century was out Priestley was fashionable when he wrote that, by the further division of labour, ‘Nature, including both its materials and its laws, will be more at our command; men will make their situation in this world abundantly more easy and comfortable; they will prolong their existence in it and will grow daily more happy.’

It was against the philosophers of this school that Malthus directed his essay. Its arguments impressed his reasonable contemporaries, and the interruption to progress by the Napoleonic wars supplied a favourable atmosphere. But as the nineteenth century proceeded, the tendency to material progress (from causes better understood than those which first initiated the movement in the early eighteenth century) reasserted itself. Malthus was forgotten or disbelieved. The cloud was lifted; the classical economists dethroned; and the opinions of the Vicar of Wakefield who ‘was ever of opinion that the honest man who married and brought up a large family did more service than he who continued single and only talked of population’, and of Adam Smith, who held that ‘the most decisive mark of the prosperity of any country is the increase of the number of its inhabitants’ recovered their sway, until, both before and since the war—to judge from the utterances of English bishops, French politicians, German economists and Bolshevik Russians —public opinion does not differ very much from what it was in 1790.

Nevertheless, the interruption to prosperity by the war, corresponding to the similar interruption a hundred years before, has again encouraged an atmosphere of doubt; and there are some who have a care. The most interesting question in the world (of those at least of which time will bring us an answer) is whether, after a short interval of recovery, material progress will be resumed, or whether, on the other hand, the magnificent episode of the nineteenth century is over.

1 I except deans [Inge, the gloomy Dean].
In attempting to answer this question it is important not to exaggerate the direct effects of the late war. If the permanent underlying influences are favourable, the effects of the war will be no more lasting than were those of the wars of Napoleon. But if, even before the war, the underlying influences were becoming less favourable, then the effects of the war may have been decisive in settling the date of transition from progress to regression. In this case the future historian, though he may take 1914 as the dividing date between two eras, may possibly prefer the last quinquennium of the nineteenth century as the culminating period of the economic forces which had been driving the modern world.

I hesitate to give the pessimistic answer. It is hard to detect the underlying influences whatever they may be. But there are certain observations which an economist is entitled to make.

Progress during the nineteenth century was an affair of acceleration. It depended essentially on perpetual expansion; its organisation presumed this; and it could not have taken the same form in a stable society. Some of the expanding elements are not capable of further expansion to the same extent as before. The exploitation of new natural resources, though not yet exhausted, has not the same possibilities as a hundred years ago. The economies of large-scale operations and the principle of increasing return are diminishing in importance, because in many cases no important additional economies are any longer obtainable from further increasing the scale. On the other hand, we may still regard the possibilities of scientific improvements as unlimited, in spite of the fact that we now have steam, electricity and oil behind us? instead of to come.

On the balance of considerations, however, it would not be prudent to assume that we can continue to expand the material resources of the world in the same geometrical progression during the next fifty years as during the past fifty. The economic argument, therefore, would urge us to slow down the acceleration and to prepare the social structure for a return to conditions of quantitative stability.

On the other side press the forces of population. Malthus taught an essential truth when he laid down the most criticised of all his dicta, namely that population always tends to increase in a geometrical progression. This must not be taken so literally as to imply that the birth rate is always the same. It means that the birth rate is cumulative. As the population increases any given excess of the birth rate over the death rate means a constantly greater increase in absolute numbers. It is certain that sooner or later this state of affairs must come to an end. An accelerating society may persist for a shorter or a longer period, but it cannot last; and in a given area, such as Great Britain or Europe, expansion will be brought to an end sooner than in the world as a whole.

The great impending peril to human happiness arises out of the combination of this situation with the fact that the life of a man, sixty or seventy years, is very long compared with the rate at which his surroundings are changing. New births do not exercise their full effects on society until many years after they occur; and when once a disequilibrium exists and the population is definitely excessive, many years must elapse before the balance can be restored, except by violent methods.
Two instances are sufficient to illustrate this. The population of Vienna is described below in an article by Professor Pribram. Circumstances have suddenly arisen which render the preexisting population largely superfluous; yet it is difficult to see how it can be sufficiently reduced by any painless method except after an interval of decades. This is a problem about which the Viennese have been for the last four years blameably happy-go-lucky. In my opinion the proposals of Professor Pribram, though they are in the right direction, are far too moderate.

The other example is on a greater scale and is to be derived from Dr Brownlee's figures for the age distribution of the population of England and Wales. It primarily illustrates the 'time-lag', referred to above, due to the length of human life. People now living of the age of sixty and upwards are the survivors of those born in 1860 and earlier, when the population was not much above half what it is now, with the result that the burden of old people which we are now carrying is only half of what it would be in a stable population of the same size. But there is another analogous figure not less important. If we assume, for the sake of simplicity of illustration, that the working life of a man is from seventeen to sixty-seven, the number of additional workmen offering themselves for employment annually depends, with due allowance for rate of survival, on the difference between the birth rates seventeen years ago and sixty-seven years ago. That is to say, the annual changes in the supply of labour at the present moment do not depend on anything that is happening now or even recently, but on events some of which took place in 1855 at the time of the Crimean war and none of which took place later than 1905.

Thus they depend on influences which are mainly irrelevant to present circumstances; and however great the disequilibrium which results, compensating forces cannot produce their full effect for twenty years and more, unless they are actually destructive of life. Such violent compensation is in fact highly improbable; and what is much more likely to occur is a slow but steady lowering in the standard of living which will not occur suddenly, at a given moment, in melodramatic fashion, reported in the newspapers, but will proceed by slow and scarcely perceptible degrees.

In Great Britain we are supporting a body of unemployed much beyond what we can afford to support permanently. A large part of this unemployment is due to the depression of trade from which in due course we shall recover. But it is necessary to remember that the number of males between twenty and sixty is, in spite of war casualties, 1,300,000 more than it was in 1911, a number considerably in excess of the total unemployed. It is not sufficient, therefore, that our trade should recover to its pre-war volume of activity—which is generally the utmost for which we now hope; it must be on a substantially larger scale, approximately 15 per cent larger than in 1911, if we are not to lose ground. Moreover, for many years to come, regardless of what the birth rate may be from now onwards, upwards of 250,000 new labourers will enter the labour market annually in excess of those going out of it. To maintain this growing body of labour at the same standard of life as before, we require not only growing markets but a growing capital equipment. In order to keep our heads above water, the national capital

\[ \text{Quite apart from past birth rates, the number of births per day in England at the present moment is double the number of deaths.} \]
must grow as fast as the national labour supply, which means new savings at the rate of £100 million to £500 million per annum. Whether we can reckon on the continuance of this, in view of the change in many of the circumstances which, during the nineteenth century, were specially favourable to saving is at least doubtful.

Thus there certainly exists a problem. And the same problem as I have outlined above for Great Britain is present in an even acuter form in some other parts of Europe. Possibly unforeseeable developments may intervene to help us out. Possibly natural forces tending back towards equilibrium may come into action of themselves in good time. But failing the unforeseen, the problem is, I think, of much greater magnitude than can be solved by Dr Brownlee's expedient of emigration, which is only an expensive palliative.

Indeed, the problem of population is going to be not merely an economist's problem, but in the near future the greatest of all political questions. It will be a question which will arouse some of the deepest instincts and emotions of men, and feeling may run as passionately as in earlier struggles between religions. The issue is not yet joined. But when the instability of modern society forces the issue, a great transition in human history will have begun, with the endeavour by civilised man to assume conscious control in his own hands away from the blind instinct of mere predominant survival.