

Reprint / Tirage à part / Sonderdruck

ACTA HISTORIAE NEERLANDICA

HISTORICAL STUDIES IN THE NETHERLANDS
ETUDES HISTORIQUES NEERLANDAISES
HISTORISCHE STUDIEN IN DEN NIEDERLANDEN

III



LEIDEN
E. J. BRILL
1968

E. W. HOFSTEE

POPULATION INCREASE IN THE NETHERLANDS*

I. INTRODUCTION

It will presumably arouse no surprise among the readers of this volume that an examination of the growth of the Dutch population should be included in a discussion of the forces leading to social change in our country. Since the Second World War, in particular, the Dutch people have become aware of population problems and of the consequences for our society of a population increase. There is even some question of a surplus-population psychosis.

This apprehension about over-population has its roots in the baby-boom of the early post-war years and as far as that is concerned it may be compared to a certain extent with similar—although far less general—reactions which were evoked by the rise in the birth rate after the First World War¹). More surprising is the continuing interest in popu-

* In the original Dutch version this article was published as a contribution to the volume entitled "Drift en Koers" ("Trend and Direction") which appeared in 1962 on the occasion of the 25th anniversary of the foundation of the Nederlandse Sociologische Vereniging (Dutch Sociological Society). The collection as a whole was intended to reflect the social forces shaping contemporary Dutch society. The article therefore gave a fairly broad description of the population problem in the Netherlands and was addressed to Dutch readers interested in the social sciences generally and not only to those whose special interests lay in historical and sociological demography. The main substance of the article, however, represents an entirely new approach to the problem of the decline in fertility and mortality in the Netherlands, based on material never previously analysed and, in fact, still largely unknown. For this reason it may perhaps also prove of interest to foreign demographers, particularly as the trend of fertility rates in the Netherlands has long attracted international attention on account of its exceptional character. No attempt has been made to adapt the article to a different category of readers from the original. That would have meant largely rewriting it, without really benefitting the new readers much. A few extra footnotes have been added, and a map indicating the location of the provinces, districts and municipalities mentioned in the text. The analysis of statistics relating to the population of the Netherlands during the years since 1960 has not been attempted in this new version, since the data in question do not throw any essentially new light on the problems discussed in the article.

¹) See, for example, Prof. Dr. J. H. F. KOHLBRUGGE's preliminary report to the Vereniging voor Staathuishoudkunde en Statistiek (Political Economy and Statistical Society) on the question: 'How will economic developments in recent



Map 1

Provinces, districts and municipalities mentioned in this article

lation problems so long after the end of the last war. Quite soon after the immediate post-war years, the Dutch birth rate dropped to a level not so very different from that prevailing before the war. Although there are fluctuations from year to year, a tendency towards a gradual further decline can be observed. Moreover, the birth rate in the Netherlands now is less at variance with the rates in other more or less comparable countries than it was before the war (see table 1).

Table 1

Average Crude birth-rates in the periods 1938-1939 and 1957-1958 in a number of Western European countries, and in the U.S.A. and Canada

Country	1938-1939	1957-1958
Belgium	15.8	17.0
Denmark	18.0	16.7
Finland	21.1	19.3
France	14.6	18.4
Greece	25.6	19.2
Ireland	19.2	21.0
Italy	23.7	18.0
Luxemburg	15.0	15.6
Netherlands	20.6	21.2
Norway	15.8	18.0
Portugal	26.4	23.7
Sweden	15.2	14.4
Switzerland	15.2	17.6
United Kingdom	15.4	16.6
U.S.A.	17.4	24.6
Canada	20.5	28.0

Sources: Statistical Yearbook 1948; Demographic Yearbook 1959

In general, a certain tendency towards a levelling of national birth rates can be observed in Europe to the west of the Iron Curtain, and in North America. To a large extent, the countries with crude birth rates above 20 per 1,000 before the war have seen their birth rates fall, and the countries where these rates were formerly below 20 per 1,000 now lie much higher on the scale. In these circumstances the Netherlands is no longer such an exception. The opinion which one can still hear so often expressed, namely that the Netherlands is the country 'with the highest birth rate in the western world' is an obsolete stereotype: for years now, birth rates in the United States of America and

years affect population figures, particularly in the Netherlands', 1922; mr. J. BIERENS DE HAAN jr., *Het fatum van bevolkingsvermeerdering* (The fate of Population Increase), 1924.

in Canada have been higher than in the Netherlands. Another very striking fact is that, as regards the welfare of the population, the Netherlands has perhaps never before, in some 150 years, experienced so little inconvenience from an increase in the number of its inhabitants as in precisely this period after the Second World War, a period almost continually characterized by rapid economic expansion and full employment. The great interest manifested in overseas migration after the war, particularly on the part of the authorities, cannot therefore be easily explained on the grounds of demographic-economic considerations¹).

The foregoing, of course, does not mean to say that this interest in the population problem is undesirable. One may be permitted to wonder, indeed, whether, compared with the attention the subject attracted before the Second World War and the interest currently displayed in other major problems of the day, the interest now taken is not disproportionately great. Undoubtedly, however, taken on its own merits, the problem of population expansion in the Netherlands continues to be extraordinarily absorbing from a scientific point of view and highly significant from a social one.

A sociological study of the Dutch population problem in the framework of this symposium implies an attempt at answering two questions. In the first place, it must be ascertained what social forces are currently operative in the pattern of our population's development and how they affect actual population growth. In the second place, an attempt will have to be made to find out how the population increase affects other sectors of social activity.

In the following study, migration will be left out of consideration. Although the influence of overseas migration upon the population size of the Netherlands in the period following the Second World War cannot be denied, it yet remains of secondary and, moreover, diminishing importance with regard to population development as a whole. Besides, adequate discussion of the problem of international migration would involve disproportionate expansion of the present article.

In the following pages, therefore, we shall deal successively with trends in fertility, mortality, and the effect of population increase.

¹) See E. W. HOFSTEE, 'Netherlands', *Economics of International Migration*, edited by Brinley Thomas, London 1958, pp 96-106.

Table 2
Crude birth-rates in the Netherlands, 1850-1959 (five-yearly averages)

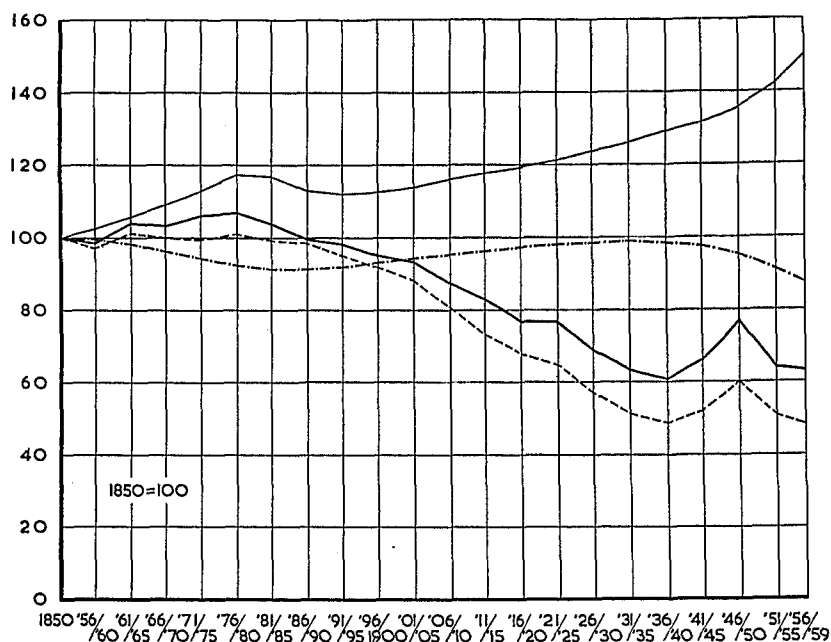
Period	Average birth-rate	Period	Average birth-rate
1851-1855	33,7	1906-1910	29,6
1856-1860	33,3	1911-1915	27,6
1861-1865	35,1	1916-1920	26,2
1866-1870	35,1	1921-1925	25,7
1871-1875	35,9	1926-1930	23,2
1876-1880	36,4	1931-1935	21,2
1881-1885	34,8	1936-1940	20,4
1886-1890	33,8	1941-1945	22,2
1891-1895	32,9	1946-1950	26,0
1896-1900	32,2	1951-1955	21,9
1901-1905	31,5	1956-1959	21,2

Sources: Central Bureau of Statistics and Dept. of Rural Sociology, Agricultural University

After a continuous decline from 1875 on (punctuated only by a short period with higher figures after the First World War and a longer period with higher birth rates just before, during and after the Second World War), in the period 1956-1959 the birth rate reached a level slightly above that of the last five-year period before the last war and, by chance, precisely the same as that of the first five-year period in the thirties.

Now, of course, crude birth rates alone are only of limited value as an indication of fertility trends. Graph 1 illustrates the development of the birth rate and its three demographic components (see also: tables 4, 5 and 6), namely, the relative number of females between 15 and 44 years of age in the total population, the relative number of married females between 15 and 44 years of age in the total number of females in that age group, and the number of births per 1,000 married females aged between 15 and 44 (marital fertility).

As regards the most recent period, it appears that marital fertility in the period 1956-1959 was at approximately the same level as in the period 1936-1940, or even a little lower. The fact that the crude birth rate in the period 1956-1959 is a little higher than in this low period before the war must be attributed to the considerably higher percentage of married females. This compensated not only for the slightly lower marital fertility but also for the fall in the percentage of the total number of females between 15 and 44 years of age in the total population. Bearing in mind that in consequence of the increased nuptiality the percentage of young married persons in the most recent period



Graph 1

- percentage of females aged 15-44 in total population
- percentage of married females aged 15-44 in total number of females aged 15-44
- number of births per 1,000 married females aged between 15 and 44 (marital fertility)
- birth rate

was considerably higher than in the years just before the war, and that the marital fertility of young married persons is considerably higher than of those who have been married longer (see table 3, page 49), it is clear that expectations concerning the size of family of the present generation of married persons must be lower than ever before, compared with former generations.

Taking the present level of the demographic factors affecting fertility as a whole, we arrive at the following conclusions:

1. The Netherlands now displays a marital fertility which, compared with the totality of the western world, is indeed relatively high but by no means exceptional and which, showing a definite tendency to decline, has now fallen to the lowest known level in Dutch demographic history.

Table 3

Marriages according to age of contracting parties, 1953-1959
Per 1,000 single persons in each age group

Year	15-19	20-24	25-29	30-34	35-39	40-44	45-49	50 years and older	Total 20-49 years
Males									
1953	2,9	64,3	204,8	179,7	103,5	63,7	30,3	15,4	112,5
1954	3,0	67,6	218,4	181,2	103,2	66,7	49,0	15,4	117,3
1955	3,2	70,8	223,0	184,9	100,2	63,6	48,8	15,7	119,7
1956	3,2	75,0	235,6	188,6	104,6	64,5	49,9	15,6	125,6
1957	3,5	80,1	240,8	176,2	102,3	65,0	43,5	16,4	127,4
1958	3,9	83,7	237,9	180,9	96,3	57,1	42,5	14,8	127,0
1959	4,0	83,7	230,4	166,5	88,0	55,7	41,7	14,3	122,6
Females									
1953	18,7	139,7	207,0	112,3	53,2	31,0	21,3	4,3	120,1
1954	19,4	149,3	221,2	108,4	53,4	31,3	21,1	4,5	126,1
1955	19,9	156,0	230,2	110,2	53,3	30,2	21,7	4,5	130,3
1956	20,3	167,1	249,7	112,5	53,5	31,7	20,8	4,6	138,5
1957	21,7	179,2	253,3	113,2	53,3	30,9	21,1	4,8	143,2
1958	22,7	184,8	247,1	105,9	50,5	28,1	19,4	4,3	142,6
1959	23,1	180,4	237,2	100,4	47,4	28,4	19,0	4,1	138,1

Source: C.B.S.

2. Since the last world war, very much higher nuptiality combined with a lowering of age at marriage can be observed.

3. Developments in the age structure of the Dutch population have resulted in the number of females aged between 15 and 44 in the total population being at a relatively low level at present.

What, now, is the social background to the present situation? How is it connected with social developments in the recent past and accordingly with the attitude of the Dutch population towards marriage and reproduction? What does all this suggest about the future?

Demographic-sociological research in the Netherlands has clearly demonstrated that a region-by-region approach is practically indispensable for a full insight into this country's fertility problem, not only because there are such important regional differences in fertility but, above all, because a regional approach can help considerably in providing an insight into the factors determining trends in the country as a whole.

The figures for each province in tables 4, 5 and 6 give a general idea of regional trends in respect of the three components of the birth rate.

The number of females aged between 15 and 45 as a percentage of the total population is, of course, the result of the complicated interplay of all the long-term population changes. Two factors, however, are of particular importance in accounting for the developments in the country as a whole as well as for the regional variations, namely the trend of the birth rate and of migration. Other things being equal, a rise in the birth rate will lead, in the first instance, to a reduction in the percentage of 15-44 year-old females because young people under 15 years of age will form a larger fraction of the total population. When, in the course of time, the increase in births begins to make itself felt in the age group of the over-fifteens, this effect will gradually disappear. A fall in the birth rate naturally has the reverse effect. In the area concerned, emigration surpluses lead to a relatively sharp decline in the group of young economically active persons, i.e. the 15-45 year-olds.

The upward trend of the birth rate which asserted itself throughout the whole country after 1850 led, in the first instance, to a reduction in the percentage of 15-44 year-old females. When, about 1880, the fertility increase made itself felt in the age groups over 15 years of age and simultaneously a decline in the birth rate set in, the percentage rose again, even though the effect of the falling birth rate was diminished by the reduction in the number of deaths of young persons, especially infants. The rise continued gradually until the latter half of the thirties when, in consequence of the recovering birth rate, a slight decline set in. The decline accelerated during and after the war so that in the period 1956-1959 the very low percentage of 20.5 was reached. A reversal of the trend may be expected very shortly, now that those born in the immediate post-war years are about to pass the 15-year mark while the birth rate, generally speaking, is still showing a tendency to decline.

As regards the ratios between the various provinces, in the areas with a persistent emigration surplus—Groningen, Friesland, Drenthe and Zeeland—the factors just mentioned give rise to a relatively low percentage of females aged between 15 and 44, and in the areas with an immigration surplus, especially the provinces of North and South Holland, they occasion a relatively high percentage of females in this age group. In consequence, the crude birth rate statistics for North and South Holland give a somewhat exaggerated idea of the desire for

Table 4
Number of married females aged 15-44 as percentage of total population, 1850-1959

	1851 '55	1856 '60	1861 '65	1866 '70	1871 '75	1876 '80	1881 '85	1886 '90	1891 '95	1896 '00	1901 '05	1906 '10	1911 '15	1916 '20	1921 '25	1926 '30	1931 '35	1936 '40	1941 '45	1946 '50	1951 '55	1956 '59
Groningen	23.3	22.2	23.0	22.5	22.1	21.7	21.4	21.4	21.5	21.7	21.8	21.8	22.0	22.2	22.4	22.6	22.5	22.5	22.5	22.1	20.9	20.0
Friesland	22.9	23.1	22.9	22.4	21.9	21.4	21.2	21.2	21.3	21.4	21.5	21.6	21.6	21.7	21.7	21.7	21.6	21.4	21.2	21.8	20.2	19.1
Drenthe	22.8	22.5	22.1	21.5	21.0	20.6	20.4	20.2	19.9	19.5	19.7	20.1	20.5	20.8	20.9	20.8	20.9	21.2	21.5	21.5	20.8	20.3
Overijssel	22.7	22.8	22.5	22.0	21.5	21.1	20.9	20.9	21.0	21.2	21.3	21.5	21.8	22.2	22.6	22.9	22.9	22.6	22.6	22.1	22.1	20.3
Gelderland	22.1	22.4	22.1	21.6	21.2	20.8	20.6	20.6	20.8	21.2	21.3	21.4	21.5	21.7	22.0	22.2	22.3	22.2	22.2	22.0	22.0	20.4
Utrecht	23.4	23.5	23.3	22.8	22.3	21.8	21.4	21.2	21.3	21.7	22.1	22.5	22.8	23.1	23.4	23.6	24.0	22.2	23.1	22.6	22.3	20.6
N.-Holland	24.7	24.7	24.5	23.9	23.4	23.0	22.8	22.8	23.0	23.3	23.6	24.0	24.3	24.5	24.6	24.7	24.5	24.0	23.6	23.0	22.6	20.7
S.-Holland	24.0	24.1	23.9	23.4	22.9	22.4	22.1	22.0	22.2	22.6	22.9	23.1	23.4	23.7	24.0	24.3	24.3	24.0	23.6	23.0	21.6	20.7
Zeeland	23.2	23.6	23.4	22.5	21.7	21.2	20.9	21.0	21.2	21.5	21.8	22.0	22.2	22.4	22.4	22.4	22.3	22.0	21.8	21.3	21.0	19.3
N.-Brabant	22.9	23.1	22.8	22.3	21.6	21.1	20.8	20.8	21.0	21.4	21.5	21.4	21.4	21.5	21.6	21.6	21.2	22.0	22.2	22.1	21.4	21.0
Limburg	21.6	21.6	21.4	21.0	20.7	20.5	20.3	20.3	20.5	20.9	21.0	21.0	21.1	21.4	21.7	22.0	22.1	22.3	22.4	22.3	21.7	21.3
Netherlands	23.4	23.4	23.1	22.6	22.1	21.6	21.4	21.4	21.6	21.9	22.2	22.4	22.6	22.8	23.0	23.2	23.2	23.1	22.9	22.4	21.3	20.5

Table 5
Number of married females aged 15-44 as percentage of total number of females aged 15-44, 1850-1959

	1851 '55	1856 '60	1861 '65	1866 '70	1871 '75	1876 '80	1881 '85	1886 '90	1891 '95	1896 '00	1901 '05	1906 '10	1911 '15	1916 '20	1921 '25	1926 '30	1931 '35	1936 '40	1941 '45	1946 '50	1951 '56	1956 '59
Groningen	41.4	42.1	43.1	44.3	45.8	47.3	47.0	45.7	45.4	45.9	47.1	48.2	47.2	48.1	50.7	51.5	53.2	54.7	56.4	58.3	60.9	64.2
Friesland	43.8	44.4	45.4	46.7	48.3	49.8	49.3	47.6	47.3	48.0	49.1	50.3	51.0	51.2	51.6	52.3	53.2	54.4	55.5	56.9	59.4	60.1
Drenthe	42.2	44.1	46.0	47.7	48.9	49.5	49.6	49.4	50.0	51.2	52.2	53.0	53.6	54.0	54.5	55.1	55.9	56.8	57.5	58.7	61.4	66.6
Overijssel	41.6	42.3	43.5	44.9	46.1	46.9	47.2	47.1	47.3	47.7	48.3	48.8	48.6	48.0	48.3	49.2	50.3	51.8	52.7	54.0	56.1	56.5
Gelderland	38.9	40.0	41.2	42.5	43.5	44.2	44.0	43.3	43.0	43.2	43.8	44.3	45.2	45.5	46.2	47.1	48.5	50.2	51.8	53.5	55.8	57.7
Utrecht	37.6	38.8	40.3	41.9	43.2	44.1	44.3	44.0	43.9	43.8	43.8	43.9	44.5	45.2	46.1	47.0	48.6	52.4	51.5	53.0	55.0	58.9
N.-Holland	41.5	42.3	43.3	44.5	46.0	47.4	47.4	46.6	46.1	45.9	46.2	46.8	47.7	48.7	49.7	50.6	51.7	53.1	54.4	55.8	57.8	59.7
S.-Holland	41.4	42.9	44.2	45.4	46.8	47.9	47.6	46.5	45.5	44.9	45.4	46.4	47.0	47.5	48.1	49.0	50.4	52.2	53.9	55.8	58.2	60.9
Zeeland	42.5	43.4	44.3	45.8	47.0	47.2	46.7	45.5	45.3	46.0	46.8	47.5	48.1	48.5	49.2	50.4	51.9	53.8	55.7	57.9	61.0	65.7
N.-Brabant	33.4	33.5	34.7	36.9	38.9	40.3	40.1	38.8	38.4	38.8	39.9	41.4	42.3	42.8	43.7	44.8	47.0	46.9	47.8	49.0	51.5	53.7
Limburg	38.5	38.5	39.1	40.1	40.7	40.9	40.1	38.9	38.4	38.6	40.0	42.0	43.9	45.6	47.0	48.3	49.1	49.4	49.7	50.9	54.8	58.4
Netherlands	39.8	40.8	42.1	43.5	44.9	46.0	45.8	44.9	44.5	44.7	45.3	46.2	46.9	47.4	48.1	49.0	50.0	51.1	52.1	53.8	56.6	59.7

Table 6
Number of birth per 1,000 married females aged 15-44 (marital fertility), 1850-1959

	1851 '55	1856 '60	1861 '65	1866 '70	1871 '75	1876 '80	1881 '85	1886 '90	1891 '95	1896 1900	1901 '05	1906 '10	1911 '15	1916 '20	1921 '25	1926 '30	1931 '35	1936 '40	1941 '45	1946 '50	1951 '55	1956 '59
Groningen	335.7	327.0	341.7	341.5	339.0	348.3	323.0	320.9	317.1	308.5	296.7	276.2	256.3	237.7	222.7	188.6	165.3	154.5	165.9	184.9	155.4	146.1
Friesland	320.1	304.5	326.3	329.6	325.6	323.2	292.0	294.6	286.8	272.3	265.9	239.7	222.2	219.7	217.6	199.4	181.1	176.7	196.9	209.6	189.5	185.9
Drenthe	318.5	330.7	327.1	321.6	321.1	331.4	315.0	325.2	332.0	326.2	326.0	309.4	289.5	290.7	283.1	237.0	208.6	185.8	194.8	213.0	192.6	163.8
Overijssel	336.1	329.9	333.8	335.9	330.4	335.5	324.3	330.9	328.6	324.5	314.2	287.5	261.1	246.6	240.6	216.9	192.0	177.9	192.5	216.8	195.7	195.2
Gelderland	354.0	352.8	359.4	355.2	347.1	357.8	353.0	355.2	349.8	346.4	332.7	310.8	283.9	265.9	259.0	230.3	205.6	186.8	199.8	226.9	197.1	185.4
Utrecht	390.0	378.0	389.9	377.5	374.3	384.4	382.1	383.3	369.7	352.4	333.1	296.0	265.7	244.8	237.2	202.4	180.9	172.4	185.9	218.3	184.4	171.1
N.-Holland	359.4	329.1	353.1	337.3	337.2	345.8	346.0	332.4	311.5	285.3	265.2	233.1	209.0	195.7	178.8	158.4	142.4	141.2	150.9	189.1	155.5	152.3
S.-Holland	397.4	379.0	392.1	383.3	384.6	384.0	380.2	369.2	353.6	336.9	317.2	286.6	256.5	226.7	209.4	180.4	158.8	151.2	152.3	196.5	160.3	153.1
Zeeland	392.1	379.3	401.8	392.4	408.4	385.3	356.9	361.5	355.0	335.5	309.7	274.3	243.7	227.8	207.4	176.4	156.6	151.4	162.2	182.9	165.6	154.3
N.-Brabant	351.9	361.5	378.2	386.6	389.2	395.8	392.7	398.1	396.2	399.8	404.4	377.1	352.2	332.7	331.6	297.8	269.1	243.4	255.0	268.5	230.4	212.8
Limburg	361.3	367.5	369.7	376.2	379.3	390.7	384.3	386.9	395.0	400.5	398.9	378.1	350.2	319.0	310.2	273.9	243.3	218.1	230.0	245.2	217.3	193.5
Netherlands	356.4	346.6	359.5	356.0	355.3	359.1	354.4	351.4	341.3	328.3	315.1	287.5	261.5	242.9	231.9	204.2	183.1	173.5	184.9	215.1	181.3	172.1

children, while the reverse is true of the areas of emigration, particularly after about 1875 as the scale of the movement increased.

For a long time, North Brabant and Limburg also showed a relatively low percentage of 15-44 year-old females because the decline in the birth rate set in comparatively late in these provinces. They therefore had a certain reserve of "reproductive power". At the present time, however, they are busy using up this reserve. The relatively slight influence of the baby-boom after the Second World War in the southern provinces and the relatively rapid decrease in the birth rate in these provinces in recent decades, in general, have resulted in a situation where, for the first time since 1850, during the period 1950-1955 the percentage of 15-44 year-old females is higher in North Brabant and Limburg than in the country as a whole. The gradual decline in the emigration rate from the south to other provinces has undoubtedly helped to further this development.

Although from a demographic point of view the percentage trend of 15-44 year-old females is a significant element in fertility trends, it is, in itself, not particularly interesting sociologically. It is, so to speak, mechanically determined by other demographic factors even though these have their own background in the evolving social situation.

It is clear that social factors are particularly active in respect of the next component, namely the number of married females as a percentage of the total number of females of 15-44 years of age. We do not want to go too deeply into these backgrounds here and shall confine ourselves, for the most part, to a brief survey of actual developments. Throughout the last century the percentage for the country as a whole shows an almost continual real increase, interrupted only by a decline after 1880, which must be attributed, in the first place, to the great agricultural crisis at the end of the last century¹⁾. Until the Second World War this increase was very gradual in character. In 80 years the percentage rose from approximately 40 to approximately 51, i.e. about 0.14% per annum. After the war, however, a big change set in. In 10 years' time it increased by about 6, i.e. by 0.6% per annum. In this respect, we may speak of an almost revolutionary change in the demographic position of the Netherlands, a change which is bound to have far-reaching social consequences. It is

¹⁾ E. W. HOFSTEE, 'Regionale verscheidenheid in de ontwikkeling van het aantal geboorten in Nederland in de 2e helft van de 19de eeuw' (Regional Diversity in Fertility Trends in the Netherlands in the Second Half of the 19th Century), *Akademiedagen*, Volume VII, 1954, p. 98 etc.

most remarkable that—even after this last great change—the differences between the various provinces as regards the percentage of married females among the 15-44 year-olds are still of practically the same nature as fully a century ago. In the period 1851-1855, the provinces of Friesland, Groningen, Drenthe and Zeeland especially but also North and South Holland, had relatively high percentages, whereas the provinces of Limburg, Utrecht and Gelderland,—and North Brabant in particular—showed figures that were lower than the national average. The situation in the period 1955-1959 might be summed up in almost the same words. Only Overijssel, which was a little above the national average in the period 1851-1855, and remained so up to the period 1950-1955, has just dropped below the national level in the most recent period of all. Because of the rise in the total level, of course, the relative importance of the differences between the provinces in the percentage of married women is less now than a century ago.

However much the birth rate trend may be affected by the number of females married out of all those aged 15-44 (other things being equal, the increase in the percentage of married women between the periods 1930-1935 and 1956-1959 would have meant an increase of almost 20% in the national birth rate) even more important from the point of view of overall fertility is the marital fertility trend, at least within the last 75 years.

It is true that there were already differences in the marital fertility of the various provinces in the middle of the last century but, as I have demonstrated elsewhere¹⁾, the important variations in the crude birth rate figures of the various provinces in the period 1851-1855 must be attributed primarily to the differences in the percentage of married females among females aged 15-45. In those days, there was still no question of relatively high fertility rates in the mainly Roman Catholic provinces of North Brabant and Limburg. Figures for the western provinces were then higher than those for the southern provinces.

Generally speaking, right up to about 1875 there was still nothing remarkable about the regional trends of fertility rates. At that time, the figures for Friesland and Groningen were a little higher than in the period 1851-1855, while the eastern part of the country, and Utrecht, lay at approximately the same level as in the middle of the century. As for the west, while it is true that North and South Holland showed a slight fall, in the period 1871-1875 Zeeland produced the highest

¹⁾ E. W. HOFSTEE, 'Regionale verscheidenheid ... etc.'

marital fertility rate ever recorded in one province in any five-year period since 1850. Like Limburg, North Brabant showed a considerable rise but, compared with South Holland and Zeeland, for example, the rate in neither province was remarkably high.

After 1880, however, the situation changes. Marital fertility rates in the provinces of Groningen, Friesland, North and South Holland and Zeeland start to fall quite rapidly and continue to do so without a break during the following decades. In Drenthe, Overijssel, Gelderland and Utrecht, the fall begins later and is less pronounced. In North Brabant and Limburg there is actually a rise after 1880, so that in these provinces around the turn of the century the highest level of marital fertility since 1850—over 400—is reached. In the period 1921-1925, marital fertility rates in the two northern and three western provinces are obviously lower than in the rest of the country. They are all under the national average, whilst the others are above, although, as far as Utrecht is concerned, the difference is very slight indeed. In North Brabant and Limburg, in particular, they are considerably higher than in the country as a whole in the period 1900-1930. Apart from some fluctuations, the rate in North Brabant continues about 90 to 100 points above the national average during this whole period.

Not long after that, the tide begins to turn. Partly in the twenties but mainly in the thirties, marital fertility rates are seen to be falling more slowly in the west and north of the country, including Utrecht but not Groningen, whereas in the remaining provinces the rate of fall remains the same or is even accelerated.

Compared with 1931-1935, the marital fertility rate fell less between 1936 and 1940 in all the western provinces just mentioned than in the country as a whole. The decline in the provinces of North Brabant and Limburg was particularly great. Broadly speaking, this tendency, which started in the thirties, has been continuing ever since. When, in the period 1951-1955, the very abnormal character of early post-war natality had become less marked and the marital fertility rate for the country as a whole had again reached the approximate level of 1931-1935, the figures in the provinces of Friesland, North Holland, Utrecht, South Holland and Zeeland turned out to be considerably higher than in the period 1931-1935. In North Brabant and Limburg, however, they were noticeably very much lower. The eastern part of the country, too, registered a pretty general fall. Only in Overijssel could a slight rise be recorded.

The period 1955-1959 presents virtually the same picture. In general, this period shows a distinct decline compared with the previous one, but the fall is by no means uniform in every province. In Friesland, Utrecht, North Holland, South Holland and Zeeland, it is slight. In Groningen and Overijssel it is also less than in the country as a whole, but Drenthe and Gelderland show a relatively sharp decrease. Viewed over the entire period, Drenthe falls below the level of Friesland and, taking each year separately, it turns out that in 1959 Gelderland, too, is lower than Friesland. Once more, however, the decline in marital fertility in North Brabant and Limburg is particularly striking. In this period, the level in Limburg is lower than that in Overijssel and it no longer differs essentially from Friesland. In North Brabant it continues to be a little higher than in Limburg, but the differences with various other provinces have gradually become comparatively small. At the beginning of the present century, North Brabant lay about 140 points ahead of Friesland and North Holland. The difference with Friesland now is still about 30 points, with North Holland about 60. The difference with the country as a whole has been reduced to about 40 points. We must therefore conclude that the idea—still popular in the Netherlands—that, in proportion, the two southern provinces are characterized by exceptionally high fertility has been losing authenticity for some decades already and at the present moment can hardly be regarded as being in accordance with the facts.

Thus marital fertility differentiation between the various Dutch provinces in the course of more than a century follows a curious cycle. Starting with a situation in which differences certainly existed but, broadly speaking, not of a kind which could be considered of decisive importance for the level of fertility and proceeding via conditions under which great differences in marital fertility primarily determined fertility level differentiation, we have returned to a point where these differences are once more relatively insignificant.

Although the provincial statistics clearly indicate the emergence of various interesting and important questions concerning the causes of the differences in regional fertility trends in the Netherlands and of other regional differences of a demographic nature connected with this, classification according to provinces is too rough-and-ready to provide an adequate basis for the formulation of any interpretative hypotheses. More precise regional classification, which really means classification by municipalities, is necessary. Unfortunately the data we have about the past do not admit of calculating marital fertility and

the other demographic components of the birth rate separately for each municipality over a long period, so that we must make do with the complex, and therefore somewhat more unwieldy, data on the crude birth rate itself.

A series of four maps (2, 3, 4 and 5), each covering developments over a quarter of a century (with the exception of the map for the period between 1901-1905 and 1931-1935) illustrates the rise or fall of the birth rate, per municipality, from 1850 to 1959. This series of maps presents a particularly interesting and remarkable picture. In the period between 1851-1855 and 1876-1880, regional differences in the development of the birth rate are still not clearly defined. It is only in the peninsula of North Holland and in some parts of Zeeland that a certain decline can be recorded, while North Brabant registers the sharpest rise. In general, as the figures for the whole country also show, a moderate rise is evident, even though there is still some divergence between the various municipalities. Part of this divergence should perhaps be attributed to coincidence; at any rate it cannot be accounted for without very detailed study.

The subsequent 25-year period, however, shows quite a different trend of affairs. In map 3 there is quite a clear-cut division between areas with a sharp decline in the birth rate and those with a slight decline or rise. Zeeland, South Holland, the west of Utrecht, North Holland, western Friesland, northern Groningen and the western tip of Overijssel are areas with a sharp fall. The remainder show a slight fall or rise, although some municipalities of course, strike a different note.

It is remarkable that the dividing line between sharp decline and slight decline or rise during this period is practically conterminous with the boundary between the alluvial and the diluvial part of the Netherlands. An exception is formed by the eastern part of the river-clay area, which teams up with the diluvial part.

But the next map (4), for the period between 1901-1905 and 1931-1935 shows that not too much value should be attributed to this division between alluvial and diluvial in itself. It turns out that the boundary between sharp decline and slight decline or rise has shifted, without changing its orientation, to the southeast. The only places in the east of the country which still form part of the area with a slight fall or rise are then the east of Brabant, Limburg, the "Land van Maas en Waal", the "Rijk van Nijmegen", part of the "Gelderse Achterhoek", the "Lijmers" district, and a few municipalities in eastern

"Twente". It is noticeable, however, that during this period in the west and north of the country a few of the areas in which the sharp decline first manifested itself now show a definite slowing-down in the rate of fall, and here and there a rise actually sets in again. This applies to the peninsula of North Holland and the western part of the province of Friesland, while signs of a similar trend can also be observed in North Groningen.

Finally, then, the map of the most recent period (5). This one clearly shows that the symptoms of a reversal of the tendency, which were apparent in the foregoing period, were indeed the precursors of a conspicuous change in the general trend of the birth rate. This last map is almost the exact opposite¹ of the map covering the period between 1876-1880 and 1901-1905 (map 3). Zeeland, South Holland, Utrecht, North Holland, the west of Friesland and North Groningen are the areas where, between 1931-1935 and 1956-1959, birth rates in general either rise or remain unchanged. The western part of Overijssel, too, falls into line again with the west of the country, registering a relatively sharp rise in the birth rate. The areas with a sharp decline in the birth rate, on the other hand, are to be found, in the first place, in Brabant, particularly in the east, then in Limburg, the "Land van Maas en Waal", the "Rijk van Nijmegen", a number of municipalities in the "Achterhoek", the "Lijmers" district and "Twente", eastern Drenthe, and in southwest and southeast Groningen. Although the comparison of the maps for the periods between 1876-1880 and 1901-1905 and between 1931-1935 and 1956-1959 naturally does not hold good in every respect, the concurrence in a negative sense—often so striking in details, too—is so great that the hypothesis of a definite connection cannot fail to be made.

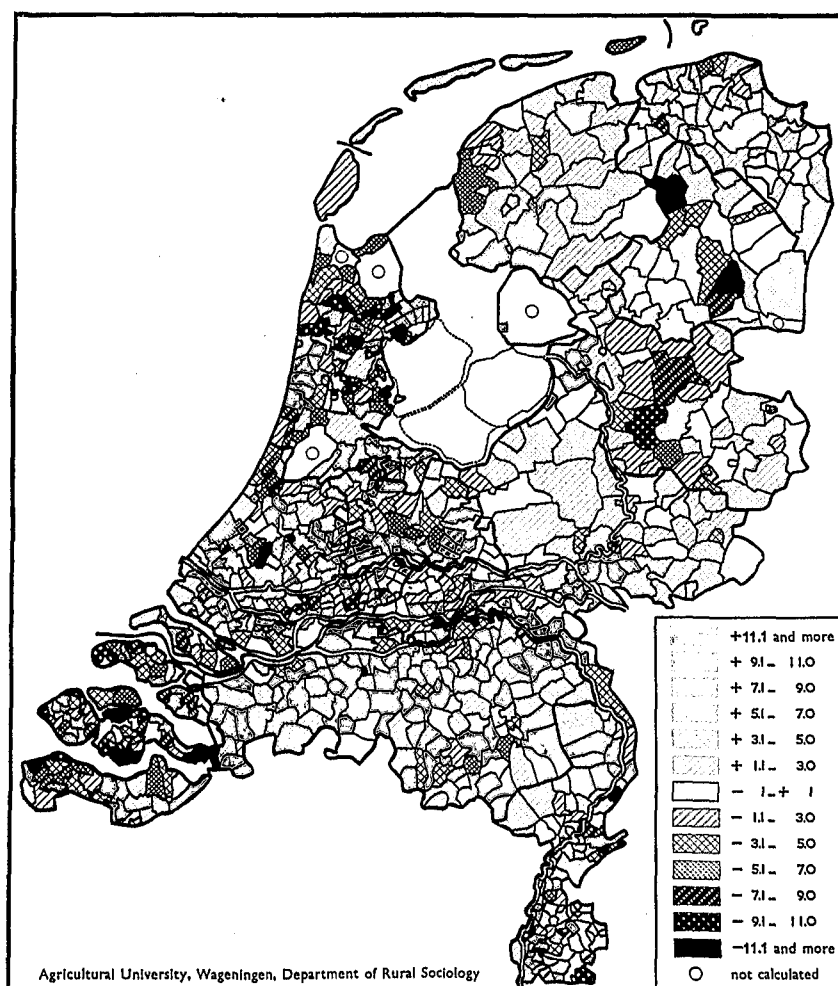
It is another question where this connection should be sought, i.e. how this remarkable phenomenon of the shift in the decline of natality across the country from northwest to southeast should be explained.

Allow me to refer here to an earlier study on fertility trends in the Netherlands since the middle of the last century, a study which deals particularly with developments in the second half of the 19th century and to which the present contribution is therefore, in its way, a sequel².

In the article in question, the trend of regional differences in fertility in the 19th century is attributed to the interplay of three different

¹) Note that, as the keys indicate, the scale intervals on map 4 are half the size of those on maps 1, 2 and 3.

²) E. W. HOFSTEE, 'Regionale verscheidenheid ... etc.'

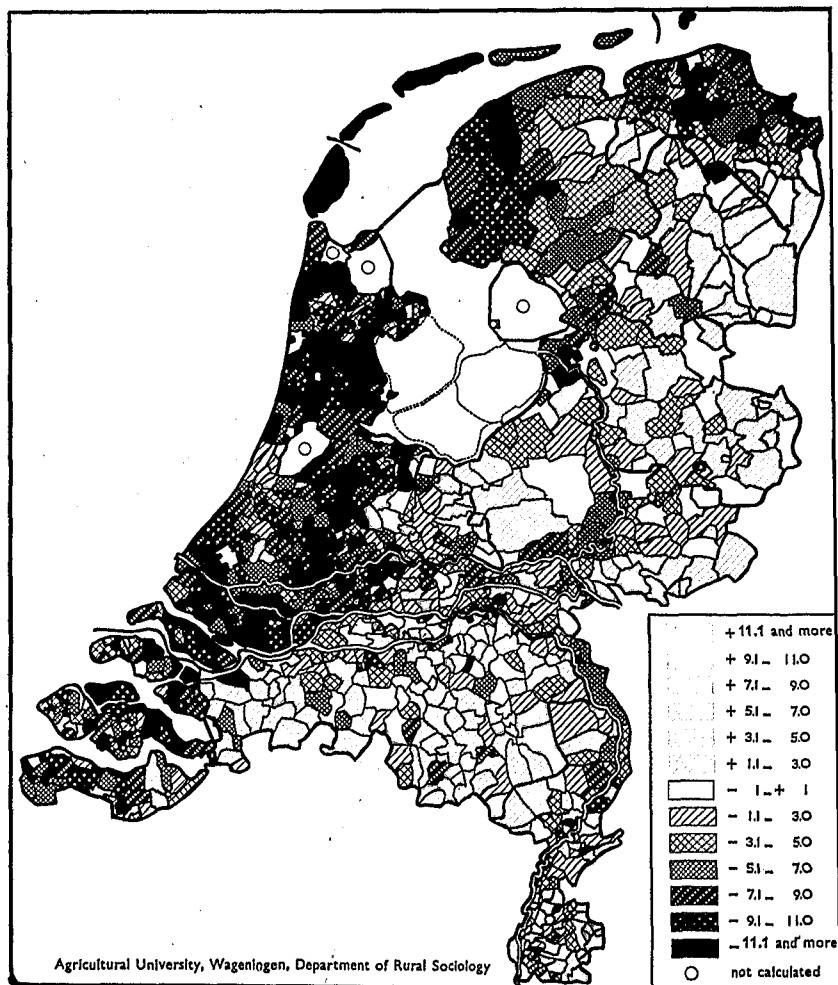


Map 2

Comparison of the average number of births per 1,000 of the total population in Dutch municipalities during the periods 1851-1855 and 1876-1880.

Source: C.B.S.

	1851-1855 = 33.7
Netherlands	1876-1880 = 36.3

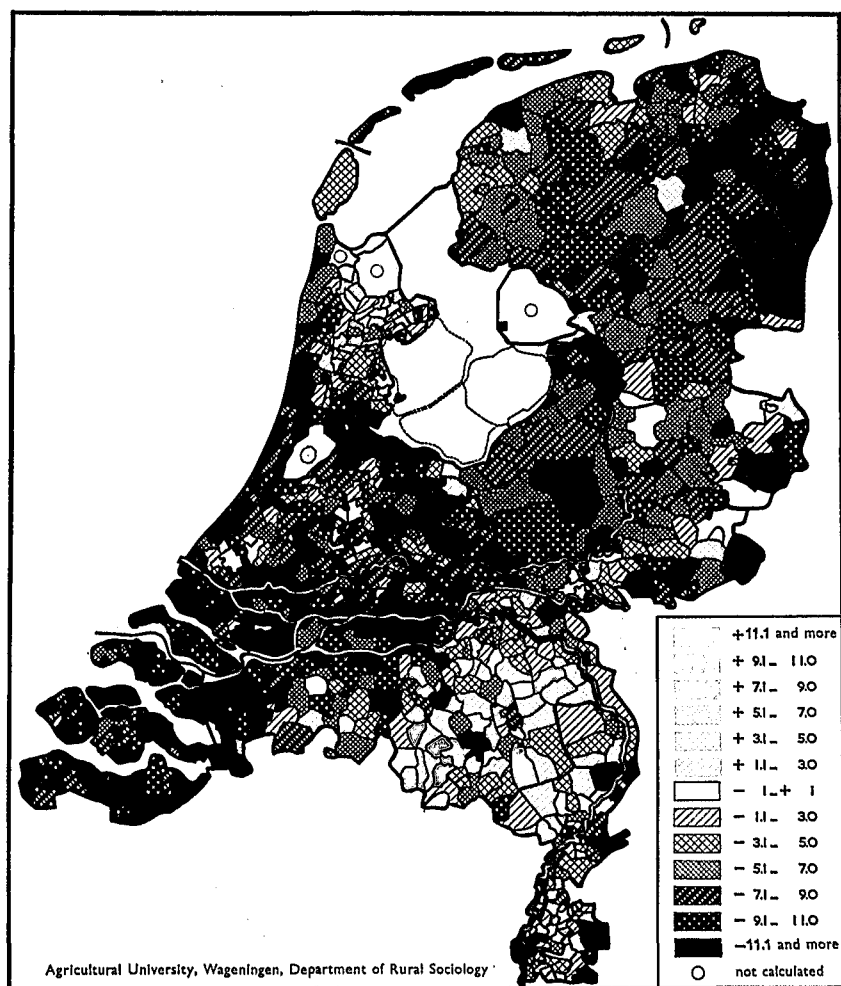


Map 3

Comparison of the average number of births per 1,000 of the total population in Dutch municipalities during the periods 1876-1880 and 1901-1905.

Source: C.B.S.

Netherlands 1876-1880 = 36.3
 1901-1905 = 31.8

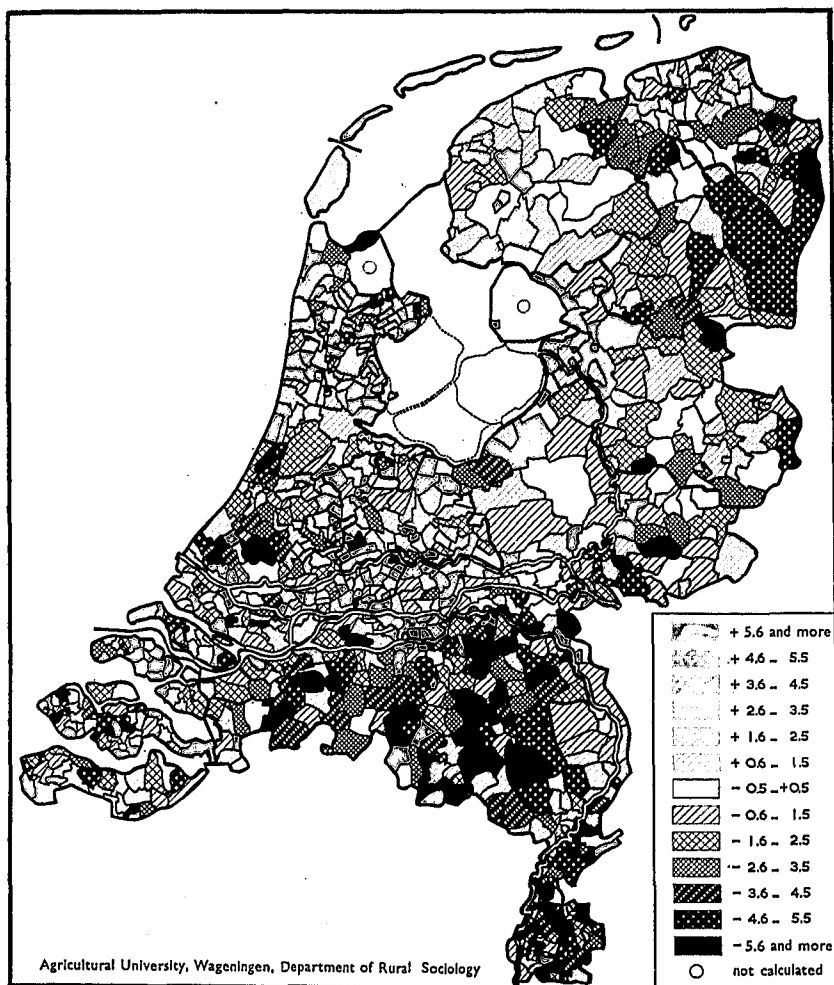


Map 4

Comparison of the average number of births per 1,000 of the total population in Dutch municipalities during the periods 1901-1905 and 1932-1935.

Source: C.B.S.

	1901-1905 = 31.8
Netherlands	1931-1935 = 21.2



Map 5

Comparison of the average number of births per 1,000 of the total population in Dutch municipalities during the periods 1931-1935 and 1956-1959.

Source: C.B.S.

	1931-1935 = 21.2
Netherlands	1956-1959 = 21.2

patterns of marriage and reproduction varying in significance according to time and place. These patterns are referred to as the agrarian-artisan pattern, the pattern of the so-called proletarian intermediate stage, and the pattern of modern birth control.

The agrarian-artisan pattern is characterized by an adjustment of population growth to the available means of subsistence, achieved by marrying late or not at all. People only enter into marriage when they are certain of having found a firm basis of livelihood, as a rule as an independent farmer, craftsman or shopkeeper. In this pattern, limitation of the number of children per marriage plays either no part at all or only a minor one.

The pattern of the proletarian intermediate stage comes into being with the rise of an industrial and agricultural labourers' proletariat in the 19th century. A fundamental characteristic of the position of a member of this group in the 19th century was social insecurity. In principle, therefore, there was no point in delaying marriage until there was a secured means of livelihood. And, in fact, compared with the agrarian-artisan pattern, the pattern of the proletarian intermediate stage is characterized by earlier and more frequent marriage. One thing it had in common with the agrarian-artisan pattern, however, was the absence, or near-absence, of deliberate birth control in marriage, so that the development of this pattern led to a rise in the birth rate.

The pattern of modern birth control needs no further definition. It first develops in the higher strata of the community where, with a falling mortality rate, the threat represented by many children to the property position and social status of the family was earliest and most deeply felt, and where the intellectual predisposition to deliberate intervention in the reproductive process was first present. More about this last point later.

Around 1850, fertility in the Netherlands was still largely dominated by the agrarian-artisan pattern of reproduction although here and there perhaps, it is already possible to detect something of the influence exerted on the birth rate by the growth of the proletariat. As I have tried to show in the article in question, between 1850 and 1875 the development of the pattern of the proletarian intermediate stage can already be clearly observed in various parts of the country, and the birth rate increase in the country as a whole during this period must be mainly attributed to it. To be sure, the increase was noticeably checked, on the one hand because large sections of the population in various parts of the country clung to the traditional agrarian-artisan

reproductive pattern, and on the other—as has already been said—because in the west of the country, particularly in the peninsula of North Holland and in some parts of Zeeland, the first signs of the development of the pattern of modern birth control were already visible.

The modern reproductive pattern only becomes a predominating influence in the national birth rate trend after the eighteen-nineties.

Admittedly the birth rate had already begun to fall before then but, as mentioned earlier, a temporary decline in the percentage of married women is clearly noticeable after 1875 as a result of the economic crisis which then asserted itself and, as appears from tables 4, 5 and 6 and from graph 1, this decline was primarily responsible for the fall in the birth rate between 1875 and 1885.

The fact that modern birth control started to govern the national birth rate after 1890 naturally does not mean that the pattern of the proletarian intermediate stage had ceased to be of any effect by then, any more than the fact that other factors predominated up to the end of the last century means that no influence at all of the modern pattern could be ascertained before that time. The rise in the percentage of married women aged 15-44, which sets in again after 1895 and then continues unabated, indicates that the tendency to marry early and often is steadily increasing. It may be assumed that the group of proletarianized workers in particular—a group which was growing relatively larger—played a part in this development. It proved possible to demonstrate this in respect of the proletarianized agricultural labourers in northeast Groningen ¹⁾. An increase in nuptiality however, does not yet always mean the presence of the pattern of the proletarian intermediate stage within a certain group. As already mentioned, this conception also implies unlimited—or practically unlimited—reproduction in marriage. One of the most striking and best-known aspects of the growth of birth control, however, is that it first asserts itself in the upper strata of our society and only later makes its effect felt further down the scale. During this initial period, birth control undoubtedly had only a slight effect on the workers, so that the relative increase in their numbers and their more frequent and earlier marriages presumably meant that with them fertility was still increasing, whereas

¹⁾ E. W. HOFSTEE, 'De ontwikkeling van de huwelijksvruchtbaarheid in het Oldambt in de periode 1880-1950' (Marital Fertility Trends in the Oldambt district between 1880 and 1950), *De wereld der mensen* (The World of Men), 1955.

in the upper social groups it was obviously already declining ¹). It could be demonstrated that, for a considerable time after 1890, there continued to be practically unlimited reproduction among the greater part of the agricultural labourers in northeast Groningen, just mentioned, whereas a very distinct decline in marital fertility was already occurring among the farmers in those parts ²). Nor do the statistics for a town like Amsterdam, for example, indicate that, around the turn of the century, wide strata of the population were already engaged in birth control. On the other hand, the influence of the agrarian-artisan reproductive pattern was not exhausted by 1890 but from then on it became relatively slighter. In the first place, because of the trend in modern economic development there was a steady decrease in the relative size of the group to whose living conditions this pattern was particularly suited, i.e. the farmers and the artisan middle-class. In the second place, in various parts of the country—as the example of northeast Groningen shows—the modern reproductive pattern pervaded this group quite early on. In the third place, it was becoming less and less necessary for children from these groups to remain unwed, because opportunities for obtaining a livelihood outside the parental undertaking were increasing all the time; a consequence among other things of the growth of modern industry. With reference to the farmers' group, it may be pointed out that because of the great increase in the reclamation of waste land as a result of the use of artificial fertilizers at the end of the 19th century and beginning of the 20th, and also because of better changes for smallholdings, the opportunities for starting new farms, particularly on sandy soil, greatly increased, so that many farmers' sons who wished to stay on the land were no longer faced with the necessity of remaining unmarried ³).

Both the continued existence (and actual expansion to new groups) of the pattern of the proletarian intermediate stage and the increased means of subsistence open to those population groups which clung in principle to the agrarian-artisan pattern, helped to stimulate the birth rate. The trend of the birth rate at the end of the 19th century and the beginning of the 20th, therefore, was the result of mutually opposing forces. The forces stimulating a rise in the birth rate, however, lost ground steadily because the pattern of modern birth control was

¹) HOFSTEE, 'Huwelijksvruchtbaarheid Oldambt'.

²) HOFSTEE, 'Regionale verscheidenheid ... etc.', including table 7.

³) E. W. HOFSTEE, 'De landbouw en de migratie' (Agriculture and Migration), *Economisch-Statistische Berichten* (Economic-Statistical Reports) Dec. 1950.

spreading more and more widely to include gradually the working population, and displacing the pattern of the proletarian intermediate stage on the one hand and the agrarian-artisan pattern on the other.

In view of this situation, we are justified in regarding the problem of fertility trends since the end of the 19th century as primarily a question of the how, when, where, and why of the development of the pattern of modern birth control.

Many theories are, of course, advanced to explain the modern decline in fertility. It is not our intention to give a comprehensive summary of these here, and then to ascertain how far they may help to explain the trend in the Netherlands as illustrated by the data in the foregoing pages. It seems advisable, however, to compare developments in the Netherlands with some of the more important theories in this field.

The oldest theories are those which connect population trends with economic developments. Here a distinction should be made between the theories which award pride of place to economic developments and see population trends as mainly derivative, and those which look upon population trends themselves as the prime dynamic factor. The notion that the population—whether by way of mortality or natality adjusts itself to the means of subsistence has never quite lost significance since MALTHUS, but it seems little suited to explain long-term fertility trends in the western world during recent centuries. Only minor fluctuations in the birth rate running parallel to business cycles could be explained partly, at least—by this theory.

Opposed to this, are the theories which hold that economic developments are, in fact, largely dependent on the growth of the population, i.e. that economic developments rather than population growth are the dependent variable. In the Netherlands this view has recently found another champion in DE ROOS ¹), who writes: "that population increase, as such, is a factor favourable to the growth of prosperity, since it actually causes the real *per capita* incomes to rise in the long run". As a recent article indicates, SAUVY takes the same view ²).

The theories just mentioned, which in fact credit population trends with autonomy, do not, in themselves, help to explain fertility trends,

¹) F. DE ROOS, *Bevolking en Welvaart* (Population and Prosperity), 1960. See also the opposing article by Prof. J. PEN in the *Nieuwe Rotterdamse Courant*, 19th July 1960.

²) A. SAUVY, 'Evolution récente des idées sur le surpeuplement' (Recent developments in views on over-population) *Population* Volume 15, 1960, pp. 467-484.

and may be left out of consideration for the moment although we shall revert to them later in another connection.

The adjustment theory was polished up yet again a few years ago by COONTZ¹⁾ in a remarkable and pretentious book and, in his opinion, rendered capable of explaining fertility trends in the 19th and 20th centuries. He thinks that longterm fertility trends are determined by the trend of the demand for manpower. According to him, not only should the total demand for labour be taken into account, but also the demand for different categories of workers. The remarkable thing is that the entire book contains hardly any statistics at all relating to fertility or population growth. In expounding his own theory, the author is actually only putting forward an economic argument and, as far as concrete data are concerned, he contents himself with a vague reference to the difference in the development of modern industry in England and in France and to what he considers the corresponding difference in the fertility trends. In actual fact, therefore, he offers no proof at all of the correctness of his thesis 'that population is the dependent variable reflecting both long- and short-run changes in demand for labour'²⁾. The question as to how this long-term adjustment of population growth to employment trends was to be realized from an institutional and psychological point of view is almost completely ignored by COONTZ.

The primary objection to the views of COONTZ, and of others who put forward similar theories, is that they insist upon the absolute pre-eminence of the economic factor and completely ignore the others. That economic developments do have a certain effect upon population growth in general and upon the level of fertility in particular, is, of course, undeniable. The agrarian-artisan reproductive pattern which we have just discussed is an obvious form of the adjustment of the number of progeny to the available means of subsistence. Needless to say, the existing population requires a minimum means of subsistence in order to stay alive. What is frequently forgotten, however, is that every society which is slightly more developed can support a considerable 'dilution' of the means of subsistence without this meaning that the limit of the physical subsistence minimum of the population as a whole, or of a large part of it, is exceeded³⁾.

The striking thing about fertility trends in the 19th and 20th centu-

¹⁾ S. H. COONTZ, *Population theories and the economic interpretation*, 1957.

²⁾ COONTZ, p. 183.

³⁾ Admittedly COONTZ himself makes indirect allowance for this.

ries is precisely that they have so largely detached themselves from economic developments. This is particularly true of the trend in the marital and childbearing pattern referred to above as the pattern of the proletarian intermediate stage. COONTZ holds that the explanation of the rise in the excess of births over deaths in 19th century England lies in the increased demand for unskilled labour resulting from the first stage of the industrial revolution. As has been said, he draws a comparison with France, yet he does not even mention concrete facts about England as further proof of the existence of this connection. It cannot be denied that there is a certain link between the growth of industry in the 19th century and the increase of the birth rate and, as far as the Netherlands is concerned, this was demonstrated in detail in the article mentioned earlier ¹). The connection, however, as the article attempts to show, is not direct but indirect. The fundamental cause of the increase in fertility is the evolution of a proletarianized working class and the change this involved in the marital and childbearing patterns of the population groups affected. That it was not—as COONTZ assumes—the great demand for manpower which brought about this increase in fertility—at least as far as the Netherlands was concerned—is clearly illustrated by the vast unemployment concomitant with the rise in fertility in the 19th century. Further, it must be pointed out that fertility also increased in various agricultural areas in the north of the country, for instance, where proletarianization took place, although there was no question of industrial influence. COONTZ's contention regarding the trend of the decline of fertility since the end of the 19th century is very far from being convincing. He considers that the decline must be attributed to a deceleration of economic progress since the close of the 19th century coupled with a fall in the demand for manpower in general, as well as to a shift in the nature of the demand for workers from unskilled to skilled. Apart from the question as to whether this deceleration was common to all the western world (one gains the impression that COONTZ, who quotes only English or translated literature, practically overlooks the continent of Europe and quite simply forgets all about the enormous economic expansion of Germany in the period before the First World War, for example), a more detailed comparison between economic developments and employment on the one hand and fertility trends on the other proves that this explanation is inadequate. In the Netherlands, for instance,

¹) HOFSTEE, "Regionale verscheidenheid ... etc.".

births started to decline first and most rapidly in the provinces of North and South Holland but, at the very time when this decline was clearly asserting itself, there was a rapid increase in employment in these areas, as the vast stream of migrants which trekked to the west from other provinces also serves to demonstrate.

Let me repeat that the purpose of the foregoing is not, by any means, to deny that economic developments do have a certain influence on fertility, but to stress the fact that, for an explanation of fertility trends in the 19th and 20th centuries in particular, reference to economic developments is only of limited value ¹⁾.

Another familiar theory is the one which attributes the birth rate decline in the 19th and 20th centuries to the growing prosperity, which supposedly brought the 'cheapest pleasure', i.e. sexual intercourse, into competition with pleasures from other sources. Apart from the errors (also referred to by COONTZ ²⁾) which can be detected in the basic reasoning of this theory, it suffers from the objection that, even at its best, it could do no more than provide a limited explanation for a certain period in the demographic history of the western world. It is a typical theory of the period, when a clear distinction became apparent between the marital fertility of the more well-to-do and that of the workers, and when one could almost gauge the social status of the various strata of society by their respective fertility. We know that these differences are tending to disappear and that, here and there, a reversal of the relationships can be observed. I was able, for example, to record such a reversal in the Netherlands, in Northeast Groningen where the fertility of the agricultural labourers is now dropping below that of the farmers³⁾. Moreover, this theory entirely ignores the circumstance that poverty-stricken farmers have presumably been restricting the number of their offspring for centuries by means of the agrarian-artisan reproductive system previously mentioned, a facet of which was severe repression of the sexual drive among a large sector of the population⁴⁾.

Among the popular theories on the progress of the fall in the birth rate is the one about the influence of urbanization on fertility decline. In certain regions and during certain periods a connection can certainly

¹⁾ HOFSTEE, "Regionale verscheidenheid ... etc." and "Huwelijksvruchtbaarheid, Oldambt".

²⁾ COONTZ, p. 68.

³⁾ HOFSTEE, "Huwelijksvruchtbaarheid Oldambt".

⁴⁾ See, among others on this subject, P. A. BARENTSEN, "*Het Oude Kempenland*" (Old Kempenland), 1935.

be shown between fertility and the degree of urbanization but, as various authors have already pointed out, it is difficult to maintain that there is any question of a direct and general connection between urbanization and fertility trends¹). The maps reproduced here clearly demonstrate anew that this is indeed not the case, and that the fertility decline is in origin by no means a typically urban phenomenon. As early as the period between 1851-1855 and 1876-1880, unmistakable centres of declining fertility can be detected in the rural areas of the peninsula of North Holland and in Zeeland. At this time, Amsterdam, Rotterdam and The Hague were still recording a rise in the birth rate. Even in the period between 1876-1880 and 1901-1905, the birth rate decline in various rural areas in the west of the Netherlands still exceeds that in the big cities just mentioned. It is not until the next period that the decline really asserts itself in the big towns. By then, however, the tendency has largely passed its peak in the peninsula of North Holland and in the west of the province of Friesland.

In discussions on fertility trends in the Netherlands, the question of a connection between religion and fertility has always played a major role and still does so today. VAN HEEK²), especially, firmly refocussed attention on this connection a few years ago and, in particular, on the Roman Catholic opposition to a fall in fertility encountered in the Netherlands.

Analysis of the data on the birth rate contained in maps 2, 3, 4 and 5 bears out my conviction that there is a tendency in the Netherlands to overestimate the significance of church and religion as regards the level of fertility. In the period between 1851-1855 and 1876-1880 an area shows up in the peninsula of North Holland, and notably in West Friesland, where a fairly sharp decline in the birth rate is recorded. Yet in this mixed Roman Catholic and Protestant region no indication can be found of an obvious difference in behaviour between the predominantly Catholic municipalities and the predominantly

¹) For the absence of an obvious straightforward connection between urbanization and fertility decline, see: COONTZ; J. MEERDINK, "De achteruitgang der geboorten" (The Decline in the Birth Rate), 1937; HOFSTEE "Regionale verscheidenheid ... etc.". PETERSEN points out that in the Netherlands, in spite of a high degree of urbanization in the material sense, the birth rate remains high because urban attitudes (urbanism) make little headway. As will appear, the use of the term "urbanism" to indicate the modern state of mind does not seem to me very appropriate, moreover, this modern mentality did not develop uniformly late all over the Netherlands. (W. PETERSEN, *Planned Migration*, 1955).

²) F. VAN HEEK, *Het geboorte-niveau der Nederlandse Rooms-Katholieken*, 1954 (The Birth Rate Level among Dutch Roman Catholics).

Protestant ones. There is no question there yet of a homogenous area of decline, but participation or non-participation in the decline does not run parallel to the religious relationships in the municipalities in question. Certainly the municipalities of southern Kennemerland, where there is also known to be quite a high percentage of Roman Catholics, show a fairly sharp rise, but this again is offset by the fact that various municipalities in the bulbgrowing areas in the north of South Holland, where there is also a high percentage of Roman Catholics, record a noticeably rapid fall in the birth rate during this period. In Zeeland, too, little can be discerned at this time of a connection between religion and fertility trends. In eastern Zeeuws-Vlaanderen, for example, the two municipalities which show a distinct fall (present-day Hontenisse and Vogelwaard) are both predominantly Roman Catholic.

In the following period, which is characterized by a further decline in the birth rate in the west and north of the country, the same pattern can be observed. In the province of Friesland, the municipalities in the southwest with a strong Roman Catholic minority actually stand out among municipalities in the vicinity because of a noticeably sharp decline. In Groningen, the municipality of Kloosterburen, which has the highest percentage of Roman Catholics in the province, does not differ from the surrounding areas as regards the birth rate trend. In and around West Friesland there are still no marked differences between municipalities with predominantly Catholic inhabitants and those with a predominantly non-Catholic population. Practically all of them record a fairly sharp decline, although in some—not all—of the predominantly Catholic municipalities it proceeds rather more slowly than elsewhere. With only a few exceptions the Catholic municipalities in the west of the country register quite a considerable decline in birth rate. A map illustrating birth rates around the turn of the century thus bears comparatively little resemblance to a map showing the geographical distribution of Roman Catholicism. Birth rates in the west of West Friesland and in North Kennemerland are a little higher than in some other parts of North Holland but, when detailed comparisons are made, there is very little evidence of a typically Roman Catholic birth rate pattern. In the period 1891-1895, Amsterdam, for example, still has a higher birth rate than predominantly Catholic municipalities in West Friesland. The bulb-growing areas in South Holland, the so-called "Venen" district and the Westland, all characterized by a high percentage of

Roman Catholics, are not clearly distinguishable from districts in the vicinity. And in Zeeland, too, there is little or no sign of a connection between religion and fertility.

When the location of the sharp fall in the birth rate shifts to the south-east in the period between 1901-1905 and 1931-1935, there is still no conspicuous difference between Catholic and non-Catholic municipalities. It is especially remarkable that in western—but also central—North Brabant many purely Catholic townships participate to a considerable extent in the birth rate decline, whereas in the east of this province and in most of Limburg the birth rate remains stationary or even rises. Nor is there any clear connection in the east of Gelderland or in "Twente". In these areas along the eastern frontier, a narrow belt of municipalities is still to be found where, even in this period, only a slight fall in the birth rate is registered, and sometimes even a rise. In this belt, urban municipalities and others strongly affected by industry form enclaves characterized by a sharp fall in the birth rate. Roman Catholic municipalities, however, form just as much part of these enclaves as non-Catholic ones. Thus the birth rate decline in Nymegen and in Oldenzaal is on the same scale as in Arnhem and Winterswyk and Enschede, while in the industrial area of Oude Yssel predominantly Roman Catholic municipalities like Bergh and Gendringen and predominantly non-Catholic ones like Wisch and Dinxperlo participate equally in the birth rate decline. On the other hand, in predominantly Protestant and rural municipalities like Eibergen, Ruurlo, Zelhem and Hummelo and Keppel, the fall in the birth rate is just as limited as in the predominantly Catholic and rural municipalities in the "Lymers" district. Nor is there much evidence of a relation between the fall in the birth rate and the distribution of Roman Catholicism in the eastern provinces, west of this belt of municipalities along the frontier with Germany. It is worth noting, however, that the birth rate remains practically stationary in Raalte and Heino, two municipalities in the predominantly Roman Catholic district of Salland.

It should be observed that here and there in Roman Catholic municipalities in the western provinces during this period, the birth rate starts to differ rather more obviously from that of places in the vicinity than was the case earlier. In a number of municipalities in the peninsula of North Holland, and particularly in West Friesland, having reached a low ebb around 1900 the birth rate begins to rise again slightly in this period. The phenomenon is usually more apparent in

the Catholic municipalities than in the non-Catholic ones. In Westland and surrounding districts, although—with an occasional exception—the birth rate does not rise during this period, there is a reduction in the rate of fall. In the period 1931-1935, the west of West Friesland, Westland and its vicinity, and also the bulb-growing district in South Holland and the "Venen" district have noticeably higher birth rates than the surrounding areas. The phenomenon, however, is by no means common to all the areas in the west which have a high proportion of Roman Catholics. In the first quarter of the present century, North Kennemerland registers a sharp fall in the birth rate and in the period 1931-1935 it is hardly remarkable for high figures. Nor are the Catholic areas in Zeeuws-Vlaanderen exceptional in this respect; during this period they do not differ from other parts of the area either, and in the thirties their birth rate corresponds to the general trend. It is worth noting that the areas in the west of the country, where the Roman Catholic municipalities in general have a somewhat higher birth rate than other places in the region, are horticultural districts.

If the birth rate statistics were calculated separately for Catholic and non-Catholic municipalities in those parts of the Netherlands that, up to the early thirties, were affected by the sharp fall in the birth rate, it would presumably transpire that the Catholic municipalities, on average, record a somewhat smaller birth rate decline than the non-Catholic ones. The difference, however, would prove to be one of degree not of kind, and in various areas, doubtless, of practically no significance. The general long term pattern of the regional fertility trends in the Netherlands is apparently determined by factors not connected at all, or only to a limited extent, with the dissemination of the Roman Catholic religion¹).

¹) The publication of the Dutch version of this article led to a lengthy discussion in the journal entitled 'Mens en Maatschappij' (Man and Society), vol. 28, pp. 81-133 and 257-277, between the author and Professor F. VAN HEEK. The gist of VAN HEEK's contention is that, in his opinion, in my article I underestimated the significance of the religious factor (and in particular the influence of Roman Catholicism) on the level of fertility in the Netherlands. I am convinced—as I explained in the course of the discussion—that in fact VAN HEEK's criticisms have practically no bearing on the essence of my research, so that the discussion lost much of its value. As is also apparent from some of his other publications, VAN HEEK is primarily interested in differences in the fertility *levels* of Catholics and non-Catholics during a comparatively recent period—he never mentions fertility prior to 1900—whereas my study is devoted to the process of the natality decline in the Netherlands as a whole during the entire period in which the modern mass decline in fertility has been in operation in any part of the Netherlands. I have of course never denied, as the reader can ascertain repeatedly from the article in

Finally then, the most recent period. As already indicated, the map illustrating the trend during this period (map 5) is, in many respects, the exact opposite of the map for the last quarter of the 19th century (map 3). Closer examination of map 5, and comparison with the maps for the earlier periods, can lead to a more specific conclusion. Most of

question, that the Roman Catholic faith does have an influence upon the level of the birth rate in the Netherlands. What I did—and still do—deny is that this influence is of essential significance in the total process of the fertility decline in the Netherlands. The way in which the influence of Roman Catholicism has affected the fertility trend in the Netherlands can be deduced in part from various observations contained in this article, but I have demonstrated the point still further, with extensive data, in the discussion just mentioned. It appears that in those parts of the Netherlands where the modern fertility decline set in early—in the North and West, that is to say—the fertility decline in predominantly non-Catholic municipalities runs virtually parallel for some decades with the decline in predominantly Catholic municipalities in the same areas. About 1910, however—a little earlier in one area, a little later in another—the fertility decline begins to slow down somewhat in the predominantly Catholic municipalities compared with the situation in the predominantly non-Catholic municipalities in the same areas. The effect of course is that in subsequent years fertility remains at a higher level in these Catholic municipalities than in the comparable non-Catholic ones. Generally speaking the process of deceleration continues into the thirties. After that, the gap between the fertility levels of comparable predominantly Catholic and predominantly non-Catholic municipalities gradually diminishes again. However interesting this temporary slowing-down in the process of the fertility decline among the Catholics may be in itself, it is virtually independent of the remarkable and conspicuous trend of the fertility decline in the Netherlands as demonstrated by the material published in this article. The essential features of the process of the regional fertility trend in the Netherlands are the gradual shift of the fertility decline from the Northwest to the Southeast and, in consequence of that, a considerable difference between the various parts of the country as regards the time at which the fertility decline begins to manifest itself as a large-scale phenomenon. This is the reason for the conclusion that: 'The long-term general pattern of the regional fertility trends in the Netherlands is apparently determined by factors not connected at all, or only to a limited extent, with the dissemination of the Roman Catholic religion'. This conclusion—as has already been said—does not imply any denial of the fact that during a certain period a deceleration of the fertility decline among the Catholics was superimposed upon the general trend resulting, in various areas, in a more or less considerable divergence between fertility levels in predominantly Catholic municipalities and in the non-Catholic districts around. It should be pointed out that subsequent to the publication of the Dutch version of this article Miss HENRIËTTE DAMAS demonstrated a trend in the fertility decline in Belgium similar to that ascertained here for the Netherlands, with this difference that there the decline starts in the South and gradually shifts to the Northeast, so that the area where the decline manifests itself last in Belgium adjoins the Southeastern part of the Netherlands where the decline likewise commenced later than elsewhere. (HENRIËTTE DAMAS, *Le mouvement naturel de la population Belge, son évolution de 1846 à 1960, Population et Famille*, vol. I, no 2, pp. 64-101). In fact Miss DAMAS herself concludes: 'This evolution of fertility in our country follows a course completely parallel to that demonstrated by Professor Hofstee for the Netherlands' (p. 65).

the areas of decline on map 5 are those with a static or even a rising birth rate, in the period between 1871-1875 and 1901-1905, but they also partly correspond with areas where the decline slowed down or a rise set in during the period between 1901-1905 and 1931-1935. A striking example of this last point is formed by Westland and its vicinity, where the deceleration already recorded in the previous period is followed by a conspicuous decline in the most recent period.

The conclusion implicit in the foregoing is that, just as no clear connection could be established between *non-participation* in the fall of the birth rate and the distribution of the Roman Catholic religion in the previous periods, in the period now under consideration no direct connection can be demonstrated between adherence to this religion and *participation*. Thus in the west of North Brabant there is an unbroken, predominantly Roman Catholic area—approximately the same area that, as early as the beginning of this century, recorded a sharp decline in the birth rate—where, during the most recent period, the birth rate has remained at approximately the same level. In the Roman Catholic municipalities of Zeeuws-Vlaanderen there is, generally speaking, no question of a decline in the birth rate. In the peninsula of North Holland, which is distinguished during this period by a relatively sharp rise in the birth rate, various Catholic municipalities follow the same trend, although it is presumably the non-Catholics who are mainly responsible for the increase. In Friesland, which generally speaking also shows a fairly sharp rise, there is in fact no evidence at all of a connection between Roman Catholicism and birth rate trends. The area of conspicuous decline in the southern Westerkwartier district of Groningen and some neighbouring districts of Friesland and Drenthe is not Roman Catholic. Nevertheless, in the last quarter of the last century, this area clearly lagged behind North Groningen and the north and west of Friesland in the birth rate decline. The link between the trend in the last quarter of the 19th century and that of the last 25 years is even more striking in the east of Drenthe, particularly in the so-called peat colonies and an adjoining district in the east of Groningen—all areas where we need not bother about the idea of any connection with the spread of the Roman Catholic religion. Not only was no decline in the birth rate recorded there at the end of the 19th century; a considerable rise actually took place.

The decline which occurred during the period between 1931-1935 and 1956-1959 in the northeast of Groningen had nothing to do with

the dissemination of Roman Catholicism: the district is almost exclusively Protestant. For that matter, in the greater part of this area a considerable decline was already apparent in the preceding periods. Therefore there can be no talk of 'compensation' here for a reduction in the rate of decline during the preceding periods, or at least only to a very limited extent, perhaps in connection with the municipalities of Midwolda and Termunten. An area has developed here with crude birth rates that are extremely low by Dutch standards. It is the largest unbroken area in the Netherlands with birth rates of under 20 per 1,000. Without trying to establish a connection here at the moment, it should be remembered that this region, perhaps more than any other in the Netherlands, was characterized by proletarianization of agricultural labourers in the 19th century and—in many cases coupled with this—by fierce radicalism in the political opinions of this particular population group.

So much for the relationship between the progress of the birth rate decline and the distribution of the Roman Catholic religion. Now, in the Netherlands it is not only the Roman Catholics but also the adherents of the Calvinist Reformed Churches, the "Gereformeerden", whose birth rates are above the national average. Is it perhaps possible to discover an obvious connection between the geographical distribution of the "Gereformeerden" and the regional trend of the declining birth rate? There are nine predominantly "Gereformeerde" municipalities in Groningen, two in Friesland, a few widely-scattered and usually small municipalities in the southwest and one (Bunschoten) in Utrecht. Municipalities with a high proportion of "Gereformeerden" are widely found in Friesland and Groningen, in the southwest of the country and also scattered here and there over other provinces.

In view of the extensive discussion just devoted to the relationship between Roman Catholicism and the decline of the birth rate, there is not much point in going into similar details about the connection between natality and the regional distribution of the "Gereformeerden". The situation regarding "Gereformeerden" is basically no different from that regarding Roman Catholics. If, for the various periods covered by this investigation, we examine the trends in the predominantly or strongly "Gereformeerde" municipalities in that part of the country where, during a given period, a sharp decline in the birth rate prevails, we shall reach the conclusion that in this case too, on average, it is possible to talk of the birth rate declining somewhat more slowly among "Gereformeerden". Broadly speaking, how-

ever, these municipalities follow the regional trend of the birth rate decline which can be established for the country as a whole. In an occasional case—e.g. Bunschoten, the most strongly "Gereformeerde" municipality in the whole country—the decline obviously proceeds more slowly than in other places in the area, but these are the exceptions that prove the rule. Together with the peninsula of North Holland, Zeeland with its high proportion of "Gereformeerden" is the region where the declining birth rate first becomes clearly apparent. As early as the last quarter of the 19th century, a noticeably rapid fall in the birth rate is recorded in the centre of North Groningen, where there is an unbroken block of predominantly "Gereformeerde" municipalities. In Friesland there is little sign of a connection between the distribution of "Gereformeerden" and regional differentiation in the trend of the birth rate decline.

Thus, in the west and north the "Gereformeerden" participate in the relatively early birth rate decline but, in the east of the country, the decline apparently affects them—like the rest of the inhabitants—only at a later date. In this respect, an unbroken area with a high proportion of strict "Gereformeerden" in southeast Drenthe and northeast Overijssel differs not at all from other places in the environment. As for the Dutch Reformed Church—the largest Protestant Church group—it is difficult to make any general statements about it in this connection because of the widely divergent religious views held by its members. It may be pointed out, however, that the curious belt of municipalities containing a high proportion of Dutch Reformed Church members with ultra-orthodox tendencies which extends from the western Veluwe district, across the river areas of the west to the islands of South Holland and Zeeland, display no distinctive characteristics in the falling birth rate trend.

Finally, we must devote some attention to the distribution of the non-churchgoing population. Besides the large towns and suburban areas, it is primarily the peninsula of North Holland, southeastern Friesland and northeastern Groningen that are characterized by a high percentage of irreligious inhabitants. It has already been pointed out that the big towns do not head the declining birth rate trend. Even in the period between 1876-1880 and 1901-1905, when a tendency towards separation from the churches could already be observed there, the decline in the birth rate in Amsterdam, Rotterdam and The Hague was smaller than in many rural municipalities in the vicinity, including several where the influence of religion was strong. Nor did

the suburban municipalities in the Gooi district, for instance, start participating in the birth rate decline at a noticeably early stage. Admittedly, after the turn of the century, birth rates fell extremely rapidly in the large towns of North and South Holland, ultimately reaching a level lower than that of the surrounding area but this was equally true of towns with a homogenous, or overwhelmingly, Roman Catholic population so that this phenomenon can presumably be attributed only in part to non-churchgoing as such.

As has been observed several times already, the birth rate decline certainly starts early in North Holland but, as may be deduced from the foregoing, it is not the case that the municipalities leading the trend to a declining birth rate are precisely those which subsequently turn out to be strongly non-churchgoing. Further, it should be remembered that by the third quarter of the 19th century many municipalities in churchminded Zeeland were also displaying a definite decline in fertility.

In the non-churchgoing region in eastern Friesland, the birth rate decline asserts itself later than in the west of this province, and in northeast Groningen, which is extremely irreligious, the decline comes later than in North Groningen, where religion plays a far more positive role. As already mentioned, it should be noted that the birth rate in northeast Groningen later falls to an exceptionally low level for the Netherlands. In Friesland, now, generally speaking, the birth rate is also somewhat lower in the largely non-churchgoing municipalities than in those that are more religiously inclined, but the difference is not very marked and in some cases cannot be demonstrated at all. In North Holland generally one can hardly talk of any connection between non-churchgoing and a steady decline of the birth rate to a conspicuously low level. On the whole, in the years following the Second World War, the peninsula of North Holland is characterized by comparatively high birth rates, including those of municipalities with a relatively high percentage of non-churchgoing inhabitants.

There is, therefore, no question of the birth rate decline becoming conspicuous early in areas which subsequently become known as focuses of non-churchgoing, but in some cases a considerable degree of separation from the church goes hand in hand with the ultimate decline of the birth rate to a relatively low level. The point is, however, to what extent there is any direct connection between the two in the areas concerned. As regards northeast Groningen, we have

already pointed out that, among other things, this region is characterized by decided proletarianization of rural labourers and extreme political radicalism; the same is true, although perhaps to a somewhat lesser extent, of southeast Friesland.

Summing up, we may say that, although more detailed analysis than is possible within the framework of this article could lead to more precise findings, it may nevertheless be concluded that, while a certain connection between the regional trend of the birth rate decline and the regional situation in respect of church and religion cannot be denied, the general outlines of the regional fertility trends since the time that the birth rate decline commenced in the country as a whole, cannot be accounted for on the basis of the distribution of religion and churchgoing.

Another obvious question is whether the pattern of declining birth rates ascertainable in the Netherlands may not be directly connected with the trend of the decline in mortality. It is, after all, an undeniable fact that throughout the western world there is a certain concurrence between the trend of the mortality rate and that of the birth rate, it being understood that, generally speaking, the decline in the mortality rate occurs first and is followed after a certain interval by the decline in the birth rate. Having established this concurrence, it is but a small step to the hypothesis of a connection. Since the decline in mortality has a special bearing on deaths at an early age, this means in the first instance an increase in the number of persons surviving to be a liability to their parents and—another aspect—to share in any inheritance, and the assumption is easily made that birth control will be practised in an attempt to relieve the strain and to prevent the fragmentation of property through inheritance. There is undoubtedly some connection between the decline of the birth rate and the death rate respectively, but we must beware of taking it too much for granted and of looking on it as a direct connection.

The relationship between the falling birth rate and the falling death rate has already been discussed in the article cited several times earlier¹), and the question will come up again when we are considering mortality. For the sake of brevity, therefore, we shall content ourselves here with observing that the factual data on the trend of the birth rate decline (time and place) on the one hand, and of the mortality decline on the other, reveal that the assumption of a direct and

¹) HOFSTEE, "Regionale verscheidenheid ... etc." p. 92 et seq.

simple connection between declining mortality and declining fertility is not sufficient to explain the pattern of the decline in fertility. Let us mention a few facts. At the end of the 19th century marital fertility in the province of North Brabant was not only no lower than it had been around 1850, it was actually quite a bit higher. And this in spite of the fact that a not insignificant—although relatively late—decline in mortality took place in the province as a whole during the second half of the 19th century. The excess of births over deaths, that is to say the pressure exerted on their elders by the younger generation, also increased here considerably in the last half of the 19th century.

It is true that, in the third quarter of the last century, the excess of births over deaths in the peninsula of North Holland was high, but generally speaking it was no higher than in various other parts of the country, so that it can hardly be held to account for the early decline of the birth rate in this particular area. Something similar is true of those parts of Zeeland where the birth rate first started to decline. At the beginning of the period following 1850, the excess of births over deaths was actually relatively small there as a result of the high mortality rates still prevailing in Zeeland at that time.

Taking the situation in general, the mortality decline also displays a gradual shift from the north and west to the east and south—I shall be reverting to this in detail later. Taking it region by region, however, there are so many local and temporal differences between the decline in fertility and the mortality decline that generally speaking there is no trend of a growing birth surplus gradually shifting from north and west to south and east. During the last century the birth surplus always displayed an irregular pattern. As has already been said, therefore, the regional trends of the birth rate patterns in the Netherlands cannot be automatically regarded as an immediate reaction to the increasing pressure of population resulting from the decline in the mortality rate, although this does not mean that this same decline did not represent a force operating continuously in favour of a declining birth rate.

Now if the curious trend in regional development of the birth rate in the Netherlands cannot be accounted for, except to a very limited extent, by any of the phenomena already mentioned, where should we look for the real cause?

It seems to me that the most fertile supposition is that which connects the decline of the birth rate with the gradual development of the modern-dynamic pattern of culture in the western world, more

particularly in the Netherlands. In my opinion, the significance of the degree to which, and time at which, various population groups in the western world start participating in the transition from the pattern of culture that may be called traditionalistic to the modern-dynamic pattern is, as a rule, underestimated as a possible explanation for the difference in social behaviour. The essential difference between the two patterns of culture lies, I think, in the attitude towards change. In the traditionalistic pattern of culture, the norm for judging the actions of oneself and of others lies in the past. Everything must go on as it always has done. Change, irrespective of its nature, is wrong. If circumstances enforce a change of behaviour, attempts are made to justify this, if at all possible, on the ground that it is a return to forms of behaviour erroneously departed from.

In the modern-dynamic pattern of culture, change is, in principle, accorded positive appreciation. Modern-dynamic man has faith in the possibility of improvement through change and is prepared to investigate the worth of the opportunities for it with which he is confronted. This does not mean that he regards everything new as unconditionally better; upon further consideration he may conclude that things were better as they were. Unlike traditionalistic man, however, he does not reject what is new just because it *is* new. This modern-dynamic mentality originated in the Italian Renaissance. For several centuries after that it resembled a rather thin thread running through the fabric of western civilization, of definite influence certainly, but affecting relatively few people. In the 18th century, however, and particularly in the second half of it, modern-dynamic thinking began to assume large-scale proportions. It largely pervaded the middle classes and began to exert more and more influence on the actions of the leaders of society. This does not imply, however, that it was at that time already starting to dominate society as a whole. It gravitated relatively slowly from the higher social strata to the lower ones, and it was quite late in the 19th century before it began to make its influence widely felt among the greater part of the agrarian population and the working class.

Even today, in the most highly-developed countries of western Europe, modern-dynamic thought has not yet entirely supplanted traditionalistic thought. Many elements of a traditionalistic attitude to life can still be found, not only among the small farmers—the peasants—but also among other population groups, although the remnants of the old patterns of thought are now disintegrating very rapidly.

A great many other characteristics of the modern-dynamic pattern of culture are implicit in the positive attitude towards change. Modern-dynamic man does not hold himself aloof from the outside world; he is ready to receive new impressions. He does not rely on tradition, nor take on trust the views of former generations. He strives to be more knowledgeable than the previous generation and is interested in education in the widest sense. He does not conform to anonymous public opinion, but will try to evaluate the things with which he is confronted on their own merits. He will therefore be inclined to make himself more independent of family, village or neighbourhood ties, and will display a stronger tendency towards individualism. Change is acceptable not only for himself and his immediate environment; he also regards society outside himself as being open to change and improvement. A typical expression of this attitude is modern man's urge towards organization, the desire to keep re-arranging human and material means in order to achieve goals fixed in advance. One form in which this urge finds expression is the association, the modern form of social activity for realizing given objectives.

Many others have put forward views on the progress of western civilization which are more or less akin to the arguments just advanced. Yet it seems to me that the latter differ on some points from the opinions most commonly held. In the first place, let me point out that the use of the words 'rationalistic' or even 'rational' has been intentionally avoided. It appears to me that the essential difference between traditionalistic and modern thought does not lie in a more intellectual response to the situation in which one finds oneself, and even less in the elevation of an intellectual response to a vital principle. It is true that because modern man is forever contemplating the possibility of renewal and change, he is constantly forced to make a reasonable assessment of the consequences of such change. It is also true that education and training in general, today, are strongly directed towards developing the capacity for intellectual consideration, and that modern standards award priority to intellectual reasoning in discussion and debate. But this does not mean at all that modern man's response is, in fact, so much more intellectual than traditionalistic man's. One is often struck by the sensible, rational course of action adopted in former times when circumstances forced men to face up to a really new situation and find a solution for it¹). Modern man's

¹) Research into the development of types of land division in the Netherlands (E. W. HOFSTEE and A. W. VĪLAM, 'Opmerkingen over de ontwikkeling van de

response to change and renewal, on the other hand, is by no means always rational. In rural areas where modern ideas have caught on well, for instance, one not infrequently comes across 'modernites', an inclination to accept or purchase everything new without reasonable reflection. New things are accepted on irrational emotional grounds because newness, in itself, has acquired a positive emotional value. To call modern thought rational, and traditionalistic thought, therefore, by implication, irrational or a-rational, does not seem to fit in with the facts. Such an attitude is more a product of the 19th century belief in progress than of considerations based on a critical cultural-historical approach.

The foregoing is bound up, in part, with the problem of the relationship between religious views and the modern-dynamic pattern of culture. Many people have long been inclined to consider what was regarded as the modern pattern of culture as incompatible with orthodox religious views, and to associate it, as matter of course, with latitudinarianism or with non-churchgoing¹). Now it is certainly true that modern-dynamic thought definitely can lead, and has done in the past, to ideas and views—such as Rationalism in the narrow sense of a cultural movement—that are difficult to reconcile with dogmatic religious views. Equally, the churches have often impeded the development of modern-dynamic thought because of their strict conformity with the existing, traditional, social and cultural order. Yet neither of these relationships is either necessary or self-evident. As regards the first, we have pointed out above that modern-dynamic thought is not always identical with rationalistic thought, nor even with rational behaviour. As regards the second, the fact that certain basic concepts of a given faith are laid down in the form of more or less unalterable rules does not imply immutability of the religious life within the church in question, and even less of thought and action in respect of temporal matters not affecting dogma, or at least not

perceelsvormen in Nederland—Comments on the development of types of land division in the Netherlands, *Boor en Spade*—Drill and Spade, no. 5, 1952) revealed that the historical types of land division found in the Netherlands must be regarded as a completely rational adaptation to the circumstances prevailing at the time of origin.

¹) The opinion expressed here differs from that of PETERSEN, who holds that a relatively weak tendency towards urbanism, and the rationalization which he regards as concomitant, can be attributed to the weight of influence of confessional church groups in public affairs in the Netherlands and—in consequence—to the deep significance of denominational education (PETERSEN, *Planned Migration*, particularly pp. 27-41).

directly. The presentday mentors of the "Gereformeerden" hold different ideas from DE COCK, and even from ABRAHAM KUYPER, the men who gave original form to their worship. The farmers and even the priests in old-time Kempenland, as described by BARENTSEN, held different views on church and religious matters from those who found, or find, a mouthpiece in a radical Roman Catholic periodical like *Te Elfder Ure*, (the Eleventh Hour). Their ideas on temporal matters have little in common ¹⁾.

No one, then, really assumes that the orthodox religious groups are still enmeshed in genuine traditionalistic thought. However, one often still hears the opinion expressed—even by those directly concerned—that traditionalism is more deeply rooted in the orthodox groups than in others. It is doubtful whether this, in its generality, is true. Research already conducted over a series of years by the department of Sociology and Sociography of the Agricultural University of the Netherlands into the incidence of traditionalistic and modern-dynamic patterns of culture among the rural population has repeatedly led to the conclusion that the "Gereformeerden" in general, for example, have largely accepted modern-dynamic thought and, as a rule, appear to be 'modern'. This applies not only to business—which MAX WEBER could perhaps help to explain—but also to their general behaviour. That they shun certain things accepted by other groups does not detract from the fact that they are, in general, amenable to change.

Something similar is true of the Roman Catholics. It is definitely not the case that where there is a mixed population in a given area the Roman Catholics show up as particularly traditionalistic. In some cases, rather the reverse is true; we shall revert to this later.

Even the religious views of the ultra-orthodox pietistic groups in the Dutch Reformed Church are apparently not incompatible, in principle, with a certain degree of modern-dynamic thought. It would seem that the fact, that members of this section of the Dutch Reformed Church often appear to think along strictly traditionalistic lines, must be attributed less to their religious beliefs as such than to their position as a small separate sub-group.

Finally, it should be pointed out that the observations on the development of the modern mentality have been, as a rule, very general

¹⁾ BARENTSEN, *Het oude Kempenland*. Books like that by SCHIPPERS (R. SCHIPPERS, *De gereformeerde zede- "Gereformeerde Usage"*, 2nd edition, 1955) indicate clearly to what a very limited extent nowadays the pattern of thought among the "Gereformeerden" can still be considered traditionalistic.

in character and have done little to make it clear that within a given, large social unit—a nation for example—considerable differences may occur as regards the time at which, and the degree to which, modern-dynamic thought pervades various groups. As already indicated, modern thought is rather slow in travelling from the higher strata of the community to the lower ones while, comparison of regions shows that one area accepts this pattern of thought earlier than another. Nor only is a given population group composed of various social strata, but the degree of social isolation—whether or not this is connected with geographical isolation—appears to play an important role.

Returning to the problem of the declining birth rate, it should be pointed out that the assumption of a connection between the expansion of modern-dynamic thought and the decline of the birth rate is natural. The transition from a reproductive system where the ultimate size of the family was left more or less in nature's hands to a system where the number of children per family is deliberately controlled—irrespective of the means or methods employed—represents an important change in the behaviour of the individuals concerned. It is hard to imagine that this stage would be reached if a considerable breach had not been made in the bastions of traditionalistic thought. It is, of course, possible to conceive of a *tradition* characterized by limitation of the number of children but, in fact, in the Netherlands we were concerned with a system in which this was not the case, and its abandonment implies a significant break with tradition which it is difficult to assume was an isolated occurrence.

There were, of course, external material circumstances which served to advance birth control. We have already observed that this applies to the decline of the mortality rate. Further, lack of opportunities for economic advancement combined with poverty and unemployment, are in themselves forces that can be expected to promote birth control and, under certain circumstances, they do indeed do so. But the history of the previous century has demonstrated that these factors do not bring about a birth rate decline unless other, apparently more fundamental, conditions have been fulfilled. There must be an inward readiness to accept limitation of the number of children, and a *sine qua non* for that is, logically, that in general a readiness is displayed to adopt a more or less positive attitude towards change. On the other hand it should be pointed out, as was already noted in passing, that the inward acceptance of a readiness to change in no way implies that everyone displaying such readiness accepts the same change. For

each individual and for each group, even though all are equally ready, in principle, to accept change, the acceptability of each concrete change is nevertheless dependent upon circumstances, especially the values obtaining in the group or individual, the social situation, and the material relationships peculiar to the environment. We may put it in this way, that as a consequence of the acceptance of the modern dynamic pattern of culture an interplay of factors was set in motion—factors already present but partially inactive—which led to a decline in the birth rate varying in time and extent from group to group and from region to region. Thus, for example, various existing religions could only begin to make their influence felt in the growing interplay of factors after the modern-dynamic pattern of culture had been accepted. In general, however, once a break-through had been made in traditionalistic thought in different parts of the country and among various social groups, the decline was considerable, and this may presumably be primarily attributed to the marked effect of the decline in the mortality rate.

If the interpretative hypothesis formulated above is correct, it implies in the first place that the development of the modern pattern of culture in the Netherlands actually started in the north and west and gradually progressed southeastwards. It goes without saying that it is not easy to demonstrate exactly the probability of this development on the basis of statistically measurable quantities that can be related to the growth of the modern-dynamic pattern of culture. What will become apparent in the next part of this article, however,—as already pointed out incidentally in another connection—is that the regional diversity in the mortality decline points the same way. There may be other potential sources of numerical data which could support the theory just put forward but within the restricted framework of the present investigation they have not yet been explored. There is, however, an abundance of historical, pre-sociographic and sociographic material that, in my opinion, serves to confirm the general accuracy of the supposition. It is generally accepted—and the last generation actually experienced this—that the 19th century modernization of the Netherlands started in the west and north and only later affected the south and east. Various social causes may be indicated. As regards the west of the country, the early and intensive urbanization which occurred there was certainly a factor of significance, but we should bear in mind that it is doubtful whether the cultural development of the rural areas is always promoted when the influence of the town becomes too

powerful or too direct. There are signs that in the highly urbanized province of South Holland, for example, the modern pattern of culture spread rather more slowly than in the peninsula of North Holland precisely because of the considerable influence of the city ¹⁾. Further, it should be pointed out that for the first 75 years of the 19th century the towns in the west and, for that matter, in the rest of the country as well, led anything but a flourishing existence and their cultural influence was presumably on a modest scale.

What is also important, presumably, is that quite early on, partly because of geographical circumstances, agriculture showed a relatively high degree of specialization in the west and north of the Netherlands, with the emphasis falling either on arable farming or on cattle-breeding. In consequence of this, for centuries the agricultural industry had already been quite deeply involved in the market and money economy. This, combined with the good communications obtaining in both the west and the north because of the many waterways, meant that the rural population there had, of old, far more contact with the outside world than the inhabitants of the largely self-supporting, highly-isolated rural areas of the east and south. For many of the towns in the provinces of North and South Holland, but also for much of the actual countryside, this contact with the outside world was considerably increased by participation in ocean navigation.

In the peninsula of North Holland the influence of shipping extended far into the interior. But the same also applies to Groningen and Friesland, although possibly to a lesser extent. As regards the rural areas, we should also bear in mind that the west and particularly the north—as opposed to the east and the south—were characterized by farms that were large by Dutch standards. Because of this, a class of comparatively rich, sometimes very prosperous, farmers came into existence there, many of whom had the necessary education to participate in the intellectual developments of their day.

Be that as it may, it is obvious that, as early as the end of the 18th century, a change in thought was gaining ground in the west of the country, a change demonstrated amongst other things by a great interest in Rationalism and the Enlightenment. Because of the way domestic

¹⁾ According to an unpublished study by A. J. WICHERS. In his (unpublished) thesis: *Het oude consumptiemelkersgebied rondom de stad Groningen* (The former liquid milk dairy-farming belt around the town of Groningen) 1955, J. G. BAKKER demonstrated how the immediate proximity of a town and continual contact with the townspeople can act as a check to the modernization of thought and action.

history is taught in the Netherlands, it is less commonly known that in the north—more or less independently of the west, apparently—another centre of the dissemination of the modern-dynamic pattern of culture developed. Elsewhere ¹⁾, I have tried to illustrate how rapidly and early modern ideas developed among the farmers of the clay-soil areas in Groningen. This would need to be confirmed by further study but, in line with what has already been pointed out, one gains the impression that in the north of the country the towns were certainly not in the forefront of the development of modern ideas, even though, for purely technical reasons, the sources whence the new ideas were drawn in the first instance must have reached the rural areas via the towns. The new conceptions, however, appear to have met with wider response in the country than in the town. To the best of my knowledge there is no study which systematically outlines the spread of the new ideas in the west of the country. We must assume, however, that they developed relatively early and quickly in the peninsula of North Holland. This is indicated quite clearly, for instance, by the foundation of the Society for Public Welfare (*Maatschappij tot Nut van het Algemeen*) in this part of the country, with the early establishment of branches in various villages in the peninsula. For many years the “Nut”—as it is mostly called—was almost a symbol for everything that was modern and liberal. As regards Zeeland, Bouman’s book on the history of agriculture in Zeeland ²⁾ helps to confirm the impression that there too, as early as the beginning of the 19th century, a definite intellectual change could be observed.

Altogether, we may take it that by about the middle of the last century in the west and north of the country, including the rural areas—and to some extent, perhaps, especially in the rural areas—modern-dynamic thought had deeply permeated large sectors of the population. When, in the decades following, mainly as a result of the decline of the mortality rate, reproduction and size of family came to be regarded in a different light, there was already so much willingness to accept the new pattern of behaviour because of this, that a change in the reproductive pattern involving a tendency towards deliberate limitation of the number of children per marriage, did not clash with any inward resistance to change in general.

¹⁾ E. W. HOFSTEE, *Het Oldambt*, part 1, 1937.

²⁾ P. J. BOUMAN, *Geschiedenis van den Zeeuwschen landbouw in de 19de en 20ste eeuw en van de Zeeuwsche Landbouw Maatschappij* (History of Agriculture in Zeeland in the 19th and 20th century and of the Agricultural Company of Zeeland) 1854-1943, 1946.

The situation was quite different in the east and south of the country, including the sandy-soil districts in Groningen and Friesland and the river-clay areas in Gelderland. About 1840, three gentlemen, who called themselves 'the three podagrists', undertook a series of expeditions on foot in the province of Drenthe, and anyone reading what they have to say about the farmers of Drenthe and the countryside there in those days ¹⁾ will find it hard to believe that these farmers, whose lives were still conducted entirely on traditionalistic lines, lived only about 65 miles from the farmers of Groningen described by J. F. ZIJLKER in 1843 ²⁾, who were already largely caught up in the modernization process. PRAKKE, in his "Deining in Drenthe" (Unrest in Drenthe) ³⁾, has written a gripping account of how traditional Drenthe society continued to oppose modernizing 'western' influence all through the 19th century. Pre-sociographic literature on the sandy-soil areas of Gelderland and Overijssel shows us a similar picture of an agrarian society clinging to tradition for the most part until far into the 19th century. It is only towards the end of that century that the first symptoms of incipient change could be recorded, change which, within a short time, would radically transform the character of society there. Undoubtedly, the traditionalistic pattern of culture was maintained longest in the sandy-soil area of East Brabant and North Limburg. BARENTSEN's book on old Kempenland ⁴⁾, which is based on his experiences as a doctor, in this region at the beginning of the present century, reveals a society still barely touched by change, and drawing almost exclusively on the past for its criteria of contemporary behaviour.

Brabant's position with regard to cultural developments is particularly interesting. Presumably the greater part of this province remained longer aloof from the developments taking place in the country as a whole, and throughout the entire western world, than any other part of the Netherlands. It long maintained a somewhat defensive attitude towards "Holland" which to the people of North Brabant and Limburg means all parts of the Netherlands north of the river Meuse. This attitude should perhaps be attributed to its former status as conquered territory governed by the States General rather than to its closed Roman Catholic character, although the one undoubtedly lent force to

¹⁾ *Het boek der Podagrysten* (The book of the Podagrists), Bloemlezing (Anthology), 1947.

²⁾ J. F. ZIJLKER, *De Groninger Landbouwer en zijn vak* (The Groningen farmer and his vocation), 1843.

³⁾ H. J. PRAKKE, *Deining in Drenthe*, (Unrest in Drenthe) 1951.

⁴⁾ *Het Oude Kempenland*.

the other ¹⁾). In contrast to various other Roman Catholic border areas, such as Zeeuws-Vlaanderen and parts of South Limburg, it was separated by a scarcely-populated and largely uncultivated district from important Belgian cultural centres. Therefore it had little cultural contact with the outside world from the south either, which helped the greater part of Brabant to retain its original character for a long time.

This does not apply to the west of Brabant that had long formed the thoroughfare between North and South Holland and Antwerp and Brussels and was therefore continually exposed to cultural influences from both north and south. Because of this, the modern pattern of culture made earlier and more rapid progress there than in central or—even more—in eastern Brabant.

It is only in recent decades that the situation has altered, but the change has been rapid. Nowadays we can hardly talk of any delay in the development of the modern pattern of culture in Brabant except, perhaps, in the case of a few small areas in the east. We may ask ourselves is this a question of outside influences having a considerable effect at long last, or is it due to internal development, although the latter, of course, is not independent of general cultural trends in the Netherlands themselves and in the western world as a whole. It seems to me that there is much to be said for the latter point of view. Brabant seems to be gradually becoming a culture-spreading area in its own right, just as North and South Holland were of old, and the north of the country, too, to a lesser extent.

For a long time, the areas on the eastern periphery of Gelderland and Overijssel were in a similar position to Brabant—although historical-political factors possibly played a less significant role. Far from the culture-spreading areas in the north and west, and having no contact with any important cultural centres across the frontier, they,

¹⁾ During the existence of the Republic of the Seven United Netherlands, that is to say from 1579-1795, the present-day provinces of North Brabant and Limburg did not form part of this Republic as such. They were not included in the Union of Utrecht of 1579, on which the Republic was based, because at that time they were still under Spanish rule. Later on these territories were conquered by the Republic. They were not then granted the status of autonomous provinces, however, but were governed direct as conquered territories by the States General of the Republic. Although the Counter-Reformation had meanwhile led to the Roman Catholic Church becoming firmly re-established in these parts, and although virtually the entire population belonged to this church, it was not formally recognized and in these territories, for example, Roman Catholics were forbidden to hold public office.

too, were affected comparatively late by modern developments.

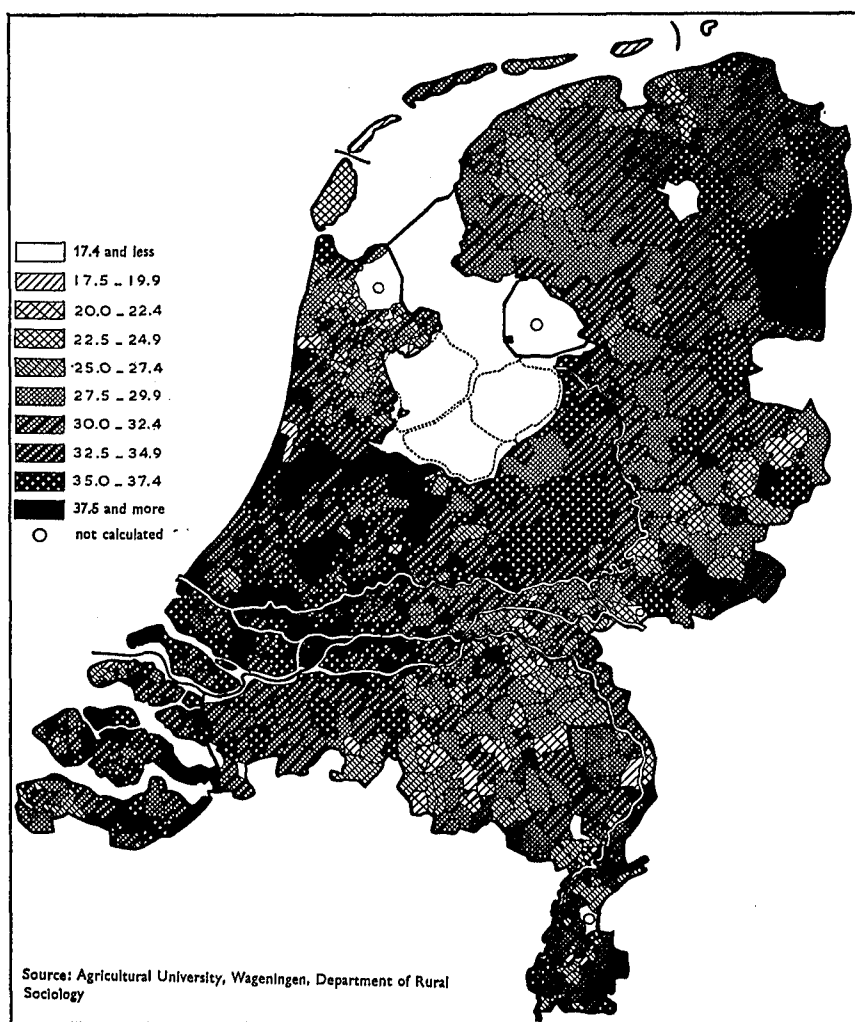
As has been said, North Limburg, or at least North Limburg west of the Meuse, identifies closely with North Brabant. Limburg east of the Meuse, including South Limburg, has always been pretty strongly influenced by the Lower Rhine area, and South Limburg by Wallonian Belgium as well. This probably resulted in the modern-dynamic pattern of culture reaching Limburg east of the Meuse earlier, on the whole, than it reached the east of Brabant, even though the position of Limburg, in relation to the culture-spreading areas of North and South Holland, was even more peripheral than that of Brabant. The pattern of the fertility trends in Limburg east of the Meuse also differs somewhat from that in Brabant.

The general outline of the historical progress of the modern pattern of culture in the Netherlands in its regional aspects, therefore, makes the hypothesis of a connection between the development of this pattern of culture and the progress of the modern birth rate decline extremely acceptable, although, of course, much research would be necessary before this hypothesis could be confirmed in detail as well.

What makes the hypothesis attractive is that it leaves plenty of room for the introduction of all sorts of special explanatory factors which may help to make particular aspects of the trend in certain groups comprehensible. We have already pointed out that it is quite compatible with the assumption that certain religious views have either a retarding or an accelerating effect, although in practice such influence does not seem to be of decisive importance.

The comparatively rapid progress—after a hesitant start—of the urban birth rate decline also fits this theory perfectly. After all, in the towns, once the modern pattern of culture had obtained a *firm footing* among certain strata of the population, the nature of the urban community meant that it could pervade the strata in question more rapidly than in rural area. Again, the relatively strong non-churchgoing trend in the towns possibly promoted the rapidity of the birth rate decline.

On the basis of this hypothesis it is also perfectly comprehensible that the birth rate decline should start at the top of the social ladder and only gradually spread to the lower groups of the social hierarchy. Because the modern-dynamic pattern of culture was relatively late in penetrating these lower population groups, the proletarian intermediate stage occurred between the agrarian-artisan pattern and that of modern reproduction, when large numbers of workers experienced a loss of social security as a result of the growth of capitalism and there was no



Map 6

Average crude birth-rates in Dutch municipalities, 1891-1895.

longer any point in trying to make certain of a good livelihood in the future by marrying late or not at all.

In connection with the question of a link between the development of the modern-dynamic pattern of culture, economic developments and the progress of the decline in fertility, it is perhaps desirable to discuss in rather more detail the wave of rising birth rates preceding the fertility decline. As indicated above and contended elsewhere¹⁾, the national statistics for the period 1850-1875 only faintly reflect the significance of the influence of the proletarian intermediate stage on the temporary rise in the birth rate in the second half of the 19th century. There are such considerable phase differences in the development of this rise and subsequent decline in the various parts of the country that, in the latter half of the 19th century, they largely cancel each other out as far as the country as a whole is concerned. If the trend in each of the various areas is investigated separately, however, it becomes quite clear that, generally speaking, in places where in 1850 the birth rate was still low, the waves of rising and declining fertility follow each other in regular succession, so to speak. This can be seen to some extent on the coloured maps reproduced here, but comparison of the cartograms of the 5-yearly averages of birth rates per municipality since 1850, which were at my disposal when undertaking this research, makes it even more apparent. It was not possible to publish all this cartographic material but, to illustrate the point, the map relating to the birth rate in the period 1891-1895 (map 6) has been reprinted here. This shows, among other things, quite a high birth rate for the west of Brabant²⁾ which a few decades earlier was still characterized by relatively low figures in this respect, whereas the figures for the eastern part of this province are, generally speaking, still low. Comparing maps 5 and 6 for the country as a whole, we are struck by the fact that practically the very same area that was remarkable in the early nineties for a late *rise* in the birth rate is conspicuous a quarter of a century later for lagging behind in the *decline*. In general, it seems that the rise preceding the decline follows practically the same course as the decline itself, apparently shifting from northwest to southeast. In the case of the rise of the birth rate, of course, the movement for the country as a whole can be less clearly demonstrated than in the case of the decline because by about 1850 a large part of the country was already characterized by high birth rates. But

¹⁾ HOFSTEE, 'Regionale verscheidenheid ... etc.'.

²⁾ See the maps in HOFSTEE's 'Regionale verscheidenheid ... etc.'.

in North Brabant, for example, the gradual shifting of the high birth rates from west to east preceding the later decline along the same lines, as illustrated by the data just mentioned, is very plain to see. In the east of the country and in the sandy-soil districts of Groningen and Friesland, various areas characterized by a delayed birth rate decline also clearly demonstrate this gradual rise of the birth rate in the second half of the 19th century, preceding the decline.

We may perhaps wonder whether this succession of rise and decline is not also connected with the growth and ultimate abatement of the great agricultural crisis at the end of last century. In the sandy soil districts in particular, the crisis was followed by a period of rapid development of small farms, resulting in an increase in the number of sources of livelihood. There is no doubt that the trend of economic developments considerably influenced population developments during the second half of the 19th century in the then highly agrarian Netherlands. The temporary decline, after 1875, in the percentage of married women aged 15-44 (see table 5) which reduced national averages to a very low level in the period 1891-1895, must be attributed, as has already been pointed out, to bad economic conditions in farming, resulting from the great agricultural crisis. Certainly, the particularly rapid decline in marital fertility which set in after 1875 (see table 6) in the provinces of Groningen, Friesland and Zeeland especially, may also be connected in part with the agricultural crisis. It is striking, too, that in the ten years following the period of lowest ebb in 1891-1895, the 'rural' provinces record a definite increase in the percentage of married women, whereas in the more highly urbanized provinces this percentage remains at approximately the same level.

Yet it is by no means the case that economic developments in agriculture were to play a decisive role in shaping fertility trends in the Netherlands as a whole. The shift from northwest to southeast, first of the natality increase, then of the decline, actually proceeds independently of the general economic situation in agriculture. The latter only causes, in the one case, a temporary slow-down and, in the other, a temporary acceleration of the movement already in progress. In the western and northern provinces, the decline in the birth rate which started about 1875 continues after 1895, although in the highly agrarian provinces such as Zeeland and Groningen, there is a temporary slackening-off in the decline after this date. In the eastern and southern provinces, however, birth rates return to the pre-crisis level after 1895, and around the turn of the century the level in North

Brabant and Limburg is actually higher than ever before. If we compare cartograms of the birth rate per municipality for the period 1876-1880 with those for the period 1891-1895, then, in spite of a somewhat lower level generally in the east and south, the area of higher fertility can be seen to be spreading to the southeast while, on the other hand, in the west and north the fertility decline has apparently set in in full force.

So although the answer to the question as to the origin of the successive waves of high and low birth rates cannot be found in the fluctuations of the general economic situation, and although the hypothesis of a connection between the trend of the birth rate decline and the regional development of the modern-dynamic pattern of culture can be fully upheld, the foregoing observations do not provide a complete answer to the question to which I have addressed myself elsewhere¹⁾ as to the origin of the rising birth rate in the rural areas in the east and south prior to the birth rate decline. In the north and west, as has already been pointed out, the origin of a high birth rate in country areas is easily accounted for on the basis of the hypotheses advanced, as well as on the basis of special factors such as the remarkably high mortality including infant mortality in the west of the country²⁾ about 1850 and for some decades afterwards. Generally speaking, in the north and west we have to deal with a fairly extensive class of agricultural labourers. An important aspect of the penetration of modern-dynamic patterns of thought among the farming group was the genesis of a capitalistic mentality and the development of management along capitalistic lines in agriculture. This meant that the agricultural labourers' group became largely proletarianized and this, in turn, accounts for the rise of the marital and reproductive pattern typical of the proletarian intermediate stage, and the increased fertility associated with it. This explanation, however, does not automatically suffice for the sandy-soil areas in the east and south where, generally speaking, farming was, and still is, practised on small family holdings without hired workers. Outside labour, if any, was provided mostly by the sons of farmers working for other farmers as farmhands. So we can hardly talk here of the proletarianization of an agricultural labourers' group. How, then, can the development of a high birth rate

¹⁾ HOFSTEE, 'Regionale verscheidenheid ... etc.' and 'De landbouw en de migratie'.

²⁾ For the influence of the high mortality rates on fertility rates in the West see HOFSTEE, 'Regionale verscheidenheid ... etc.'.

and, in particular, the gradual shifting of this to the southeast be explained?

In the first place it should be pointed out that, as opposed to the west and north, the towns and the more or less industrialized areas in the south and east in general have an appreciable start over the agrarian countryside as regards the development of both the high birth rates and their subsequent decline. As a rule, in the second half of the 19th century, compared with their surroundings, places like Bergen op Zoom, Roosendaal, Tilburg, 's-Hertogenbosch, Oss, Eindhoven, Helmond, Nymegen, Arnhem, Winterswyk, Enschede, Hengelo and Almelo, and also the industrial area along the banks of the Old Yssel, first record distinctly higher birth rates and then subsequently head the decline too. Thus it is also clearly demonstrated that, in contrast to the west and north, the social structure of the countryside rendered it less liable than the towns to proletarianization and, accordingly, to the development of a temporarily higher birth rate.

Various 'technical' reasons may be advanced for the fact that the countryside did ultimately participate in the higher birth rate trend. In the first place, more and more rural municipalities became involved in some measure in the industrialization process because, to an increasing extent, textile and various other industries attracted commuting workers from the agricultural districts around. This meant that it became less and less necessary for children from the agrarian milieu to remain on the farms unmarried, while the lowering of the marital age also led to increased marital fertility.

In the second place, the technological developments affecting farming since the end of the 19th century led to a rapid increase in the number of opportunities for making a living, particularly in the sandy-soil areas, so that a larger number of farmers' sons was able to find a livelihood as farmers and could thus afford not only to marry but to marry earlier. In the third place, in consequence of the growth of industry and the increasing opportunities for employment outside agriculture in general, more and more countrymen migrated to the towns. This meant fewer unmarried adults on the farms and a consequent reduction in the pressure exerted on the birth rate by the high percentage of single persons. Finally, the increased prosperity of the rural areas made people want to provide more adequately for themselves. As a result, the retail professions offered new scope to the sons of farmers, involving new opportunities for marrying and raising a family.

Underlying these technical reasons, however, are other causes, which have their origin in the pattern of culture peculiar to the population. When a farmer or a farmer's son changes over to industry—particularly if migration is involved—it implies a social transition, and a great deal of resolution is required to take this step. It is fairly common knowledge that the rural population frequently experiences considerable inward resistance to such changes. Something similar applies to the adoption of new farming methods, a prerequisite for which is also an inner readiness to take the first step¹⁾. In short, the degree to which advantage was taken of the economic opportunities arising—opportunities which might form the basis of an increased birth rate—depended upon the extent to which the modern-dynamic pattern of culture pervaded rural areas in the sandy-soil regions. It therefore becomes comprehensible—in respect of the sandy-soil regions as well—that the trend towards rising birth rates, as the first demographic expression of the penetration of the modern-dynamic pattern of culture, proceeded along the same lines as the subsequent birth rate decline; this being the next consequence of the adoption of this pattern of culture.

Summarizing the foregoing, we arrive at the conclusion that the progress of the modern birth rate decline in the Netherlands, since about 1880 in particular, has been primarily governed, in its regional development, by the degree to which, and time at which, the modern-dynamic pattern of culture has pervaded the various parts of the country. Since it is also the rapidity with which this modern pattern of culture has penetrated the various social groups that has determined the differences in fertility trends in the various social strata in the first place, the decline in fertility as a whole during this period has been most closely bound up with the growth of this change in our society's pattern of culture, even though other influences have also undoubtedly been at work.

One may perhaps ask what connection there is between the development outlined and the position—somewhat exceptional in the western world—which has long been occupied by the Netherlands on account of its birth rate level. Within the framework of this article, no detailed comparison has been made between trends in the Netherlands and in other countries. It should be remembered, however, that VAN

¹⁾ See various publications of the Dept. of Sociology and Sociography of the Agricultural University of the Netherlands.

HEEK¹⁾ has already established that if the non-Catholic birth rate in the Netherlands is compared with that of such countries as Denmark and Norway, which closely resemble the Netherlands socially and economically, there is little unusual about the Netherlands. In the foregoing we have tried to make it clear that the slower birth rate decline which is common to Roman Catholic as a whole is actually only connected to a limited extent with the Roman Catholic faith as such, and must be regarded, in the first place, as a consequence of the later penetration of the modern pattern of culture in the Roman Catholic sandy-soil districts in the southeast of the Netherlands. Without denying the importance of the other factors advanced by VAN HEEK, I believe that the fact that the birth rate of the Dutch Roman Catholics (and with it that of the Netherlands as a whole) has remained high for so long must be attributed primarily to the situation brought about by the status of States General dependencies and the isolated position occupied by a large part of North Brabant and parts of Limburg in respect of foreign centres of culture. To this may be added, that the remarkable economic-geographical structure of the Netherlands has resulted in the country's economic and cultural life, both during and long after the days of the Republic, being centred very largely in the west and partly in the north. This has meant that for a long time, the sandy soil regions in the east and south were, generally speaking, only relatively slightly affected by the changes in the pattern of culture in the western world.

But the process of penetration of the modern pattern of culture is progressively losing its predominating significance in furthering the decline of the birth rate. This does not mean that dynamic thought has found acceptance everywhere, or with everyone, to the same degree. Research has shown that this is not the case. It determines differences in the pattern of behaviour of groups as a whole, however, less and less. Everywhere modern thought is becoming increasingly normative. As regards the birth rate trend, this means that in the various parts of the country and the various social groups a levelling process is taking place on a steadily increasing scale. In many respects, presumably, the continuing influence of the modern pattern of culture will lead to

¹⁾ *Het geboorte-niveau der Nederlandse Rooms-Katholieken*, especially the English summary, p. 190. It should be pointed out, however, that the province of Groningen, which VAN HEEK compares with Jutland, is not typical of the non-Catholic parts of the Netherlands. In Groningen special forces are at work, causing the birth rate there to fall to a strikingly low level. The comparison of the towns is more convincing (see VAN HEEK, p. 37).

further equalization. As regards regional differences, fertility in North Brabant, particularly in the east of this province, may be expected to decline still more compared with other parts of the country, even though the birth rate in North Brabant may remain relatively high for a long time yet, because the province has a considerable "reserve" in its relatively low percentage of married women and high percentage of juveniles.

We are now at the beginning of a new period in the demographic history of the Netherlands, a period in which the differences between the various regional and social groups will probably be relatively small, and such differences as there are will presumably be due to factors which were only of secondary importance during the previous period or which carried no weight at all at that time. This may mean that differences in nuptiality—which were still of prime influence on the pattern of fertility a century ago but then became relatively less important in consequence of the steadily greater significance of the differences in marital fertility—may become of relatively greater significance in the future again as a factor accounting for differences in the birth rates.

We may perhaps wonder what will be the significance, in the near future, of the differences in marital fertility between the various religious groups. Although the significance of the religious differences, in themselves, as a cause of the variations in marital fertility have probably been overestimated in the past, it cannot be denied that in some Roman Catholic areas, for example, the birth rate decline set in early and at first proceeded just as fast as in other population groups, but slowed down later so that the birth rate there today is above that of other places in the neighbourhood. This clearly applies to West Friesland, for instance, but also to various other areas. We have already pointed out, however, that as far as the countryside is concerned this phenomenon seems to be mainly restricted to horticultural areas. Without further research, it is difficult to account for this higher birth rate among the Roman Catholic population group in old-established areas of decline. It cannot be said off-hand, for example, what part is played here by the reasons VAN HEEK puts forward for the higher Roman Catholic birth rate. Miss DIELS¹⁾ found that Roman Catholic girls on the verge of marriage are more attracted by the idea of a large

¹⁾ A. E. DIELS, *Opvattingen van ondertrouwde vrouwen omtrent de grootte van haar toekomstig gezin* (Views of women about to be married on the size of their future families), Part I (1951) and Part II (1953).

family than non-Catholics, whether or not birth control is considered morally permissible.

It is uncertain, however, whether this is the expression of a more or less fixed attitude or the after-effects of past conditions and of the teachings of the church as experienced in youth. It is worth noting that an enquiry among students at the University of Wageningen¹) revealed that, in contrast to the other religious groups, the Roman Catholics wanted decidedly smaller families than those of their parents. For the time being, Roman Catholic birth rates will probably remain a little higher than those of non-Catholics. On the other hand, it does seem likely that the differences in the national figures will become smaller than they are at present, if only because of the further relative decline in fertility which is to be expected in eastern North Brabant.

It is perhaps also important to ask ourselves what effect the tendency towards non-churchgoing (which is likely to increase) will have upon the birth rate. Previous analysis taught us that two areas where this tendency is particularly pronounced in rural districts, namely, north-east Groningen and, to a lesser degree, southeast Friesland, are characterized by conspicuously low birth rates, while in the large towns there is also a connection between non-churchgoing and a low birth rate. In other areas, however, there is little evidence of a relationship between non-churchgoing and a particularly low birth rate. The situation in southeast Friesland and northeast Groningen—and, one may add, in a city like Amsterdam—leads to the conclusion that considerable birth rate decline, pronounced non-churchgoing and political radicalization are—all three—consequences of the same phenomenon, namely early, widespread, and intensive proletarianization of the working class. The more far-reaching the proletarianization, the more fiercely the worker rejects the past when he becomes conscious of his own situation and begins to see a change of changing and improving it. To that past belongs the birth rate pattern of the proletarian intermediate stage; while he sees in family limitation a chance to improve his lot.

VAN HEEK points out that the fertility trend in a country that was late in its industrialization, like the Netherlands, cannot be compared with the trend in a country like Great Britain, for instance, that was industrialized early. But is it primarily a question of industrialization

¹) J. I. NANNINGA and M. M. ZIJLSTRA, *Onderzoek naar positie en levensorde van een aantal Nederlandse gezinnen* (Research on the position and living patterns of a number of Dutch families), 1960 (unpublished).

as such, or of proletarianization? The difference is not just formal. Firstly, proletarianization occurred in rural areas as well as urban ones and, secondly, proletarianization is not a matter of social-economic relationships alone, but also of mental ones. In some cases, such as the proletarianization of the agricultural labourers in Groningen, the mental aspect was presumably the more important¹). Among the members of the upper stratum of the population in both town and country, the development of the modern pattern of culture gave rise to conceptions and ideas which increasingly alienated them from the lower strata, whose members continued to feel and think as they had always done²). Moreover, the new ideas provided fertile soil for the economic liberalism which justified the entrepreneurs in pursuing their own interests even if this was to the detriment of the workers. It is worth noting that in the sandy-soil regions where industrialization set in early (Brabant and "Twente"), relations between employer and employee remained closer and less business-like: in other words, proletarianization as a mental phenomenon had much less effect there than in various parts of the west and north. It is an obvious assumption that this should be attributed to the late penetration of the modern-dynamic pattern of culture.

If the assumption made in the foregoing, is correct, we need not expect a gradually-progressing separation from the churches to go hand-in-hand with a conspicuous intensification of the birth rate decline. Any further separation from the churches could no longer be regarded as a reaction to the intensive proletarianization outlined above, as this now really belongs to the past. Nor, for the same reasons, is it to be expected that the rapid industrialization which is currently taking place in the Netherlands will have the same effect upon the birth rate as that which VAN HEEK ascribes to industrialization in Great Britain.

As far as the country as a whole is concerned, a relatively high birth rate in the immediate future already seems probable on the basis of our age structure alone, although the differences with the rest of the western world, presumably, will not be very marked. In the long run, however, we may expect an acceleration of the very gradual

¹) HOFSTEE, *Oldambt*.

²) This can be clearly demonstrated for Northern Groningen. See HOFSTEE, *Oldambt*, including the quotations from the *Handelingen* (Proceedings) of the Groningen Mij. van Landbouw (Groningen Agricultural Company) and its predecessors.

decline now in progress¹). At the moment, higher nuptiality compensates for the manifest tendency of the marital fertility rate to fall. We have already referred to the particularly rapid rise in the percentage of married women in the post-war period. It does not seem likely that this increase will continue at its present pace. There is perhaps already some indication of this in the lower level of the number of marriages per 1,000 of the total population during 1959 and 1960 compared with the foregoing years. Now undoubtedly, in a few years' time, the marriage rate and—other things being equal—the birth rate likewise, will rise again as the 'bulge' babies of the immediate post-war years reach marriageable age. In all probability this will put a temporary stop to further decline of the birth rate. Once the influence of the 'bulge' on nuptiality is exhausted, however, and if the marriage rate stabilizes itself at a level somewhat below that of the first 10-15 years after the war, the decline in the marital fertility rate will assert itself more obviously than has been the case up to now. Moreover, the marital fertility rate itself will then probably be subject to an accelerated decline. The percentage of young-marrieds will become relatively smaller so that, even if the number of children per completed marriage remains constant, marital fertility will be less.

Of decisive importance for future developments, however, is the population's attitude towards the problems of marriage, family and reproduction. Just because the size of the family has now become a point of conscious deliberation in practically all marriages—or will certainly become so in the near future—it has become almost more important than ever for the sociologist to investigate the social factors influencing this attitude.

3. THE TREND OF MORTALITY

Newspapers and the radio make fairly regular reports on health conditions and the level of mortality in the Netherlands as compared with other countries. Therefore, presumably, most Dutch people are persuaded that this country is in a favourable position in this respect. The table below reproduces the mortality trend in the period just

¹) In the last few years this acceleration has in fact taken place. Particularly in 1965 and the years since then there has been a sharp decline in the birth rate notwithstanding the fact that the average nuptial age has steadily continued to decline, partly due, presumably, to the conditions of economic boom which have been in operation until recently.

Table 7
Death-rates in the Netherlands, 1850-1959 (Five-yearly averages)

Period	Av. death-rates	Period	Av. death-rates
1851-1855	24,7	1906-1910	14,3
1856-1860	26,8	1911-1915	12,7
1861-1865	24,9	1916-1920	13,8
1866-1870	25,2	1921-1925	10,4
1871-1875	25,5	1926-1930	9,9
1876-1880	22,9	1931-1935	8,9
1881-1885	21,4	1936-1940	8,9
1886-1890	20,6	1941-1945	11,3
1891-1895	19,6	1946-1950	7,9
1896-1900	17,3	1951-1955	7,5
1901-1905	16,1	1956-1959	7,6

Source: Central Bureau of Statistics and Department of Rural Sociology, the Agricultural University, Wageningen.

behind us and clearly illustrates how much more propitious the rates have become in a comparatively short space of time.

We usually fail to realize that in the course of a lifetime our grandparents were confronted with death three or four times more often than we. It would be worthwhile for sociologists and psychologists to try to find out how this change has affected man's attitude towards life and death and his state of mind in general.

At the end of the section on fertility, I observed that research into the social factors affecting fertility is becoming highly important precisely because the level of fertility has become so much a matter of deliberate reflection. From this point of view, mortality is definitely less interesting to a sociologist than fertility. In discussing mortality, we may proceed on the assumption that man instinctively tends to prolong life as far as possible and only in exceptional cases deliberately asks himself whether or not he shall go on living. Suicide may be an interesting sociological problem in itself, but from the point of view of total mortality it is of minor significance as a cause of death. In the Netherlands only about 1 death in 100 can be attributed—officially, at least—to suicide. The Dutch population's attitudes towards death are certainly not the same in all strata of the population, nor in all areas either—something well worth investigating—but this fact is presumably of little weight in accounting for the variety in death rates. We cannot assume that any such differences could lead to con-

siderable diversity in the urge to continue living and the will to resist death¹).

Another reason why the mortality trend is less interesting to the sociologist than the trend in fertility is that the former has been so largely affected by the growth of medical science, at least during the last 100 years. Now, of course, the progress of science in general and of medical science in particular cannot be seen apart from social trends in the world as a whole. When dealing with the trend of the death rate in the Netherlands, the sociologist should actually take the standard of medical science as a datum. There is hardly any possibility of explaining special features of mortality in the Netherlands on the basis of any special characteristics of Dutch medical science due to the influence of social factors peculiar to the Netherlands. In the nature of things, this applies even more to the specific characteristics of mortality of various groups, regional and otherwise, in the Netherlands.

Finally it should be pointed out that in the past, physical-geographical conditions have had a considerable effect upon the mortality level. Once again, this is a matter of factors outside the sociologist's range. At the present stage of development in western countries, the physical-geographical component hardly counts at all in the totality of causes determining the level of mortality, while in the so-called underdeveloped countries its influence becomes less every day.

All this does not alter the fact that social influences are of considerable significance as far as the level of mortality is concerned. Social factors largely assert their influence on mortality via the age structure of the population. The fact that the Netherlands as a whole has a remarkably low death rate can be attributed, in part, to the high expectation of life for all age groups, but another important factor is the existing age structure. Even the most propitious expectation of life cannot guarantee a low crude death rate unless the age structure makes this feasible. Although, in this respect, the nation's age structure is becoming less favourable—table 8 shows that as a result the

¹) It might be imagined that suicide is a manifestation of a relatively feeble urge to continue living common to much larger groups of the population, and also expressing itself amongst other things in a conscious or unconscious lowering of mental resistance to illness and other threats to life. Were this the case, one would expect to find correlation between a high percentage of suicides and a relatively high mortality rate. Comparison of the regional rates for mortality and suicide in the Netherlands and, for that matter, in the various countries of the West, do not provide the slightest grounds for such an assumption.

Table 8
Crude and standardized death-rates per 1,000 of the total population, 1938-1959

Year	Crude death-rates			Standardized death-rates*		
	M	F	Total	M	F	Total
1938	8,69	8,37	8,53	8,51	8,21	8,35
1939	8,80	8,47	8,64	8,53	8,20	8,36
1940	10,49	9,28	9,88	10,15	8,92	9,53
1941	10,47	9,55	10,00	10,11	9,17	9,64
1942	10,18	8,85	9,51	9,97	8,46	9,12
1943	10,61	9,48	10,04	10,12	9,00	9,56
1944	12,65	10,92	11,78	11,99	10,31	11,15
1945	18,30	12,25	15,26	17,40	11,50	14,44
1946	8,87	8,14	8,50	8,09	7,41	7,75
1947	8,41	7,72	8,06	7,63	6,93	7,28
1948	7,76	7,03	7,39	6,98	6,26	6,62
1949	8,41	7,88	8,14	7,52	6,91	7,21
1950	7,72	7,23	7,47	6,81	6,29	6,55
1951	7,83	7,21	7,52	6,84	6,19	6,52
1952	7,59	7,05	7,42	6,52	5,94	6,24
1953	8,02	7,34	7,68	6,80	6,10	6,45
1954	7,90	7,04	7,47	6,59	6,74	6,16
1955	8,08	7,06	7,57	6,65	5,65	6,15
1956	8,23	7,29	7,76	6,71	5,73	6,21
1957	8,00	7,00	7,50	6,46	5,43	5,95
1959	8,07	6,98	7,52	6,45	5,32	5,88
1958	8,22	6,90	7,56	6,51	5,17	6,84

Source: C.B.S.

* The Dutch population of 1936 is used as standard-population

crude death rate is declining far less quickly than the standardized mortality rate, taking the age structure as it was in 1936 as a standard—compared with the surrounding countries the Netherlands is still in a highly favourable position. This situation is primarily due to a relatively high birth rate in past decades, and to the fact that, in spite of increased emigration since the war, overseas migration in the past has been too low to affect the age structure unfavourably to any considerable extent. Social factors determining birth rates were discussed in detail in the previous section. It was stated at the outset that overseas migration as such would not be discussed in this article. The circumstance that its influence as an explanatory factor of the mortality trend is slight, is all the more reason for dispensing with further discussion.

But it is important to point out here—partly in connection with what will be discussed later—that as a result of internal migration the

Table 9

Crude and standardized death-rates per 1,000 of the population of the Dutch provinces, 1955-1956

Province	Crude death-rates	Standardized death-rates*
Groningen	8.39	7.12
Friesland	8.83	7.21
Drenthe	6.90	7.09
Overijssel	7.60	7.84
Gelderland	7.74	7.66
Utrecht	8.05	7.84
North-Holland	8.10	7.67
South-Holland	7.58	7.40
Zeeland	8.88	7.01
North-Brabant	6.79	8.21
Limburg	6.93	8.68
Netherlands	7.66	7.66

Source: C.B.S.

* The Dutch population of 31 December 1955 is used as standard-population

various areas of emigration in the Netherlands have acquired an unfavourable age structure. Table 9 gives the crude and standardized mortality rates for the provinces for the year 1955-1956. The standardized mortality rates, show that the actual variations in the expectation of life are quite different from what one might perhaps expect from looking only at the crude death rates. This is partly because the effect of internal migration—and other factors—on age structure conceals the real picture of regional differences in mortality.

But even if age structure is of considerable importance, the differences in expectation of life mentioned earlier still remain. It is a recognized fact that, in comparison with other nations, our country as a whole is remarkable for a high average expectation of life. Table 9, however, shows that the existing differences in mortality between the various parts of the Netherlands are by no means negligible. The standardized mortality rate in Limburg in 1955-1956, for example, was fully 20% higher than in the three northern provinces.

As said before, it seems reasonable to proceed on the assumption that the will to survive is equally strong everywhere, while we may also take it that, theoretically, modern means of communication place medical knowledge and ability at the disposal of the whole world in the same degree. If we further assume that physical-geographical factors no longer play such an important part in determining the

mortality level—at least as far as the western world is concerned—then, leaving the population's age structure out of consideration, the mortality level will be determined by the population's general living conditions and the extent to which medical care and hygiene—as made possible by modern medical science—actually reaches this population.

The general living conditions of a population group and the extent to which it actually receives the benefits of medicine and hygiene technically possible are, of course, not entirely separate affairs. Both are highly dependent upon the economic conditions of the population group in question. Housing, clothing, nutrition, fresh water supply, drainage, but also medical attention medicine, special forms of treatment, nursing assistance—all cost money.

Two observations must be made here, however. In the first place it should be pointed out that in this case it is not only the average national income per head of population that is important, but also the way in which this is distributed among the various social strata and the effect of any modifications in this respect introduced by government measures. Particularly important in this respect is the extent to which the government promotes direct health care and creates living conditions conducive to good health, whether this is done by a system of insurance or by means of direct treasury grants.

In the second place it may be said that in respect of health care the law of diminishing returns apparently applies with great force. Recent years have shown that in so-called underdeveloped countries with very high mortality rates the latter can be brought down to a reasonable level in a few years' time—given correct policy on the part of the government and the support of international organizations—by means of large-scale measures in the field of hygiene, vaccination, supply of drugs, etc. If, however, attempts are made to reduce mortality still more, to the level achieved in what are in this respect the most advanced western countries, these attempts will most likely fail unless considerably higher investments are made in medicine and hygiene, and much greater outlays in men and material for health care in general, while at the same time a considerable improvement in the population's general living conditions will also prove essential. To give a concrete example, the step from the situation as it still is in India at present to the situation in Ceylon, where mortality rates have been reduced in a short space of time, is presumably easier to accomplish than the step from the present situation in Ceylon to the rates characteristic of the Netherlands today.

Undoubtedly the increasing prosperity in the Netherlands during recent decades has also been of considerable significance in reducing the death rate. The differences between the various economic classes as regards the level of mortality are tending to diminish, and we may definitely associate this with the general increase in prosperity. Another important factor is certainly the steadily increasing governmental activity in the direct promotion of national health, one of the measures taken being to make membership of a sickness insurance fund compulsory.

Partly because of the lack of sufficient data, it is difficult—certainly for the layman in medical matters—to decide whether a country like the Netherlands could reduce its mortality rate very much more by means of greater expenditure on direct health care and an improvement in the general living conditions of the population, leaving out of consideration for the moment the differences which new discoveries in medicine might make. One gains the impression, however, that this is hardly likely. Certainly a higher national income is, in itself, no guarantee of success, since western countries with a higher national income per head of population than the Netherlands do not, up to now, display a higher average expectation of life. In fact their figures are sometimes quite a bit lower. But suppose the national income were differently allocated so that a larger part of it were devoted to direct health care and the improvement of living conditions adversely affecting the general health situation: would this have an important effect? Something is achieved by every improvement, of course, but there is hardly any doubt that, in the Netherlands, the time of easy victory over death is past. Between the last normal pre-war year and 1950 (the time at which it is generally accepted that the war had largely ceased to exert any direct influence) the standardized mortality rate dropped from 100 to 78, i.e. by 22 points, this notwithstanding the negative influence of the war itself, whereas in the year following, up to and including 1959, it only dropped another 8 points, i.e. to 70. After some stagnation in the difficult period during and after the war, it is precisely those years subsequent to 1950 that are characterized by relatively high investment in the medical sector (hospitals, nursing homes etc.) yet this is reflected only very slightly, if at all, in the mortality rate. Apparently the effect of a number of medical discoveries, including antibiotics, in the earlier period was considerably greater than that of the growing prosperity and larger investments in the field of medicine and hygiene after 1950.

But if expansion of medical care and improvement of the general living conditions would not bring about any significant reduction in mortality, the implication is that in the Netherlands as a whole mortality is already practically at a minimum so that—apart from differences in age structure, of course—it should be approximately the same all over the Netherlands. And how can this be reconciled with the fact, mentioned earlier, that the standardized mortality rate in Limburg is about 20% higher than in the northern provinces? In general, the regional differences in mortality still seem to be considerable. If we take smaller and therefore more homogenous units than the provinces, these differences are even more conspicuous. Using the Yule method, the Central Bureau of Statistics has calculated the standardized mortality rates for persons above 1 year of age, during the years 1951-1955, for a number of groups of rural municipalities in the Netherlands ¹⁾. For the northern pastoral region in Overijssel, this gives a standardized mortality rate (according to this method) of 11.5, but for the eastern part of the district called the Meyery in North Brabant one of 16.3, i.e. no less than 42% higher. There appear to be differences in infant mortality, too, between the various regions. Taking each province as a whole, in the year 1959 mortality within the first 12 months of life varied between 14.5 per 1,000 live births in Zeeland and 20.1 in Limburg. Average infant mortality was also calculated for parts of provinces, as in the case of the standardized mortality rates mentioned previously and for the same period, viz. 1951-1955. The figures for these areas varied between 12.8 for the northeastern arable farming district in Groningen to 30.7 for the Land of Cuyck in North Brabant. Now the element of chance cannot be ruled out where such comparatively small areas are concerned, even when 5-yearly averages are employed, but if we study the location of the areas with high infant mortality and high standardized mortality on the one hand, and of those with low mortality on the other, then, as I have demonstrated elsewhere ²⁾, a certain regularity is apparent. In general, the areas with unfavourable ratios appear to be concentrated in the east and south of the country, particularly in eastern Brabant and northern Limburg. That it was not just chance that the groups of municipalities selected by the C.B.S. should include places where the highest standardized

¹⁾ E. W. HOFSTEE, *'Rural Life and Rural Welfare in the Netherlands'*, p. 181.

²⁾ E. W. HOFSTEE, 'Regionale sterfte-verschillen' (Regional Differences in Mortality), *Tijdschrift voor Sociale Geneeskunde* (Journal of Social Medicine) Vol. 36, 1958, pp. 499-511.

mortality rates and the highest infant mortality were recorded in this part of the country in 1951-1955, is confirmed by the relatively high infant mortality rates which were also characteristic of these districts in later years. The crude death rates, as is already obvious from table 8, convey little, under present circumstances, about the real situation as regards mortality. Mortality has decreased so much everywhere and the variation in it likewise, that the differences in age structure are now of paramount influence in the regional differences between the crude death rates. If, however, recent standardized statistics per municipality were available, these would presumably still indicate a somewhat higher level in the east of North Brabant and the north of Limburg and perhaps also for a few other areas in the east and south, although the differences are tending to diminish quite rapidly.

It will be immediately obvious that the area where mortality rates distinctly above the average have apparently maintained themselves longest is also the area where the birth rates have remained high for a longer period. We have already pointed out that no direct connection can be proved between the fertility decline and the mortality decline, but one may perhaps be inclined to think the other way round and wonder whether the high infant mortality in the south in particular cannot be accounted for by the high level of the birth rate. We possess no published data concerning infant mortality in relation to the number of children that the mother has borne, but the data capable of supplying some indirect clues give no indication of a close connection between the two. The province of Friesland, for example, which (as already mentioned) has been characterized in recent years by a marital fertility no longer very different from that of Limburg, continued to record a relatively low rate for infant mortality, whereas the figure for Limburg was relatively high. Moreover, this could not help to explain the higher mortality also found among the older age groups in the area concerned.

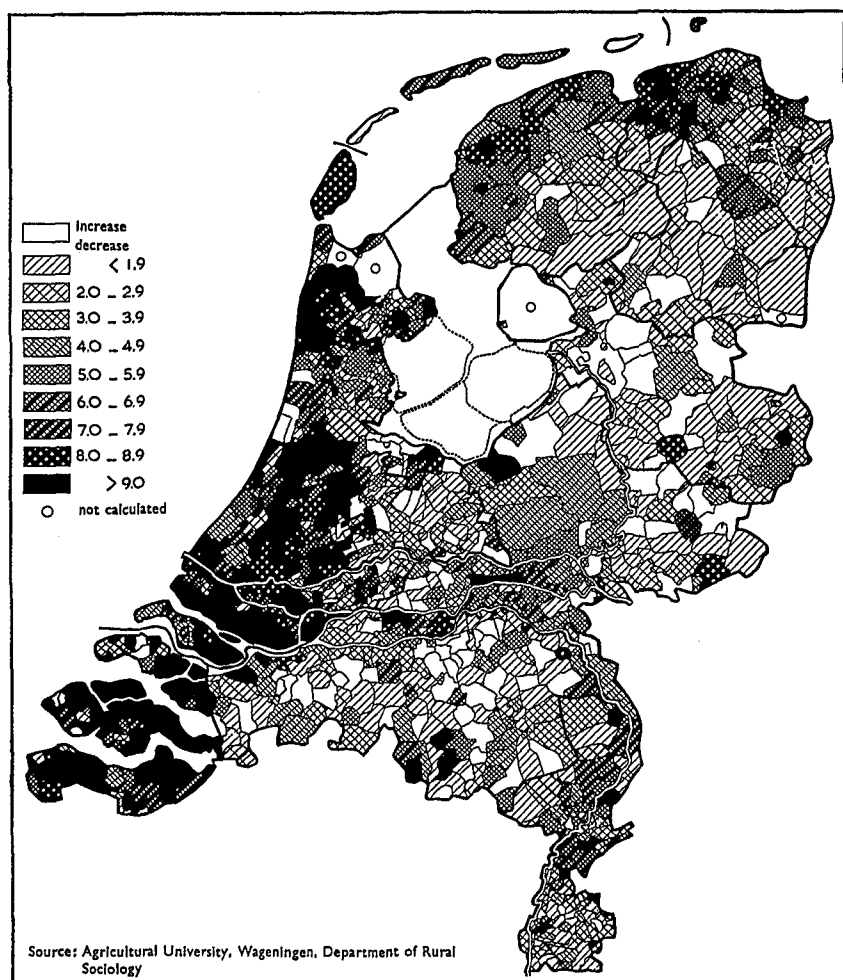
From the observations made when discussing the fertility trend it may be inferred that, in my opinion, another explanation must be sought. I tried to provide an acceptable explanation a few years ago, in a paper on regional differences in mortality ¹⁾. Since my views on the subject have not changed in the meantime, rather the reverse in fact, may I begin by referring readers to the publication in question, including the cartograph published at the same time, and let a brief summary suffice here.

¹⁾ HOFSTEE, 'Regionale sterfte-verschillen'.

Let me first recall that when dealing with fertility, passing reference was made to the fact that, from a regional point of view, since the middle of the last century the trend of mortality has been strongly reminiscent of the fertility trend. Around 1850, crude death rates in the west of the Netherlands were considerably higher than in the rest of the country. North Holland, South Holland, Zeeland and the west of Utrecht showed exceptionally high rates, rising to about 40 in some areas. The rates were also somewhat higher in the clay districts of Friesland and Groningen than they were in the sandy districts of these provinces or in the sandy soil regions in general. In the period 1871-1875, some improvement could be detected here and there in the west, compared with the situation in the period 1851-1855. This was especially the case in Zeeland. In the east and south, however, there was still no question of any improvement. In the final quarter of the last century a very great change occurs and all the ratios are completely altered. In the west, and in the north too, mortality rates decline extraordinarily rapidly (see map 7), while in the east and south the decline is still relatively slight. Around the turn of the century, the north and west generally are characterized by relatively low mortality, whereas in the east and south and particularly in the east of North Brabant, relatively high death rates still frequently occur. During the next 50 years death rates all over the country continue to fall, while the differences between the various parts of the country keep diminishing. As already pointed out, the differences gradually become so slight that the crude death rate virtually loses all force as an indication of the expectation of life. Only the infant mortality rate and the standardized death rate show that until a short time ago some pockets of relatively high mortality were still to be found in various parts of the east and south, although one gains the impression that during the last few years the province of North Brabant in particular has been rapidly overcoming its remaining disadvantage in this respect.

In an article published in 1951, DE VOOYS ¹⁾ attempts to account for the high death rate in the west of the country in the middle of the last century. His suggestions include the bad economic and social conditions in the old Dutch towns, the inadequate diet in both urban and rural districts, the poor quality of the drinking water, and the high birth rate in the west. Because of the level of infant mortality at the

¹⁾ A. C. DE VOOYS, 'De sterfte in Nederland in het midden van de 19de eeuw' (Mortality in the Netherlands in the mid-19th century), *Tijdschrift Kon. Aardrijkskundig Genootschap* (Journal Royal Geographical Society), 1951, pp. 234-271.



Map 7

Comparison of the average number of deaths per 1,000 of the total population in Dutch municipalities, 1861-1865 and 1886-1890.

time, the high birth rates had a considerable effect, in a negative sense, upon total mortality as a whole. DE VOORS also stresses the importance of malaria in the alluvial districts.

As I contended in the aforesaid article on regional differences in mortality, the circumstances indicated by DE VOORS illustrate why death rates in the west were so high but can only provide a partial explanation for the noticeably sharp decline after 1870 both here and in the north in comparison with the rest of the country. This applies particularly to the country districts. Rural drinking water continued to be bad for decades. It was precisely in the last quarter of the 19th century that the great agricultural crisis led to particularly unfavourable social-economic developments in the rural areas, which amongst other things naturally precluded any improvement in nutrition. To be sure, other things being equal—the birth rate decline in the west must have led to some decline in the death rate, but this only accounts to a very limited extent for the greatly improved situation with regard to mortality, compared with the rest of the country. As for the towns, it should be pointed out that their socio-economic position certainly improved after 1870 and in other respects, too, their situation became more favourable, but nowhere in the west were the urban municipalities in the van of the mortality decline. As late as 1890, the towns in the west are still clearly at a disadvantage compared with the peninsula of North Holland and with Zeeland; it is only around the turn of the century that they gradually begin to draw a little ahead of the rural districts in the same area.

In the second half of the 19th century mortality declined in the north as well as in the west far more than in the rest of the country. But no change could be observed in living conditions in either the west or the north which could help to account for this relatively favourable situation. Once more the decline occurred at a time when prosperity, particularly in rural districts, was threatened by the great agricultural crisis.

How, then, can this trend be explained? The general background to the decline must undoubtedly be sought in the expansion of knowledge and insight in the fields of medicine and hygiene. In 1850 we were still at the pre-modern stage in this respect. Scientific discoveries, however, laid the foundations for developments in the second half of the 19th century which made it technically possible to overcome the disadvantages of a geographical nature in the west as well as those of population agglomeration in the towns, for example. But this still cannot

explain the change from a 'debit' to a 'credit' situation in the west, and our question, therefore, remains unanswered.

As we have pointed out before, the mortality trend is dependent not only on the standard of medical science and the general living conditions of the population, but also on the degree to which medical care and hygiene compatible with that standard reach the population. The dissemination of adequate medical care and hygiene is dependent not only on the general economic situation and all sorts of organizational measures, but also on the degree to which the population is prepared to accept these benefits in the form in which they are presented.

This observation is in itself of course, not new. Everyone knows those stories about the opposition raised to the introduction of responsible medical care for infants, particularly by grandmothers and aunts. Many infants still die each year who could have survived if they had received correct treatment. It is an equally well known fact that many people tend, at least in the first instance, to rely on all sorts of traditional cures and treatments and on family remedies. Another very important point is that, because of adherence to traditional customs and habits, incorrect diet affects health conditions adversely to a far greater extent than if proper use were made of the material resources available.

In my opinion, however, too little attention has been paid to the fact that inadequate response to the opportunities offered by modern health care is not due just to fortuity or stupidity but is connected with individual and group culture. The mortality trend is largely a cultural phenomenon. In view of this, the conclusion is obvious. To a significant extent, the mortality decline in the Netherlands is connected with historical developments in the spread of the modern-dynamic pattern of culture throughout the country. The movement of falling death rates, roughly from north-west to southeast, now becomes comprehensible. Let this conclusion suffice here; for a more detailed line of argument, readers are referred to the article mentioned previously.

While, therefore, the influence of the development of the modern pattern of culture appears to be an important factor in both the mortality decline and fertility trends, it is only to be expected that, in various respects, it should manifest itself differently in each case. We may assume that, in general, traditional patterns of nuptiality and reproduction are not discarded before an actual change has taken place in

the pattern of culture as a whole, but the progress of medical science may already be exerting considerable influence before much change occurs in the mental attitude of the population. This is particularly true in modern times, now that collective measures are used to see that the achievements of medical science are, if not compulsorily imposed, at least strongly urged upon the population. In modern countries today, compulsory, or widely publicized inoculations, compulsory medical examinations for all sorts of purposes, considerable insistence on collective fluoroscopy, statutory inspection of foodstuffs, constant attention to drinking water, detection and isolation of sources of infection in cases of infectious disease; all this and more protects the lives of the inhabitants, including those who, in their mental attitudes, may still be complete strangers to modern medical care and hygiene. But during the last century too, at a time when governments were less advanced in this respect—although even then the ‘public health authorities’ were part of their responsibility in western countries—because of the innate fear of death, modern medical science was already influencing population groups which were essentially still immature. When people were really dangerously ill, they called the doctor, even though they possibly regarded him more as a magician than as the servant of modern science. The difference with the present lay primarily in the day-to-day attitude towards hygiene, nutrition, etc., and in the manner of treating less acute complaints and less serious illnesses. Thus around 1890 generally, a distinct decline in mortality may already be observed in the east and south of the country, but the process proceeds more slowly there than in the west and north. It is only around the turn of the century that it really gains momentum and that the disadvantages of these areas compared with the north and west are gradually eliminated.

The varying reactions of the trends of fertility and mortality to the nature of the pattern of culture is one of the main reasons why the parallelism between the regional trends of the mortality decline and the fertility decline is only relative. In the west—especially in the peninsula of North Holland and Zeeland—and in the northern provinces, where the change in the pattern of culture had already set in at an early date, fertility decline and mortality decline developed more or less simultaneously, although the mortality decline, in general, presumably began a little earlier and proceeded more rapidly. In the east and south of the country, a certain decline in the mortality rate was already apparent when the modern pattern of culture had barely developed there among

the mass of the population and when there was still no question in these parts of a decline in fertility. As remarked earlier, in some areas—especially in North Brabant—a decline in mortality was already ascertainable while the fertility increase was actually still in active progress. But if both fertility and mortality statistics are dependent to a significant extent upon the development of the modern pattern of culture, how can we account for the fact that in past years the Netherlands has had a relatively high birth rate and a relatively low death rate compared with other countries? My earlier observation about the differing effect of this development on births on the one hand and deaths on the other really also implies that complete parallelism of the trends of fertility and mortality cannot be expected for the country as a whole any more than for the various regions. Added to that—as is also quite apparent from the foregoing, in spite of the emphasis placed on the development of the modern pattern of culture—neither the fertility trend nor that of mortality depends exclusively upon the penetration of the culture pattern. In general, factors of a different nature have helped to promote a relatively low death rate and a relatively high birth rate.

As regards mortality, it should be remembered that, as PETERSEN has already pointed out, organized health care in the Netherlands attained a high standard at an early date ¹⁾; as regards fertility, reference has already been made to the effect produced by the relatively slight proletarianization of the working class in the 19th century, and to the influence of the isolation of the former States General territories, which considerably retarded the birth rate decline in the southeast of the Netherlands.

The gradual dissemination of the modern-dynamic pattern of culture throughout the whole country and all strata of the population has reduced still further the former differences in both the fertility and the mortality trends. The earlier data, however, have already made it clear that substantial differences still remain. Since other factors (attitudes to life, for example) have less effect upon mortality than upon fertility, the degree to which in the near future the last traces of the traditional pattern of culture are retained will presumably affect regional differences in mortality relatively more than regional differences in fertility.

This raises the question of the extent to which the trend can be favourably influenced by health education. Were it possible, for example, to reduce mortality in the Netherlands as a whole to the level

¹⁾ *Planned Migration.*

obtaining in Zeeland, this would mean (on the basis of the ratios in 1955-1956) a mortality decline for the country as a whole of 10%. The origin of the nation's 'surplus' mortality compared with that of Zeeland presumably does not lie—or only to a very limited extent—in general living conditions or in biological causes, but mostly in the degree to which modern medical care and hygiene are accepted by the population.

Such education will certainly have to be focussed largely on matters connected with medicine, hygiene and other closely related subjects. Further systematic research will be needed to determine the most important, concrete and promising starting points for health education. It can hardly be doubted that such starting points exist. The data at our disposal make it evident that the health of the population could certainly be improved still more by encouraging better diet habits. It is noteworthy, and quite in accordance with what was maintained earlier, that according to the data available rural diet habits in the east and south of the Netherlands are more conservative and less in keeping with modern theories than in the west ¹⁾. It is also significant that there are still considerable regional differences in the extent to which medical assistance is requested in the treatment of illness and disease. For the less serious illnesses, for example, country dwellers in general seem much less inclined to call the doctor than townsmen ²⁾.

It is questionable, however, whether information that is strictly confined to the fields of medicine and hygiene will suffice. As has been said, the essential background to the population's attitude towards problems of medicine and hygiene lies in the total pattern of culture. Effective education, therefore, would have to aim at stimulating the adjustment of the culture pattern of the groups concerned to circumstances and trends in our presentday society, although, of course, any such education should always have concrete problems as a starting point. Another point in favour of educational activities on a wide basis is that these would simultaneously lay the foundations for a change in such other aspects of the population's behaviour as are also affected by the nature of the pattern of culture. Research has clearly demonstrated, for example, that the population's attitude towards formal education, the interest taken in social life and public affairs generally,

¹⁾ For a summary of the results of the research in question, see Hofstee, 'Rural Life ... etc.' pp. 221-229.

²⁾ HOFSTEE, 'Rural Life and Rural Welfare ... etc.', chapter on Health and the material mentioned in it.

the nature of economic behaviour, and many other behavioural characteristics of the individual and the group, are bound up with the extent of the development of the modern pattern of culture ¹⁾. Education aimed at changing the mentality and behaviour of the population in general but paying due attention to medicine and hygiene, would presumably yield the best results.

In this connection, the question may also be raised of the extent to which the well-known fact that mortality depends on the social position of those concerned should be explained—as usually happens—exclusively on the basis of the general living conditions associated with their social-economic status. It cannot be denied that, in this respect, material living conditions have indeed been of significance, perhaps even of very great significance in the past. It is very probable, however, that the fact that, in our society, development of the modern pattern of culture started in the higher social strata and only gradually penetrated to the lower classes, has also had an effect. No concrete results of research in this field are available in the Netherlands, so that for the time being the question must remain academic.

The foregoing leads to the conclusion that—the advances of medical science apart—in the future some further decline in the mortality, i.e. an increase in the average expectation of life, may yet be anticipated in the Netherlands. Unless revolutionary discoveries are made in medicine, especially in the treatment of heart disease and cancer, this decline will presumably be slow. That is indicated by the relatively slight fall in the standardized mortality rate in recent years. As regards the crude death rate, it is hardly to be expected that this will remain at its present level much longer: it has stood at about 7.5 for a good many years already. The high birth rates just after the war were responsible for a considerable rejuvenation of the Dutch population but, as this effect gradually passes and the gradual decline in the birth rate which has been recorded in recent years continues, an increase in the death rate must almost inevitably follow.

For the time being, however, the Netherlands is still in quite a favourable position compared with the surrounding western countries. This fact, combined with a birth rate which is likely to stay fairly high for some time yet, makes it practically certain that, for quite a while, the Netherlands will continue to be characterized by a population growth that is relatively rapid for the western countries. This implies

¹⁾ Various publications of the Dept. of Sociology and Sociography of the Agricultural University.

that the problem of the effect of population growth on social trends in the Netherlands is still extraordinarily important and interesting.

4. THE EFFECT OF POPULATION INCREASE

The problem of the effect of population trends on social life in the widest sense of the term has occupied the attention of students of the social sciences ever since the excess of births over deaths assumed such proportions that people became clearly aware of the phenomenon of population increase. At the present time it is once more the centre of attention because of the rapid expansion of population in the under-developed countries.

Since the days of MALTHUS, it has been the economists who have concentrated most on this problem, and their conclusions have been alternately optimistic and pessimistic. It is rather regrettable to be obliged to observe that, after nearly two centuries of argument, they apparently still cannot reach agreement, a point which recent discussions in the Netherlands serve to illustrate¹). Nevertheless, proceeding from 'pure' economic considerations, we may draw some conclusions that are hard to refute as to the way in which relatively rapid population increase affects a nation's prosperity. But there is some difficulty about arriving at a working definition of the concept 'prosperity'. The question is whether we should take the national income per head of population without further qualification, or that part of the national income left for consumption after such investment as guarantees a given increase in the quantity of capital goods per head of the working population has been made.

The latter seems to me the more appropriate in this connection but opinions on this may vary.

Where there is a rapidly expanding population:

1. in general, the percentage of persons in active employment will be relatively low, since there will be a relatively high proportion of

¹) See the publications by DE ROOS and PEN mentioned in note 11. Also J. TINBERGEN's paper for the Nederlands Instituut van Accountants (Dutch Inst. of Accountants) 14.10.60, entitled *Nederland's relatieve welvaartspositie, vroeger en nu* (The relative prosperity of the Netherlands, in the past and today). According to this stencilled thesis Prof. TINBERGEN expressed the opinion that the sharp rise in population has had a negative effect on the growth of prosperity, but that this effect has been offset by relatively high savings.

persons in the young economically dependent group, a circumstance for which the relatively small economically dependent group of old people cannot fully compensate. Because of this—other things being equal—the national income per head of population will be relatively low;

2. because of the rapid increase in the number of economically active persons—other things being equal—a given expansion of the quantity of capital goods per head of population will absorb a larger share of the national income, which means that less is available for consumption;

3. in a country like the Netherlands where the economy is heavily dependent upon imports and therefore also on exports, assuming a given level of national income per head of population, exports must increase relatively rapidly, a circumstance which, generally speaking, will evoke more opposition in the importing countries than would a gradual increase.

4. there will be more chance of a fairly ample labour supply, resulting, on the one hand, in a relatively high percentage of registered and latent unemployment and, on the other, in depression of the wage level. In consequence of the latter, there is less tendency—other things being equal—to reduce the amount of labour per unit produced by means of mechanization and rationalization. Labour productivity and, accordingly, the national per capita income may remain lower because of this and moreover investment per head of population will probably also be less.

5. other things being equal, in consequence of the necessarily rapid expansion of the production of capital goods, on an average these goods will be comparatively new and therefore up-to-date and serviceable, which will help to promote productivity. It should be pointed out here, however, that the average age of capital goods is not determined solely by the rate of expansion of their production but also by the degree to which replacements are made.

6. in consequence of the increasingly greater density of the population, transportation, in the very widest sense of the word, becomes on an average cheaper. This includes the carriage of persons and goods, the conveyance of electricity, gas, etc., via cables and pipes, and communications. The reason is that the mean distance to be

covered is reduced and the ways and means of transportation are used to greater capacity. The latter, of course, is only an advantage as long as it is not yet optimal;

7. the domestic market increases in volume, therefore giving more opportunity for taking advantage of large production units and for specialization. This promotes higher labour productivity;

8. partly as a result of what was mentioned under point 3—there is more chance that natural resources of inferior quality will be exploited, involving a reduction in labour productivity in primary production. It should be pointed out here that the quality of resources depends only slightly on their native character but very largely on the level of technical know-how. Relatively heavy clay soil, which was highly esteemed last century for its natural fertility, is now worth less, from an agricultural point of view, than lighter, more sandy clay-soils.

The above list could possibly be expanded somewhat, but it seems to me that it already reflects the main advantages and disadvantages which—reasoning along purely economic lines—might be expected from a relatively rapid rise in population. The importance of these factors is more than just theoretical. Without going into any more detail, I think it can be established that some have clearly had a favourable effect on Dutch prosperity, others unfavourable. Considering all things, one is inclined to conclude that the unfavourable factors carry more weight than the favourable ones. This also appears to be the impression of the majority of economists, although it is difficult not to feel that the final conclusions of some of these gentlemen are not entirely divorced from their personal philosophies. The more or less unbridled optimism displayed by DE ROOS¹⁾ seems hard to justify.

It should be added at once, however, that the operation of the factors referred to above depends to an appreciable extent upon the nature of circumstances. It is clear for example that the operation of unfavourable factors is felt much less during a boom than during a slump.

In the foregoing, however, as was emphasized at the time, a line of 'pure' economic argument was followed, whereby man's individual or group attitude to the economic process was regarded as a datum completely independent of population increase. It is very doubtful

¹⁾ DE ROOS, *Bevolking en Welvaart* (Population and Prosperity).

whether there can be any such independence. It may almost be assumed *a priori* that this cannot be the case. It is practically inconceivable that a nation, or part of a nation, which is growing slowly should, under otherwise identical circumstances, demonstrate the same mental attitudes and behaviour as a rapidly-growing group. If the rate of population increase is of influence in this respect, there is a strong probability that the economic behaviour of the group in question and of its individual members will also be affected. As far as I know, hardly any concrete research has been carried out on this problem up to now. Research done by the Department of Sociology and Sociography of the Agricultural University, however, tends to indicate some connection between the nature of population increase and economic conduct.

Research carried out by WICHERS¹⁾ in two villages in the Betuwe district, one of which was predominantly Roman Catholic with relatively large families, and the other Protestant with relatively small ones, revealed notable differences in economic behaviour although there were no apparent differences in the general conditions under which agriculture was carried on in the two villages. The heads of undertakings in the Catholic village generally displayed far more tendency to conduct their business along modern, practical lines than did those in the Protestant village. Research on market-gardening in the glass-culture district of South Holland gave rise to the impression—although this problem had not been the primary objective of the study in question—that there, too, the undertakings managed by Catholic market-gardeners were progressing more favourably than those of the non-Catholics²⁾.

Although we must naturally be cautious in interpreting the results of this research, it seems an obvious assumption that, in both cases, the larger family acted, as a spur to extra effort in the economic field. But it should be realized that a relatively sharp increase in population will not operate under all circumstances in the same way. In a purely traditional sphere, such as was to be found during the last century in the farming districts of North Brabant for example, a large family

¹⁾ A. J. WICHERS, *De evaluatie van een voorlichtingscampagne in de Betuwe* (Evaluation of an extension campaign in the Betuwe district), Bulletin no. 11, Dept. of Sociology and Sociography of the Agricultural University 1958.

²⁾ U. GELING, *De tuinbouwvestiging sinds 1945 op nieuwe gronden in het Westland en de Kring* (Horticultural settlement since 1945 on new ground in the Westland and Kring district), 1961 (unpublished).

could only mean, at most, that the productivity of the family unit would be augmented somewhat because of the larger number of labourers available. It does not seem very likely that, in those days, it could have resulted in a stronger tendency to take advantage of new opportunities and methods. Under present conditions in the Netherlands however, it seems not improbable that a large family may provide an inducement for the better exploitation of the available economic potential, but more research will be needed before the findings of the investigations just mentioned can be confirmed.

But while a review of the economic effects of rapid, population increase leaves many questions still unanswered, once we leave this field and ask ourselves how the relative extent of population increase affects other sectors of social life, we can only conclude that we know even less about this. Much has been written about the way demographic developments affect social life, but there is very little that we can actually go on. As far as I know, hardly any exact, systematic comparisons have been made between population groups which are similar in kind yet obviously different in their rate of population increase. We have no notion, for example, how the considerable difference in rate of population increase in Belgium on the one hand and in the Netherlands on the other is reflected in differences in the social life of these two countries. Presumably there are such differences and probably they are important, but we have no reliable conception of them.

What is the effect in the Netherlands of the increasing density of population? How are people responding to it? Does it affect the social structure? Is it leading to any change in existing institutions? Does it give rise to social tension? Are adjustments called for that are difficult to make? Does it lead to closer social relationships or, possibly just the reverse, to social isolation? These are all questions which we can perhaps try to answer provisionally by assumptions founded on personal experience, but we still lack a proper basis for an answer. Does the rapid population increase, generally speaking, tend to stimulate social life in the Netherlands, as we assumed was the case with economic life, or does it rather impede the development of all sorts of activities? It would not be hard to find apparently logical arguments in support of either assumption, but this would still leave us floundering in the sphere of hypothesis.

The rapidly increasing density of the population naturally has social consequences, but what are they? In the main, the only pronounce-

ments we can make about this with any degree of certainty are all on the technical-social plane. We know that the pattern of settlement must change where there is a rapidly increasing population, but how does this affect the population itself? The efforts made up to now to arrive at a fairly reliable assessment of how housing and type of settlement affects the welfare and social behaviour of the population have largely failed.

In the Netherlands a policy in physical planning is pursued which is aimed at avoiding further population agglomeration in the west of the country, yet the only motives we advance to justify it are either technical (traffic problems, for instance) or economic (providing work for those affected by structural unemployment in the problem areas, avoiding the mounting costs of public bodies as a result of increasing concentration, etc.). The planning authorities hope and trust that this policy will also benefit people in many other ways, but nobody really knows if this is so. Even outdoor recreation, which is so frequently emphasized in connection with the consequences of excessive density and concentration of population, remains an unknown quantity in this respect. As far as this type of recreation is concerned, are most people really trying to find more elbowroom, or are they just seeking the close proximity of others all over again but in a different guise? Research has not been able to give a clear answer, so far.

It is remarkable that as regards complaints about structural and functional imperfections in social life and the welfare deficiencies connected with density of population, the one that is currently most clearly defined in the Netherlands, and most firmly founded on established fact, has its origins in phenomena relating not to overpopulation but to under-population. This complaint comes from the purely—or predominantly—agrarian districts in the north and south-west of the country, where the size of the population is or is becoming inadequate for organizing and maintaining an apparatus for the economic, social and cultural well-being of the population that is in keeping with the standards of the times, at any rate as long as the present pattern of settlement persists. Problems of this nature are also encountered in the Yssel Lake polders¹).

The foregoing, of course, is certainly not meant to imply that the relatively rapid population increase in the Netherlands is failing to

¹) A. K. CONSTANDSE, *Het Dorp in de IJsselmeerpolders* (Villages in the Yssel Lake Polders), 1961.

give rise to any serious problems and that its effect upon social life in general is slight. On the contrary, I am still convinced that it is exceedingly great. But I am just as convinced that we still know very little about the real effect of this phenomenon, and that research in this field must be regarded as a matter of the first importance.