

STATISTICAL AND SOCIAL INQUIRY SOCIETY OF IRELAND.

THE PROBLEM OF POPULATION.

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The problem of population is going to be of growing importance amongst the white races in the coming decades. A gradually accelerating decline seems to be inevitable. Even though this decline may not be large during the next twenty years, its significance will be known and it will have a strong influence on international and domestic policies.

It seems probable that the phenomenon of decline will make itself evident in England at a very early date. Public attention in that country will be increasingly directed to the problem. A number of authoritative studies of the question have recently been published. Already a Commission of Inquiry, comprising an impressive personnel, has been set up to study the factors of decline; the B.B.C. is conducting a series of discussions on the subject; and increasing space in the English Press is being devoted to the topic.

A decline, or even the prospect of a decline, in the population of England may have reactions of importance in Ireland. Quite a distinct issue is whether Ireland is capable of maintaining her own powers of reproductivity. In my opinion there is undue complacency as to the probability of the Irish population to be able to maintain its numbers by reproduction.

In this paper I will direct my attention to the Irish Free State. I understand that a separate paper on Northern Ireland will be presented to the Society.

History of World Population.—During the past two hundred years the population of the world has shown an enormous increase. Not only, however, has the increase been enormous but it has been unprecedented.

The present population of Europe is $3\frac{1}{2}$ times what it was one and a half centuries ago. If we include the overflow of Europeans to the Americas and elsewhere, the increase is still greater. If we go back to 1650, we find that for every white man alive then there are seven white men now.

During recent centuries the Asiatic and African races have also increased in numbers, but not at as great a rate as the European races. The following table gives a general indication of the position since 1750 :—

WORLD POPULATION.¹
(in millions.)

Region	1750	1850	1933
Asia	480	750	1,120
Europe	140	270	520
Africa	100	100	150
N. America	—	30	140
S. America	10	30	120
Oceania	—	—	10
World	730	1,180	2,060

The amazing increases shown in the above figures are not the result of a great improvement in reproductivity. The more effective factor was the reduction of the death-rate, in other words, the much increased expectation of life of the new-born.

Epidemics, famines and war exacted a heavy and more or less continuous toll of death through the ages in all lands until the comparatively modern discoveries in curative medicine and preventive hygiene kept death at bay and the tremendous increase in man's economic productivity through the Industrial Revolution gave him the wherewithal to satisfy the requirements of a growing population.

It would now seem that the European and other white races are nearing their peak in numbers. All the indications suggest a decline in the relatively near future. The indications also suggest that once a decline has set in, it will become progressively more rapid.

History of Irish Population.—Up to 1846, the history of Irish population is much the same as Europe as a whole. Many people have a mistaken notion that the traditional population of Ireland was in the neighbourhood of 9 millions. This is, of course, ridiculous. The traditional population was less than 2 millions, perhaps even less than 1 million.² It does not seem to have exceeded 2 millions until the beginning of the 1700's. During the 1700's there was apparently an increase, which accelerated towards the end of the century until by the Act of Union in 1800 the population was about the same as at present, somewhat more than 4 millions. From then until 1846 there was a phenomenally sharp increase which doubled the population.

From 1847 onwards during the unprecedented material progress of other countries, the population of Ireland fell continuously to its present level of 4½ millions. The Famine of 1846-7 was not the cause of the decline, because the decline has been continuous up to 1930 (since which there has been a very small increase).

¹ Compiled from material in *World Population*. Carr-Saunders (London, 1936). These are the latest authoritative estimates available.

² MacNeill in *Early Irish Laws and Institutions* (Dublin: 1935, p. 37) says: "There is no evidence of a continuous increase of the population of rural Ireland in medieval times. Unchecked epidemics and probably a high rate of infant mortality must have tended to keep the number at a level in century after century," and (pp. 96-7) his estimates of numbers and sizes of *tuatha* suggest a total population of about 2 millions.

Overpopulation.—It is obviously possible for a country to be overpopulated. The Congested Districts of Ireland provide an example. And it is possible for a country to be underpopulated, as Robinson Crusoe realised.

Between these extremes of under- and overpopulation can we define what is the proper, the "optimum" population for a country?

By overpopulation we mean the existence of so many inhabitants that the total production of necessaries of life is not enough to support all, with the result that some are driven below the subsistence level. As subsistence level is not the level below which one dies, this definition of overpopulation depends on the precise convention as to what is subsistence in the particular community at the particular time. Although it is not a rigid definition then, it is one that is readily understandable and acceptable. It is subject to the important proviso that human greed or inefficiency does not prevent an equitable division of the product.

By underpopulation we mean that with additional numbers the benefits of co-operation and division of labour would give a greater *per capita* output to the community. Beyond a certain point the increase in numbers would bring an increase in the total product but a fall in the *per capita* output. From one point of view the optimum population would be that at which the *per capita* product is at a maximum. From another point of view the optimum population would be the greatest number consonant with maintaining the *per capita* product above the subsistence level. Its theoretical limit would be reached when all the population were exactly at the subsistence level and when the subsistence level was defined at its reasonably lowest level. There might be a wide difference between these two measurements of the optimum.

Now, the actual productivity, and consequent optimum of the population, will depend on not alone the numbers of people, but upon (a) natural resources, (b) the character, knowledge and ability of the people and (c) the opportunities, internal and external, for economic action.

In the short run the type of resources and the type of people will not change, but the opportunities for fruitful economic action may change rapidly. Domestic opportunities for economic action will be dominated by the existing political system and the existing economic system. External opportunities for economic action will depend on the various factors in the domestic systems of other countries plus the psychological and other factors affecting international co-operation.

Alleged overpopulation then might change to optimum not by a decrease in numbers but by a change in the domestic or external systems of politics or economics.

Having thus cleared our minds as to the meaning of optimum we would still be unable to calculate the actual optimum for a given country at a given time or even to say that there was underpopulation or overpopulation. For an agricultural country not interested in external trade, the decision would be comparatively easy. Natural resources would be so relatively inelastic that an increased population might press too heavily on the soil. This has, in fact, been an important cause in the great migrations. Once, however, an agricultural country becomes interested in export trade with industrial countries the position becomes much less simple. It shares the problem of the industrial country proper.

Now, industrial productivity is not as inelastic as agricultural production. There is, theoretically, no limit in the long run, but there must obviously be some limit within a definite period. The factors controlling this limit are too complex to permit calculation of the limit. Some of them, such as the psychological ones, are indeed incommensurable.

A further and most important consideration is that we cannot conceive a smooth mathematical curve showing the relations between size of population and total output for a given country at a given time—a curve rising to a maximum and smoothly falling again. This is academic fantasy. It assumes all men to be equal. In fact, if our curve had passed a maximum the advent of a certain John X, might jerk the curve upwards again. In other words an “overpopulated” country might well benefit by a population increase of a large number of insignificant persons if they were accompanied by a small number of significant persons. If, for example, the parents of the key men in nineteenth-century England had been paying serious attention to Pastor Malthus, the consequences might have been terrible for England.

Actually while all countries in Europe (except Ireland) were increasing in population during the nineteenth century, the normal attitude was that an increasing population, an increasing number of potential consumers, was favourable to the development of natural resources and also improved the power and external prestige of the country.

The Neo-Malthusians again brought in the gloomy overpopulation theory in the twentieth century and their teachings have guided the policies of many countries. The restrictions on immigration in the United States and the British Dominions since the War are directly due to this fear of overpopulation. The advocacy of birth-control is largely based on it. Even countries like Germany and Italy, which are trying to increase their populations for purpose of prestige, protest that there is not room for these populations at home and that colonies must be made available.

Unemployment is almost universally attributed to overpopulation. The general belief is that a small population would be individually better off than a large population. The inevitable deduction from that has been to welcome a reduction in the number of births. Kuczynski³ says, however, that “large-scale birth restriction during the next fifteen years would be the most efficient way of *increasing* unemployment.” This should be obvious. A school-teacher will be better off with a small family, but only on condition that other people have not got small families. The “average” question among Irish teachers at present is an example of this. Teachers are not the only people catering for the needs of the young; there is food, clothing, building, domestic equipment, transport, medical services, etc., etc., and in turn there are other people catering for the needs of those who are providing these services.

Serious economic disequilibria occur, therefore, during a period of a marked decline in births. The morale of the surviving population tends to be affected by pessimism. And there is inevitably a decline in external prestige.

There is no such thing as stabilising at some other level. As in other human activities there must be progress or retrocession.

³ *Population Movements*, p. 65 (London, 1936).

There are no examples of where declining population in an industrial country has relieved unemployment, eliminated war or reduced poverty. On the contrary the rise in the standard of living in these countries has occurred during a period of increasing population.

A reduction in the birth-rate then is not a necessary cure for unemployment, poverty and war. Neither of course would an increasing population. The question is not quite so simple as that. In fact, in practice the population optimum is unascertainable.

One can say, however, that during a period of population growth there is more of a feeling of optimism and vigour in a nation. Certainly, a nation with a falling population tends to be dispirited. One can see signs of this worry already in countries that are now becoming aware of an imminent decline in numbers.

Future Irish Population.—How would a population crisis elsewhere affect the Irish position? The question is of special and disturbing importance since responsible prophecy has indicated an almost immediate decline for England. Dr. Enid Charles⁴ has calculated that the English population will reach its maximum in 1940, if the death-rate and birth-rate continue to decline as they have been doing. This is a plausible assumption. It is even more plausible to assume that the improvement in the death-rate will become slower and that the downward tendency in the birth-rate may quite easily be intensified, which assumption would bring the turning point in population even earlier and intensify the later decline.

How is this going to affect the internal Irish position? Mr. R. C. Geary⁵ in a recent important paper on the "Future Population of the Irish Free State" has calculated that, assuming no emigration, assuming a continuance of the death-rates at the 1925-7 level and assuming that the number of births per 1,000 women under 45 years remains constant, the future population of the Irish Free State would be:—

1926	..	..	..	3,000,000
1936	..	..	...	3,100,000
1946	..	..	...	3,200,000
1956	..	..	....	3,300,000
1966	..	..	...	3,400,000
1976	..	..	...	3,500,000
1986	...	..	....	3,600,000
1996	..	..	...	3,600,000
2006	..	..	...	3,600,000
2016	..	..	...	3,700,000

In other words, granted the assumptions, there would be continuous and appreciable improvement in the population of the Irish Free State. (Statistics for Ireland as a whole are not available.)

Mr. Geary's calculations were not prophecy. To quote Kuczynski⁶: "In making these statements I am, of course, far from predicting anything. . . . We should clearly distinguish between estimates meant to be forecasts, and computations which merely show what will be the trend of population on certain definite assumptions. To predict the

⁴ London & Cambridge Economic Service, Special Memorandum No. 40, 1935.

⁵ Journal of the Statistical and Social Inquiry Society of Ireland, 1935-36.

⁶ *Op. cit.*, pp. 49-50.

actual population of Europe ten years from now would involve a risk which no serious statistician should be willing to shoulder; he need only remember that quite unexpectedly the population of Europe between 1914 and 1919 decreased by 12 millions. To compute with the best available methods what would be the population 100 years from now, if fertility and mortality remain what they are, is his legitimate task if by so doing he merely wants to elucidate the present balance of births and death."

If, however, prophecy cannot be scientific, it is important to bear in mind that existing factors will *not* remain constant. Consequently, it is important that we should investigate what are the possibilities and the more reasonable probabilities of their future behaviour.

Let us take separately each of the three factors: Mortality, Natality and Migration.

MORTALITY.

Though the Irish Free State death-rate is higher than the English rate (14.0 against 11.8 in 1935, due entirely to the less favourable age constitution of the Irish population), a substantial fall has occurred in the death-rate of the Irish Free State during the past half-century.

This reduction in the death-rate is not due, as is often assumed, to the fact that science is keeping the old and feeble alive for increasingly lengthening periods. There is no evidence that science has increased the normal "span of life." What it has undoubtedly done is to make it possible for a greater number of the young to live to be old.

It is true that a larger number of people exceed the age of "three score and ten" in our time than was the case a hundred years ago in a more populous "twenty-six counties."

	I.F.S. Population	Persons over 75 years
1841 ..	6,500,000	65,000 (1% of pop.)
1926 ..	3,000,000	88,000 (3% of pop.)

There is no reason to assume more from these figures, however, than that the minority who have an inherent supernormal "span" have been given a better chance in modern times to survive the perils of childhood and youth. This is proved by the fact that the "expectation of life" of a person of sixty years has not improved.

It is in infant mortality that the death-rate has been most impressively reduced. The earlier record of Ireland which had been relatively good in this respect did not show much improvement during the nineteenth century. Substantial improvement, however, has been effected in the Irish Free State since 1900, as is evident from the following figures:—

DEATHS UNDER ONE YEAR PER 1,000 BIRTHS.

	Irish Free State	Urban Districts	Rural Districts
1901-10	91	135	72
1911-20	84	125	66
1921-30 ...	70	99	55
1931-35 ...	68	86	56

While England had approximately twice the infant mortality of Ireland during the nineteenth century, the improvement there, however, has been so great in recent decades that England is actually better than Ireland now. The figures for 1935 are, Northern Ireland, 86; Irish Free State, 68; England, 57.

There is definite room for further improvement then in Irish infant mortality, especially in the urban districts. The above Free State figures show the urban mortality to be nearly double the rural rate. The solution is partly one of public health, particularly suitable housing. Improvement in this direction is to be expected, but at best it will be a gradual and limited process. There remain other problems of the food and clothing and other care of the mother and child. Here we are up against the general problem of poverty. The following figures illustrate the relation between poverty and infant death-rate:—

DEATHS UNDER 5 YEARS PER 10,000 PEOPLE IN EACH
OCCUPATIONAL GROUP IN THE DUBLIN REGIS-
TRATIONAL AREA, 1914.⁷

Professional and Independent	5
Middle Class	19
Artisans and Small Shopkeepers	53
General Service	104

In addition, under the most favourable conditions there would be various uncontrollable causes of death. Hence, while an improvement in the infant death-rate may be expected, the progress must be gradual and will be limited.

Similar considerations apply to the other age-groups. The death-rate, unlike the birth-rate cannot be reduced to zero. Even those deaths due to disease cannot be reduced to zero. While the fatal incidence of disease is on the whole being lessened, the great improvement in some sections, such as tuberculosis, is being partly offset by a reverse movement in other sections such as cancer. The effective minimum must, therefore, remain appreciably above zero.

Hence, a further but limited improvement in the death-rate of the Irish Free State may be expected.

NATALITY.

Since 1846 Ireland has had an exceptionally low marriage rate. Despite good fertility per marriage, the birth-rate for the nation has been low—about half that of England in the pre-birth-control period. The Irish trend has been *slightly* downward since 1870. In the same period the other English-speaking nations have shown *striking* declines. England, which once had double the Irish birth-rate, has now less than the Irish rate. The figures for 1935 were, England, 14.7; Scotland, 18.0; Northern Ireland, 19.2; Irish Free State, 19.6.

If every girl born possessed maximum potential reproductivity, lived through the full period of maturity, was married to a potent male during this period, did not emigrate and did not adopt any measures to limit births, the number of births in the community would be at the maximum.

The question of reproduction then resolves itself into five sections: (1) fecundity; (2) female mortality; (3) nuptiality; (4) emigration; (5) birth limitation.

⁷ 51st Annual Report of the Registrar-General for Ireland, p. xlv.

Fecundity.—Inherent fecundity is often popularly supposed to be greater among primitive people or people who are inferior physically through hunger or other bad living conditions. The proof usually given is that classes who live in voluptuous self-indulgence are infertile (which is merely going to the other extreme) and that there are large numbers of children in the slums (which need mean no more than that a large part of the population is poor, and need *not* mean that they have relatively more inherent fecundity).

Now, primitive peoples are not necessarily fecund. At any rate, writers of the calibre of Malthus, Darwin and Carr-Saunders have held that reproductivity is less in the barbarous races. Responsible writers on this matter seem agreed that food is a factor of prime importance, that under-nourishment and over-feeding reduce fertility and that a population with enough food and adequate housing conditions and living a vigorous, healthy life would tend to have maximum fertility. This also seems commonsense, despite popular beliefs to the contrary. According to Carr-Saunders⁸: “The better the conditions, the earlier does the mature period begin. Further, it is also known that the mature period tends to be prolonged where conditions are good. It is known, for instance, that the mature period comes to an end earlier among the labouring than among the richer classes. Therefore, good conditions tend to be connected not only with an earlier beginning but also with a longer duration of the mature period.”

There is no evidence that *capacity* to reproduce has diminished in modern times. The idea that long ago Irish families, for instance, were much larger is the same kind of myth as that long ago old age was a much more familiar phenomenon. Here are actual figures from Mr. Geary's already-mentioned paper:—

CHILDREN PER 100 MARRIAGES, 1841 AND 1911, ALL IRELAND.
(For Marriages of 5-10 years Duration.)

	H : Under 26 yrs. W : „ „ „	H : 26-35 yrs. W : Under 26 yrs.	H : 26-35 yrs. W : „ „
1841	292	300	270
1911 ..	313	314	289

NOTE.—H : Husband ; W : Wife. The 1911 age classes are in all cases one year lower than the corresponding 1841 classes.

It will be seen that the 1911 figures are consistently somewhat higher than the 1841 figures. (Incidentally, it shows that the family of twelve children was no more commonplace a century ago than it is to-day. The family in a marriage of 5-10 years' duration had an average of three children in *both* periods).

There are three schools of thought which do not accept the above generalisation concerning inherent fecundity. The first, of which the most illustrious advocate was Herbert Spencer, suggests that fecundity must tend to decrease as evolution progresses. The evidence put forward is too scrappy to be convincing. The theory assumes that

⁸ *World Population*, p. 92 (London, 1936).

man is capable of, and is actually, progressing towards a higher and less animal plane. In the absence of evidence this theory of declining fecundity cannot be accepted.

It is quite possible, of course (but this is quite different to the "evolution" argument), that changes in a community's mode of life may affect reproductive physiology. The physiologists cannot give us any useful information on the point. One fact, however, is clear. The sudden and rapid decline in the birth rates of the white races occurred about 1880. There did not commence any particular change in mode of life in the 1880's; but there did appear from that time onwards markedly increased contraceptive facilities.

According to a third theory inherent fecundity will vary according to a "natural law," which says that, independent of human volition, "Nature" will decide when to *speed-up* and when to *slow down the birth-rate*.

The first prominent advocate of this theory was Thomas Doubleday, who in 1841 stated in his "True Law of Population"⁹ that "An effort is invariably made by nature for its preservation. . . by an increase in fertility. . . especially. . . when such danger arises from a diminution of food, so that depletion is favourable to fertility and. . . repletion is unfavourable. . . in the ratio of the intensity of each state."

C. E. Pell¹⁰ has in later days developed Doubleday's thesis. Probably the most forceful modern proponent of this "natural law", however, is Halliday G. Sutherland,¹¹ the eminent Catholic commentator, whose popularity in the lighter field of autobiography must not be taken as the measure of his weight in the scientific field.

He maintains that "the governing principle may be expressed in the following generalisation. When the existence of a community is threatened by adversity the birth-rate tends to rise; but when the existence of a community is threatened by prosperity the birth-rate tends to fall. By adversity I mean war, famine, scarcity, poverty, oppression, an untilled soil and disease; and by prosperity I mean wealth, luxury, idleness, too rich a diet and over-civilisation."¹²

The latter extreme of over-indulgence can plausibly be expected to render a race decadent and infertile, but one might also expect the same result from the other extreme of famine, disease, etc. The most spectacular of Ireland's experiences in all that Dr. Sutherland includes under "adversity" was the famine of 1846-7; and its effect was certainly not to increase the birth-rate. Kuczynski¹³ says: "Statistical evidence shows an enormous decrease of fertility in times of famine." And he gives statistical evidence.

Sutherland, describing conditions between the two extremes of famine and voluptuousness says that "apart altogether from vice, the fertility of a nation is reduced at *every step* in civilisation"¹⁴ (italics mine). If Dr. Sutherland means by "civilisation," as no doubt he does mean, "material amenities," much evidence could be

⁹ Extracted from a quotation in *The Law of Births and Deaths* (London, 1921), by C. E. Pell, chapter xii.

¹⁰ *Op. cit.*

¹¹ *Birth Control* (London, 1922) and *The Law of Life* (London, 1936). See also Pearl, *The Biology of Population Growth*, and Hjort, *Restrictive Law of Population* (London, 1934).

¹² *Birth Control*, p. 69.

¹³ *Op. cit.*, p. 36.

¹⁴ *Op. cit.*, p. 13.

quoted against him. Increase in material amenities in the Irish population between 1870 and 1910 was accompanied by continuous increase in fertility per marriage.¹⁵

While confessing that the cause is unknown, he maintains that "Nature herself checks the birth-rate without the aid of artificial birth control."¹⁶ One cannot accept this theory without ample factual evidence—which is not available.

The more plausible theory in my opinion is that a race which is suffering extreme hardship (famine, disease, etc.) is deficient in all forms of creativeness, including the power of reproduction; as it progresses to an optimum of healthy, properly fed, vigorous activity, its creativeness also reaches an optimum; and as it "progresses" towards the other extreme of over-indulgence and decadence, it again develops barrenness in all forms of creativeness.

In any case, if the cause of the great decline in fertility in recent decades is due to some biological cause, independent of human volition, it would seem strange that this change in the biological factor should be common to countries so far apart and so different in economic development and environment as Germany and New Zealand, the United States and Sweden. Further, it is not easy to indicate what special mile-stone in progress was passed by any of these countries in the 1880's.

In addition, it cannot be plausibly argued that there is a different biological basis in the different religions. The following figures show that in Canada the Catholic¹⁷ birth-rate did not decline as rapidly as that of other religions as a whole:—

CATHOLICITY AND FERTILITY IN CANADA, 1935.

	Per cent. Catholic	Birth Rate *	Marriage Rate *	Fertility †
	%	%	%	%
Quebec	86	29	5·8	4·9
New Brunswick	46	27	6·2	4·3
Prince Edward Island	44	21	5·6	3·6
Nova Scotia ...	32	23	6·6	3·2
Manitoba	27	21	7·0	2·9
Saskatchewan ..	25	23	6·2	3·9
Alberta	23	24	7·0	3·4
Ontario	22	20	6·9	2·9
British Columbia	13	15	5·6	2·5

* Per 1,000 of Population.

† A rough measure—birth-rate divided by marriage rate.

¹⁵ Geary, *op. cit.*

¹⁶ *Op. cit.*, p. 12. See also Pearl, *The Biology of Population Growth.*

¹⁷ Religions other than Catholic might be quoted but Catholic data best fulfil the triple requirement (1) that a definite prohibition of birth-control exists, (2) that there are a sufficiently large number of independent groups in varying conditions available for comparison with other groups in similar conditions, and (3) that the statistical measurements are good.

The figures show that without doubt the Catholic populations have higher birth-rates. The coefficient of correlation between the first two columns is the very high one of +0.8. The high birth rate is not due to higher marriage rates but to greater fertility per marriage as the fourth column shows. Consider the following figures from a quite different community:—

NORTHERN IRELAND.—CATHOLIC CHILDREN AS A PERCENTAGE OF THE TOTAL PRIMARY SCHOOL-GOING POPULATION.¹⁸

1924	...	34.8%
1928	.	36.1%
1931	.	35.8%
1934	.	36.5%

Similar figures could be quoted for Holland and many other countries. And the explanation is not “natural law” nor any other biological influence. Just as the great decline in Irish reproductivity after the Famine was due to deliberate human decision (the refusal to marry), so the great international declines in reproduction during recent decades bear the unmistakable mark of human volition. They have been due to the invention of apparatus and the spread of knowledge concerning contraception and abortifaction, and have been checked by ignorance and religious prohibition.

If these deliberate methods had not been used, there is no reason to assume that some biological cause, some “natural law,” would in any case have brought about the decline. This is disproved by the maintenance of reproduction rates amongst those population groups where ignorance or religious prohibition was strong. Hence, there is no reason to assume that there is an international downward cyclic trend in *inherent fecundity* and, consequently, *there is no reason to assume that inherent fecundity will decline in the Irish Free State. The more plausible suggestion is that there will be no significant change.*

Female Mortality.—If the mothers and potential mothers of the race do not live to the full period of maturity, reproductivity is, of course, correspondingly lessened. As has been shown earlier, the general death-rate has been so reduced that further reduction will be more difficult. If improvement is possible, it is of special importance amongst potential mothers (as far as reproduction of the race is concerned).

Speaking of England, Carr-Saunders¹⁹ says: “Already in this country the average number of years lived in the child-bearing period by each girl baby born is over 30. Clearly, the scope for improvement is very small. There will be improvement but the average number of years so lived can never reach 35 and may never be much over 33. *It is much to be desired that the widely current and wholly erroneous notion about the effect of reduced mortality upon the trend of population should be dispelled*” (italics mine).

¹⁸ Ulster Year Book, 1935.

¹⁹ *World Population*, p. 125 (London, 1936).

In the Irish Free State, however, there is somewhat more room for improvement as the following figures show :—

	Percentage of Newly-born Girls who will survive to the ages of 15 years and 50 years	
	To 15 years	To 50 years
England . . .	% 91	% 79
Irish Free State	88	70

Concerning mortality of mothers and potential mothers in the Irish Free State then, there is room for some improvement, but no change of great importance need be expected.

Emigration.—If potential mothers emigrate the gross reproduction rate of the country is correspondingly nullified. This may become a very important factor in the Irish population problem, especially considering that the emigration of young women is larger than that of young men. We can ignore its consideration, however, until we come to the section on migration.

Nuptiality.—Among the various factors affecting natality the marriage factor is that which shows the most important deficit in the Irish Free State. The marriage rate in 1935 was 4.8 per 1,000 compared with 6.9 for Northern Ireland, 7.7 for Scotland and 8.6 for England. Though these crude rates are not strictly comparable, they are sufficient to show the abnormally low position of the Irish Free State. In his already quoted paper Mr. Geary shows that the Irish Free State has a lower marriage rate than any country for which statistics are available.

This was not the traditional position as the following figures show :—

PERCENTAGE OF WOMEN IN IRISH FREE STATE MARRIED.

	Ages		
	25-35	35-45	45-55
1841	% 72	% 85	% 88
1891	52	77	83
1926	47	71	76

In 1841, 72 per cent. of the young women of 25-35 years were married. After the Famine the figure gradually declined to below 50 per cent.

The urban marriage rates are all higher than the rural, varying in 1935 from 8.7 in Cork City to 3.0 in Mayo. The total number of marriages has shown a slight upward trend during the past decade, the

number in 1935 being the highest since 1924. The increase since 1930, however, has not been as sharp as in England, Scotland and Northern Ireland.

Not merely are Irish marriages defective in numbers as compared with other countries, but the average age of marriage is also appreciably later. The following figures illustrate the fact :—

AVERAGE AGE OF MARRIAGE.
(In recent years.)

	Husband	Wife
	Years	Years
Irish Free State	35	29
England	29	27
Canada	29	25
New Zealand	30	26

The high Irish average is due mainly to the standards that prevail in the rural areas. The following figures show that among women under 35 years of age a greater percentage get married in the urban areas than in rural areas, and that the position is reversed amongst older women :—

PERCENTAGE OF WOMEN IN IRISH FREE STATE MARRIED, 1926.

	Ages			
	25-30	30-35	35-40	40-45
	%	%	%	%
Rural Areas	35	57	68	75
Urban Areas	43	60	67	71

A more detailed analysis for the young women (taken from the 1926 Census) is shown in the following table :—

PERCENTAGE OF WOMEN OF 25-35 YEARS MARRIED, 1926.

Dublin	51%
Other Cities	51%
Towns over 10,000 population	52%
„ 5,000—10,000 population	48%
„ 1,500—5,000	45%
Rest of I.F.S.	46%

It will be seen that the smaller the town the smaller the proportion of women under 35 who are married, and that the position in this respect is worse in the towns of 1,500-5,000 inhabitants than even in the rural areas proper. Incidentally the Dublin percentage of 51 compares with 63 for London and 74 for New York.

What are the causes of this abnormal position as regards marriage in the Irish Free State? The fundamental cause is undoubtedly economic. Up to 1846 the population married young and had normal families. The tragedy of the Famine reversed the national habit. Extreme conservatism became the new habit. It is natural in an agricultural country where the area of the land is limited that prudence should restrict the number of marriages among land workers. Owing to complex requirements concerning marriage settlements, etc., even those marriages which might be prudently undertaken may not materialise. Before the Famine the army of landless people who occupied the agricultural "slums" did not feel bound by any such rules of prudence.

It is difficult to see how an appreciable increase in the number of rural marriages can be expected without the creation of an appreciable number of extra economic holdings. Progress is being made in this direction but not to an extent that would make significant difference in the number of marriages.

The towns have not such rigid limits to economic expansion as the farm has. Consequently the tendency to get married is greater in the towns. Increasing urbanisation of the population will therefore have some effect in increasing the marriage rate.

Observation does not bear out the suggestion frequently made that the Irish have cultivated a habit of celibacy. Amongst those in the towns who obtain a reasonably secure wage the tendency is to get married. The rural background has taught prudence—more prudence and calculation than would exist in a more industrialised community. Where comparative economic security has been achieved however the tendency does not seem to remain celibate.

Greater female economic freedom has no doubt reduced to some extent the urge to get married; and in so far as female labour supplants male labour, the male is rendered unable to marry. It cannot be said however that the effects of these forces are discernible on the urban marriage rates.

Greater prosperity would probably help to increase the marriage rate among non-rural population and to a less extent among the farmers.

The outlook then is that a considerable increase in marriages is possible but such increase as may occur will depend almost entirely on the degree of economic progress of the community.

Limitation of Births.—The spectacular decline in the fertility of the white races (other than in Ireland) since 1880 can be illustrated in the following figures:—

BIRTHS PER 100 MARRIED WOMEN UNDER 45 YEARS OF AGE.

	1881	1935
Irish Free State	29	27
England	29	12

The decline has not been due to a decline in the number of marriages. It has been due either to a decline in inherent fecundity or to deliberate limitation of births.

As has already been shown, in so far as there may be a "natural law" inducing a decline in inherent fecundity, it cannot explain the spectacular decline in actual fertility during the past half-century.

The decline has obviously been due to the small family system, that is, to deliberate limitation of children to two or less per marriage.

The reasons for limitation of births may be economic or non-economic. Economic reasons appear by general agreement to be preponderant. The reasons may not, in the long run, be sound economic reasons but the basis of attempted reasoning is economic. The parents are not willing to sacrifice certain material amenities in the interests of having a family or are not willing to have additional children because of the absence of certain amenities for these children. As has already been suggested, such an attitude of mind, once developed, is very difficult, if not impossible, to alter.

Now restriction of production can be effected by total or limited continence, by contraception, by abortifaction or by infanticide. All such practices have been known from early times. The modern attitude to them is distinctive however in that over a large part of Western European society continence is considered undesirable (or at least unnecessary) and infanticide improper. Abortifaction, which is a form of infanticide, has a limited public approval and is widely practised. As to contraception, the public attitude as to its licitness has undergone a radical change in most countries and cheap and comparatively efficient types of equipment have been made widely and readily available.

In communities where the institution of the small family has become thus established, it seems impossible to imagine the "large" family being restored. If anything present trends should be intensified by the spread of knowledge and equipment through all strata of society.

Now how does Ireland fare in all this? Contraception and abortifaction are practised much less than elsewhere, and with the existing prohibitions and the measures against the spread of knowledge and equipment, no significant increase in such practices need be expected.

There are, however, other possible forms of Irish birth-control which cannot be ignored. Irish reproductivity was reduced deliberately and drastically after the Famine by the practice of *total* continence, the refusal to marry. That practice still obtains to an appreciable extent. It has been already discussed in the "nuptiality" section.

A newer development of *limited* continence raises possibilities of very serious developments. It is alleged by physiologists that if continence be practised during the relatively short period of greatest ovulation, the chances of conception during the period of intercourse will tend towards zero.

Now if this biological thesis is justified (there seems to be very strong and certainly widely accepted evidence in its favour) and if there is nothing immoral in the continence, and if facilities for

the spread of the knowledge exist and are permitted, then the possibility of a drastic reduction in the Irish birth rate can be envisaged.

With such practices the small family system would come into existence exactly as it did elsewhere. If such a development were feasible, it would proceed rapidly. Other countries which adopted birth control late in the day quickly overtook the countries that had started earlier.

If this biological thesis is correct, the knowledge will spread rapidly. It is a fact that during the past two years a remarkable distribution of the literature and knowledge of the subject has been quietly proceeding among the Irish middle classes.

The possibilities inherent in this comparatively modern development are so startling as to savour of sensationalism. Consequently while I indicate the possibilities, I hesitate to adventure into probabilities.

State Assistance.—In many countries the problem of a declining population or the desire for a further increase in population has led the State and other authorities to take active measures to encourage marriage and child-bearing. Glass in his *Struggle for Population*²⁰ gives an exhaustive description of these measures in various countries.

The Italian experiment is more than a decade old. The provisions in that country include taxing bachelors and childless married couples; giving tax privileges to employees with large families; giving birth premiums and family wage bonuses; giving preference in public employment and in private enterprise to married men and women with large families; taking into account the size of family in compiling the Civil Service cost-of-living bonus; giving priority according to size of family in allocation of housing; and giving a wide range of special services for women and children. There are also severe laws against birth control, in addition to the special prohibitions of the Catholic Church.

Nevertheless, the number of babies born in Italy has fallen steadily from 1,160,000 in 1921 to 990,000 in 1934. The French and Belgian efforts have met with as little success. The German experiment has adopted somewhat different methods. It is too early as yet to appraise its success but the results as yet are not encouraging.

State intervention then is not necessarily effective in increasing the number of births though it may help to arrest a decline. In other words, once the decline has set in, it would appear that the social organism is not capable of reacting adequately to State-provided stimulants.

Apart from considerations of encouraging future births, the granting of family wages, family income-tax allowances, etc., can of course be justified. If they are to be regarded however as intended incentives to the birth-rate they should evidently be applied *before* the decline in the net reproduction rate sets in, while the social organism is still sensitive to the stimulant. Once the general standards of behaviour of the community change, it

²⁰ London, 1936.

is profoundly difficult, if not impossible, to restore the *status quo ante*.

It is not likely that at this stage Europe will develop an increasing desire to raise children. It may do so, of course; the present position is very modern and we have no precedent to guide us. The only method by which one can plausibly imagine that done would be by convincing the citizen body that replacement is a social duty—which is a difficult assumption.

As far as the Irish Free State is concerned, additional economic privileges given to the family by the State would strengthen the institution of the family, but early action would probably be much more potent than delayed action.

MIGRATION.

Immigration has not been a significant factor in the Irish economy for some three centuries past. The factors which may govern it in future are so hypothetical that useful discussion of them is impossible.

Immigration could increase if there were a military reconquest of Ireland and a recolonisation; or if the Government financed a scheme to induce immigration of foreign stocks; or if there were a forcible repatriation of Irish Free State citizens from countries in which they at present reside; or if economic crisis abroad compelled Irish nationals to return home. The last possibility is the only one that can be regarded as having any basis of probability, and even this seems to be small.

Something of this nature occurred after the 1929 crisis in the United States; but only an insignificant fraction of the emigrants of the previous decade returned. The emigration stream has recently turned towards England from which return to Ireland is easier. On the other hand, social services in England are and will be of a much more attractive nature than the United States had in 1929-31. A sudden reversal of emigration stream (when the present boom conditions in England change to slump) is not probable then, but it is a definite possibility which cannot be ignored.

Emigration, on the contrary, is a familiar Irish phenomenon which is likely to continue. It was significant long before 1847; but after that it assumed and maintained abnormal proportions. Ireland has a much larger proportion of its native-born citizens living abroad than any other nation.

Now the normal attitude towards emigration is to deplore it, even when the actual population in the home country is increasing. It seems regrettable from the point of view of power and prestige that a country should lose its citizens. Another cause for regret is the cost of rearing the migrants and in some cases of giving them advanced training, as in the case of doctors, engineers and teachers. Emigrants' remittances, of course, partly refund this cost.

If emigration is considered undesirable in a country with increasing population, how much more so in a country with a decreasing population!

The population of the Irish Free State has appeared to be stabilised for some years at a level just below 3,000,000. If reproductivity were to decline appreciably, would the State be justified in

preventing emigration? Many European countries (e.g., Russia, Italy, Germany) have already placed serious barriers in the way of emigration.

Let us consider the types of emigrants. Some are undesirables who are fleeing from the law or some other nemesis. Is not the country well rid of them? Others, while not being undesirables, have come in conflict with the law or with relations or have disgraced themselves in some other way. Some seek cures for diseases abroad; some, such as young craftsmen, will desire a temporary but unenforced sojourn over the water to gain experience; similarly students go abroad to further their studies; some go on missionary work; some go abroad as representatives of domestic undertakings; some get married to a partner whose work is abroad—and so on. Should these be stopped?

The reasons for emigration are numerous. The bulk of the emigrants however go for one reason only—their inability to earn a livelihood in their own country. They are almost *pushed* out.

Now many people maintain that these people are not squeezed out, that there is room for them at home, but that there is an irresistible magnet abroad which *pulls* them out. I have never known a single instance of this among an acquaintance of hundreds of emigrants, but many responsible people hold strongly to the opinion.

The distinction between the push and the pull is important, because if the community declines in numbers and if this is due partly to emigration of citizens who are under no domestic necessity to leave, whose reasons for going are merely capricious, then the community can easily justify itself in imposing a ban on such emigration.

While not willing to accept the “external magnet” theory as explaining emigration in the past, I am willing to admit its possibility in the future. Assuming an appreciable decline in the future English population, it is quite conceivable that Irish citizens, having satisfactory living conditions at home, may be offered still more satisfactory conditions by filling the places of non-existent English men and women. Such a development would call for decisions of vital political importance, more especially if the type being tempted were technicians, such as medical doctors, engineers, teachers and craftsmen, trained at great expense to the taxpayer.

If on the other hand the reasons for emigration are absence of an opportunity of earning a living at home, the State cannot well impose a ban unless it can make appropriate adjustments in the native economy. Such adjustments to be effective might have to be drastic.

The outlook in the matter of migration to and from the Irish Free State then would seem to be that immigration is not likely to be a significant factor, while emigration of at least part of the natural increase in population is likely to continue unless exceptional economic progress occurs. How far, if at all, a decline in English population would give a further fillip to Irish emigration is impossible to estimate.

SUMMARY.

- (1) **Introduction.** Neo-Malthusianism assumes that unemployment, poverty and war are due to overpopulation. This theory over-simplifies the issues. On the whole a healthy, progressive nation would tend to have a rising population. West European populations, however, are heading for a drastic decline.
- (2) **Population of the Irish Free State.** The population would increase by about 700,000 over the next century if there were no emigration and if birth and death-rates remained at the recent levels.
- (3) **Deaths.** A slight improvement in the death-rate may in fact be expected.
- (4) **Births.**
 - (a) There is no reason to expect any decline in inherent fecundity.
 - (b) A slight improvement in the death-rates of women of child-bearing age is probable.
 - (c) The future birth-rate will be affected, of course, by whether a large emigration of potential mothers continues as in the past.
 - (d) As to marriages, there is room for a substantial increase, but this is not likely to happen without marked economic progress in the community at large.
 - (e) An increased birth-rate is then definitely possible, but attention is drawn to a new factor which is capable of inducing a sharp limitation of births.
 - (f) If State assistance to increase the birth-rate were to be considered desirable, it would be much more efficient while the social organism is sensitive to the stimulant, that is, before the decline sets in.
- (5) **Migration.** There is not likely to be immigration to any appreciable degree. Emigration should tend to continue unless there is exceptional economic progress. If the birth-rate were to decline and if population developments in England were to tempt Irish people to emigrate it could easily raise issues of first-class political importance. In any case the population question requires more continuous and more specialised examination from now on than in the past.

DISCUSSION.

Dr. Nolan, proposing a vote of thanks to Professor Busteed for his paper, said that many people would have read in the last issue of the "Economic Journal" H. D. Henderson's review of the three most recent contributions to the subject of population. They would have been struck by the note on which he ended—that there could be little doubt that the declining trend in population would be the central, economic and social issue of the next generation. In the past the concept of population had been of something that steadily—slowly or quickly, but steadily—increased. The prospect now was that in Western European countries this trend would in the near future be reversed. This revolution in population trend would be ranked with the Industrial Revolution as one of the economic landmarks of history.

They would have noticed the order in which Professor Busteed deliberately set out the three factors influencing population—deaths, births and migration. The death-rate was the most predictable. The birth-rate was fairly predictable. There had already been a decline, and there would be a further decline, but it could hardly get down to zero. The greatest percentage decline in the Saorstát birth-rate and Saorstát fertility in the period between the seventies and the Great War had taken place between 1871 and 1881. It was perhaps significant that the Bradlaugh-Besant trial had taken place in 1877. This showed that the possibility could not be eliminated that the birth-rate in the Saorstát would be further depressed by the spread of knowledge on this subject, independently of the new development to which Professor Busteed had drawn attention and which might be described as more legitimate.

The most unpredictable of all the factors was migration. Emigration and immigration might vary enormously. Emigration in the future would be controlled by the same forces as in the past. Professor Busteed shared the view he himself held on the question of the relative importance of the force of attraction and the force of repulsion. Most students of the subject were inclined to underrate the importance of "push" and overrate the importance of "pull." He had found a very close correlation in the fluctuations of American business conditions and emigration. It was common ground that that correlation existed, but it was a specious conclusion to deduce from this—as had been done—that emigration was due to a "pull" rather than a "push." It had first of all to be explained why emigration from Ireland had been so enormously greater than from any other country. The unique position held by Ireland in this respect showed that there must have been some strong force at work pushing the people out. If the force of attraction were greater than the force of repulsion would not the stream of Irish emigration have dried up in the years of acute depression abroad? It was not until 1931-1935 that the magnitude of the depression abroad had been able to stop it. The existence of this tide of Irish emigration was traceable to causes at home. His conclusion was that in the absence of restrictive barriers between Ireland and other countries to which our people emigrated, the future of emigration would be determined by conditions at home, as in the past.

Dr. Kane, seconding the vote of thanks, said that with regard to the effect of birth control on the falling birth-rate, the conclusion generally come to was that the fall in birth-rate was correlated with

the practice of contraception. That conclusion rested on the belief that contraceptive practice was in itself inherently effective. But mechanical devices for inhibiting natural results were notoriously ineffective. Evidence had been carefully taken within the last two years from a large group of American people, carefully controlled, and, strange to say, the preliminary examination of the evidence showed that the use of contraceptive practice increased the birth-rate. He did not think that any discussion of the problem should go further unless the important findings of that evidence were considered.

There were other factors involved in the belief that contraception was an important factor in the fall of the birth-rate. One was differential fertility. The differential fertility as between the upper and the lower classes was taken as evidence that those people who might possibly have access to contraceptive knowledge were using it. He did not agree with this. If corrections were made for differential fertility—such corrections as were necessary considering the age of the women at marriage of each class—there was not much evidence for differential fertility.

Miss Donnelly said she thought both the last speakers had lost sight of a vital factor. The outstanding movement of the last 70 years had been the achievement by women of liberty and liberty to work. With liberty they had achieved more self-respect. She thought that what was to be faced in this population problem was the attainment of families of a few properly spaced children, who would be more valuable to the nation than a tribe of weaklings. In dealing with human affairs the question of happiness should be emphasised; the prospect of happy marriages would increase the marriage rate—and vice versa.

Norway was probably the European country where it was easiest to get out of the marriage obligation. The result of this was a very low divorce rate, which confirmed George Bernard Shaw's remark that when the door was always open you thought a long time before you walked out.

In England, where there was a liberal outlook, they had almost got back to the natural law; the size of families was decided and the children got better care. The figures of the last census showed that in England almost everybody married. In Ireland, she suggested, it was the weaklings who married, and had large families. Taking the wide view, geographers were already speaking of "the dying Irish race."

The task was to induce the best to marry, and to prevent, to some extent, the weak from marrying—to adjust things, if possible, so that the natural law could prevail.

Colonel O'Brien agreed with the last speaker that the problem must be considered from the human point of view. The question of "push" and "pull" was one of relativity. Where a higher standard of living was placed in contiguity with a lower, people would move towards the higher. It was the higher standards of living in the U.S. from 1847 onwards that caused the tremendous emigration from Ireland, and the more the standards were made known, the greater the pull of that country. At the present time, England appeared to be the Eldorado, and our people flocked there.

Industrialism had never received the rationalisation of agriculture. The industrialism of Europe, with its increase in population, had been the consequence of the discovery of the wheat fields of North and South

America. It was a remarkable fact that countries where the percentage of the population engaged in agriculture was lowest and the size of the farms greatest had a higher standard of living and prosperity. There could be no prosperity where the number of people living on a particular area of land was continuously increasing.

Mr. Geary said that with regard to the question of whether emigration was a "pull" or a "push," it must be remembered that it was fatally easy for an Irishman to leave his country. He (Mr. Geary) was not wedded to the "pull" theory; in some cases there was obviously a "push." In any case, Professor Busted had come to the same conclusion as he had—that in the future the movement of the population might be one of "pull."

He thought that the birth-rate in the Free State would decline a little. The transfer of the population from agriculture to industry which was proceeding would have an important effect. The increase in urbanisation would, it was hoped, increase the marriage rate, but there would probably be a decline in fertility (births per marriage). He thought there might be a decline in the birth-rate due to the discipline of continence, and he thought that Dr. Kane was right when he said that the extent to which the decline in the birth-rate was due to the use of contraceptive devices was greatly exaggerated.

He did not agree at all with Miss Donnelly that the race was weakening; nor could he agree with Dr. Kane as to the direct relation between fertility and social grade. It had been established that in England there is an inverse relationship between fertility and the social grade, and the data have been corrected for the age of the wife at marriage. The Swedish results seem exceptional.

Mr. Johnson asked if Professor Busted could touch on one point—the extraordinary reports that had come in regarding the enormous increase in the birth-rate in Russia in recent years, and how that would affect the whole problem and the theories concerning it.

Mr. O'Donovan (a visitor) said he was in favour of a big population from the point of view of the prestige of the country and its trading, its railways and transport, and its military defence possibilities. No person of national views should or could maintain that the population should be small. Going back to Mr. Geary's forecast as to the tendency of population in the next century, he would like to ask why it should be thought that, after a phenomenal drop in the population from $8\frac{1}{4}$ millions to $4\frac{1}{4}$ millions, we should now at this stage in our history regard ourselves as at a stable level; and why we should not work for a population such as that to which a normal development would have brought us.

Professor Busted mentioned the Famine in the causes of decline. The decline had been continuous up to 1930. He thought Professor Busted was basing his conclusion on a false premise. In addition to the actual factor of the Famine there were undoubtedly all the associated circumstances of the Famine; the complete denudation of the country, the pessimism and dispiritedness. The fact was that the continuous decline since was a corollary of the first catastrophe; the decline was a continuation of the initial cause.

He did not know what the possibilities were of control of population.

A commission of inquiry might address themselves to the effects of such factors as Housing, etc. The social control of population might give great results, in spite of the figures that had been given about the alleged failure of the attempts made in Italy and Germany. As far as the actual decline in Italy went, it would probably have been much greater if artificial State stimulus had not been applied.

The President, conveying the vote of thanks to Professor Busteed, said that the very great importance of the question of population was sufficient excuse for the Society's having placed two papers on this subject before its members inside eighteen months. It was important both as regarded the facts of our own case, and also what was happening in the outside world and particularly in Great Britain.

The view of what the population in this country was to be had a practical bearing on capital investment made at the present time, especially in enterprises of a monopoly character, e.g., the Electricity Supply Board. It was of great importance, further, when such matters as the debt burden to be carried by the country in years to come were considered. As far as the trend in England was concerned, this also was material from our point of view.

This was an agricultural country and the standard of living depended largely on maintaining agricultural exports, and agricultural exports were particularly sensitive to the numbers of population.

One conclusion that had emerged from Professor Busteed's paper was that emigration was likely to be one of the material factors and one of which it was difficult to frame any accurate forecast. A decline in the anticipated population in Great Britain might very well mean that there would be a pull upon the population in this country; whether it was "pull" or "push" in this matter did not seem to him to be of very great importance. It was largely a matter of relativity; it might be a "pull" at one time, and a "push" at another. The result depended on the relative conditions at the two ends. Nowadays we had to reckon with the increasing ease of communication. With regard to what had happened after the Famine, it was possible that we had established communication with the United States at that time at a phase in United States history that was unfortunate for us. The United States was then on the eve of enormous developments, and that was possibly the reason why there had been a continuous "pull" reinforced by the family connections which came to exist.

Dr. Kane had argued against the possibility that any great importance should be attached to birth control as a factor influencing population. His remarks would have been more convincing if he had suggested some more likely alternative. In Mr. Geary's paper it was indicated that in recent years there had been a decline in the expectation of life at the higher ages. The declines were very small, but it was curious that whereas children; and people of the age of 15, male and female, had higher expectation of life, when the ages 45-65 were reached the expectation of life had diminished. This suggested that possibly we should not be too optimistic about any improvement resulting from a decline in the birth-rate.