Aspects of the demography of modern Malta.: a study of the human geography of the Maltese Islands

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ASPECTS OF THE DEMOGRAPHY OF MODERN MALTA

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Thesis presented for the degree of Doctor of Philosophy, in the University of Durham.

M. Richardson
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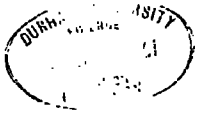

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C O N T E N T S

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Abbreviations of Place-names in the maps and diagrams have been used in accordance with the standard abbreviations shown at the end of the list of Figures.

Abbreviations of Placenames.

1. Maltese Islands

M	Malta
G	Gozo
U	Urban Malta
S	Suburban Malta
R	Rural Malta

2. Localities of Malta

a) urban

V	Valletta
F	Floriana
C	Cospicua
S	Senglea
Vi	Vittoriosa

b) suburban

H	Hamrun
SV	Santa Venera
M	Marsa
Bk	Birkirkara
Ms	Msida
Qo	Qormi
Pa	Pawla
Sl	Sliema
Gz	Gzira
Pt	Pieta
Ka	Kalkara
ZA	Zabbar
SJ	St. Julians
T	Tarxien

c) rural

Md	Mdina

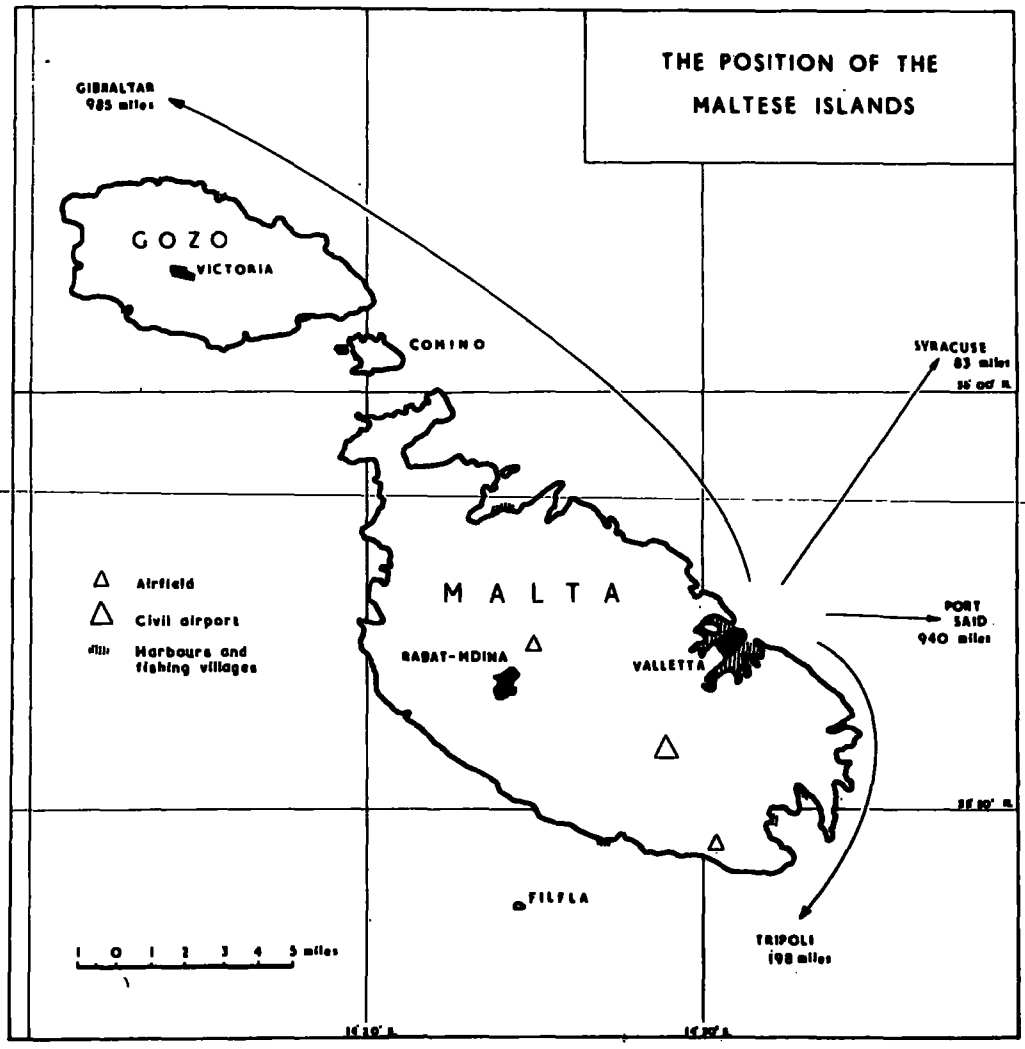
2c) contd.

R	Rabat
Mg	Mgarr
D	Dingli
Sg	Siggiewi
Mo	Mosta
Me	Mellieha
SP	St. Paul's Bay
N	Naxxar
Gg	Gharghur
L	Lija
Ba	Balzan
A	Attard
Zb	Zebbug
Lq	Luqa
Zt	Zejtun
Mx	Marsaxlokk
Bb	Birzebbuga
Gd	Gudja
Gx	Ghaxaq
Zq	Zurrieq
Sa	Safi
Kk	Kirkop
Mq	Mqabba
Qr	Qrendi

3. Gozo.

Vt	Victoria
Kc	Kercem
Zg	Zebbug
Gs	Ghasri
Gb	Gharb
SL	San Lawrenz
SM	Sannat and Munxar
X	Xaghra
Xk	Xewkija
Nd	Nadur
Ql	Qala
GM	Ghajnsielem and Mgarr

Figure 1.


THE POSITION OF THE MALTESE ISLANDS
GIBRALTAR 985 miles
GOZO
VICTORIA
COMINO
SYRACUSE 83 miles
MALTA
RABAT-MDINA
VALLETTA
PORT SAID 940 miles
Airfield
Civil airport
Harbours and fishing villages
FILFLA
TRIPOLI 198 miles
1 0 1 2 3 4 5 miles

Introductory

Until now, the study of the human geography of the Maltese Islands has been completely neglected. Remarkably, this has happened in an island full of interest; during the last four centuries Malta has been the meeting place of cultures and wealthy societies that have stimulated and then, perhaps unconsciously, forced the growth of the local population to a rate far above that which could, at any stage of the island's history, be supported by the natural resources or skills of the indigenous island community.

The first forebodings of overpopulation in the Maltese Islands were voiced in the eighteenth century but official reaction to the acknowledged dangers were never very positive. Some attempts were made in the mid-nineteenth century to encourage emigration, but the safety valve of migration was not positively employed until the economic crisis following the First World War. Then, for a brief period, the growth of population slackened, but in the 1930's and 1940's the rate of growth was at a record level, and after a respite during the vigorous emigration campaign of the early 1950's it has begun to grow again at an alarming rate. The dangers of a social and economic crisis stemming from overpopulation have never been more self-

evident, and yet it seems that a complacency over the position prevails in those circles from which a positive lead might be expected. It can only be presumed that it is not realised how easily extensive hardship might be caused unless a vigorous emigration policy is encouraged as something more than a temporary but recurrent palliative.

This thesis focuses attention on some aspects of the demography of present-day Malta and the background to these problems. It attempts to analyse the way in which the population of the Islands has grown and suggests the ways in which physical, economic and social forces have interacted to produce the current situation and problems. The field of this study is vast and until now, with one exception, no part of it has received any more than a cursory glance. The outstanding exception is the authoritative account of nineteenth century migration from Malta produced recently by C. A. Price (1), and called "Malta and the Maltese". Beside his volume no other work comes to mind, since the interest of scholars seems to turn, in preference, to the worn paths so often followed by the retinue of the Knights of the Order of St. John of Jerusalem who were in Malta for over two hundred and fifty years.

The material drawn upon is therefore almost wholly primary data from official sources, both published and unpublished,

relating to Malta since 1800, and particularly to the last fifty years. Generally, the nineteenth century has been dealt with here only in relation to the Censuses since 1842, as most of the political, social and economic background to nineteenth century population growth has already been treated in detail by Price. During the present century, improvements in standards of public health led to the first significant falls in the death rate through the effective control of the traditional demographic trauma of plagues and epidemics. When this happened the rate of population growth multiplied annually and the latent fears of resources becoming inadequate to support the population received instinctive and unanimous expression through the positive measures of the first great emigration drive which began soon after the Armistice in 1918 and lasted until the introduction of the American Quota Law in 1921. Most of the movement was to the United States but the Quota Law effectively halted any further migration in that direction. Today, Malta's problems are intensified by the consequent elements of dependence upon external benevolence not only to maintain the Maltese internal economy but to receive the inevitable overspill from the physically overcrowded Islands. It is a tenuous situation made even more difficult by an unstable political atmosphere in which internal leadership is lacking and financial investment in the Island's future is at a premium.

By reason of the nature of the subject of this study much of the material quoted is statistical but, as far as possible, detailed statistics are quoted in the Appendices and the text is illustrated by summary tables, maps and diagrams. The sources from which figures in the text have been constructed can be found by reference to Appendix A, where there are detailed annotations. The body of the thesis is divided into six parts which deal in turn with methods, the background, a historical outline of population growth and trends, vital statistics and public health, migration and the pattern of settlement growth.

In the first Part the methods of approach are outlined with an appraisal of the scale of study that could be attempted. The nature and quality of source material is assessed and there is a special section on the Maltese Censuses and Census definitions. Part Two provides a brief description of the physical, historical, economic and political background against which the population problem is discussed.

Part Three outlines the main trends of population growth with special emphasis upon the last hundred years. It then considers the demographic factors which contribute to population growth. The inter-relationships of fertility, mortality and migration are dealt with and compared with statistics from a selection of other countries. Parts Four and Five deal with the most

important facts which emerge from the preliminary analysis. Part Four discusses the decline in mortality and the significance of the fall in the birth rate during the last decade. There is also an analysis of important local variations in births, deaths and natural increase.

The chapters on emigration, in Part Five, are perhaps the most important in the thesis for they describe a movement which is extremely sensitive to changes in the internal environment and responds rapidly, through return movements, whenever promises of prosperity at home are voiced. This happened in the nineteenth century during the boom of the Crimean War and again in the mid-1950's when the hopes of Integration with the United Kingdom ran high. The behaviour of migrants at home and in the "receiving country" is unfortunately a neglected subject, and attention is drawn here to this gap in our knowledge.

Part Six is a reappraisal of the manner of evolution of settlement in Malta in the light of the previous pages. This evolution reflects important changes in the Maltese outlook and the internal mobility of the population is closely related to the attitudes towards migration, the one being a derivative from the other. Most frequently those areas with the highest rates of local movements also provide the greatest proportions of emigrants.

In addition to the analysis of historical trends of growth it is also vitally important to emphasise the physical limitations of the Maltese landscape. Because of competition with agricultural needs there is a shortage of land for residential development. The need to preserve catchment areas and so ensure the conservation of water has often been considered to be of secondary importance. Consequently it has been comparatively neglected, but in fact, economic development and industrialisation are closely tied to the water resources and today the available supply at its present level of domestic consumption is barely sufficient for everyday needs. This may determine the size of population, that can be supported in future years, in rigid terms that could introduce a truer scale of value to the assessments of the Islands' economic future.

PART ONE. Methods, sources and definitions.

Chapter One. Method of approach and analysis.

This study of the demography of the Maltese Islands was conceived as part of a larger research programme undertaken in Malta by the Department of Geography, Durham. Research began when a party from Durham made a Land Use Survey in Malta during the Spring of 1955. In the following year the Survey was extended and the field of study broadened to include other aspects of Mediterranean agriculture as illustrated in Malta.

When the Land Use Survey Party of 1955 returned to Durham they came back having established contacts with the Royal University there. With the promise of help from the Royal University it was decided to broaden the research field by making two specialist studies, one on population growth and the other on aspects of the economic development of the Islands. The latter was undertaken by W. A. Charlton, a fellow-graduate in Geography from the Durham Colleges, whilst the former topic is the subject of this thesis.

In the course of three years beginning in the autumn of 1955 three visits were made to the Maltese Islands. There were two in the winters of 1955-56 and 1956-57, followed by a brief stay in the late summer of 1957. The time spent there totalled just

over a year and in that period a considerable familiarity with most parts of the Islands was acquired. Contacts were made with the Government Departments and much time was spent collecting material in the Central Office of Statistics, the Departments of Labour and Emigration, Agriculture, Public Works, and the Medical and Health Department. Language might have proved a barrier as the Maltese language is derived from Semitic roots to which have been added a veneer of European loan-words; consequently it is not easy to learn in a short time. However, with the help of interpreters from the Department of Agriculture, and friends from the Royal University, advantage was taken of introductions to people of the rural communities who still maintain a traditional and simple pattern of life which contrasts with that of the English-speaking and more sophisticated urban and suburban populations. In this way a duality in Maltese life was recognised and appreciated.

Although the greater part of the writer's time was spent in Malta, Gozo was also visited. Until 1958, and the advent of television, life in Gozo must have remained reminiscent of nineteenth century Malta despite the presence of a few antiquated buses, taxis and radio-rediffusion. With no diversification of employment beyond the limits of agriculture, emigration has always been more serious in its effects on the structure of the Gozitan

than on the Maltese population.

By travelling around the Islands, impressions of local and parochial attitudes were gathered and allied to knowledge gained from interviews, nearly all informal, made in towns, villages and isolated farms. Interviews by questionnaire were not used although the Rev. Dr. R. Cirillo, lecturer in Economics at the Royal University who was working on a Colonial Economic Research Council programme, did carry out a small sample survey of social and economic attitudes of Maltese farmers. In so far as these related to attitudes to emigration, reference has been made to them in a later chapter. On the whole, however, the impressions of Maltese life gained by cumulative personal contacts have been used to gain a better understanding of the particular significance and reality of otherwise unelaborated official demographic statistics.

A very great deal of time has been spent analysing Maltese statistics especially the Censuses and Vital and Emigration statistics, these being compared with Customs and Port Department statistics for passenger movements. Food Rationing Office statistics of registrations for ration cards were used as an index of internal movement but with reservations, as the method of compilation of this material in the Department of Trade and Industry did not promise a very great degree of accuracy in the final figures.

The correct use of Census statistics for localities over a period of several decades was dependent on knowledge of boundary changes of Census districts. In so far as these reflected parochial limits, the ecclesiastical records held in the Curia of the Archbishop were consulted and used to construct maps of the former census localities reaching back to 1842. For detailed reference to particular locations, estates and land uses, the records of the Public Works Department were generously made available and aerial photographs were borrowed from the Royal Air Force, Malta, and the War Department, Castile, Valletta. These were used extensively in a study of urban morphology.

It was in the above ways that most time was spent analysing basic source material and "undigested" statistics. In addition the periodic Reports (usually annual) of Government Departments were consulted as have been the occasional reports of Royal Commissions, and experts of the calibre of Chadwick and Morris (on water supply), Stockdale (on agriculture), Schuster and Balogh (on economic affairs) and Zammit and Bruce (on medicine). Recently, members of the Food and Agricultural Organisation of the United Nations have been seconded to posts in Malta, and the volume of specialist technical reports is growing. United Nations Reports have also been used for comparisons with other countries of aspects of the Maltese problems which are shared elsewhere.

For general references the Royal Malta Library has an excellent collection of modern official documents as well as background literature and a unique range of material in the archives of the Order of St. John relating to the Knights in Malta. There is also a good library in the Royal University. Among British libraries the most important Maltese collections are in the Royal Commonwealth Society, London, and Bodleian Library, Oxford, the British Museum and the Public Record Office, London. With the exception of that in Oxford which relates mainly to pre-nineteenth century Malta each of these collections has been consulted. It should also be stated that the Department of Geography in Durham has built up a good modern collection of mainly official documents, statistics and reports. The collation of material assembled from each of these sources has therefore been a further major task concurrent with the analysis of the other material collected in Malta.

It has already been stated that the greater part of this work is concerned with demographic trends in the last fifty years. But, a study like this moves into the very recent past at which stage there can be no neat end-point where a line can be drawn and a finite judgment made on the overall situation. Inevitably, the mechanics of population growth bring constant modifications to the structure of the population and each change invites new assessments and reappraisals both of the past and future.

However, as this study was intended to be objective, the end of the period that could be covered was eventually determined by the availability of statistical material. The collection of basic data had to be completed by the early part of 1958, and at that time the most recent material related to 1956. It was not possible to use the 1957 Census material (except as a supplementary check on the preceding estimates of population and migration), for it was not published until 1959, and by that time the main text of the thesis had been prepared. The 1948 Census was therefore the most recent population census consulted in detail.

Despite the somewhat arbitrary choice of 1956 as the closing year of this study, it does nevertheless mark the end of a period in which the population stabilised and emigration briefly equalled the rate of natural increase. In the immediately post-war years the constituent elements of population growth were temporarily obscured but in the final years of the period emigration fell and the post-war decline in the birth rate was arrested; there was a threat of a secondary boom. By the end of 1956 the scene was prepared for a further surge of population, and the circumstances which followed brought political and economic upheavals that culminated in the collapse of Integration plans with the United Kingdom, the withdrawal of self-government and the transfer of the Admiralty Dockyard to civil ownership

which in turn entailed a great reduction of employment.

In the present uncertainty about the political future of the Islands there seems to be a strong case for the analysis of the immediate past; one view of it is presented here.

Chapter Two. Statistical Source material and definitions.

The statistical records of the Maltese Islands date from the earliest years of the British occupation. However, even in the eighteenth century records of births and deaths were assiduously preserved by the parish priests. These are accessible in the Blue Books of statistics which give vital statistics from 1826 to the period immediately preceding the Second World War. Since 1945, the Statistical Abstracts of the Maltese Islands have been published annually by the Central Office of Statistics and contain vital and population statistics as well as statistics of emigration, labour trade, industry and agriculture. To supplement these sources the annual reports of various Maltese Government Departments have been consulted. However, accurate population statistics are based initially on the Censuses and are then supported by records of births, deaths, marriages and migration.

The first true Census was taken in 1842 and since then Censuses have followed at roughly ten-yearly intervals. The range and quality of the Census data is discussed below and the Census enumeration areas (generally applicable to non-Census statistics too) are described in detail with special reference to boundary changes in the past one hundred years. After this consideration of the Census material, vital and migration statistics are dealt with more briefly.

a) The Censuses, 1842 - 1948.

General

The first unofficial census of the Maltese Islands was taken in October 1828. A record of it was kept in the Department of Public Health for many years, but by 1901 the information of Gozo had been mislaid, and the remaining manuscripts of Malta were lost in the last War. Now the only record of the information is that provided by Miège in his "Histoire de Malte" published in 1840.

In 1842, under an order from the Governor, the first regular Census of the Maltese Islands was made. The second Census was taken in 1851, and this was followed by censuses at ten-yearly intervals until 1931. The last War prevented any census from being taken in 1941, but after a lapse of seventeen years the Eleventh Census was taken in June 1948.

At each of the early censuses, it was required that every "head of household" should fill a schedule left at his dwelling by an official enumerator. This system is still followed today, but as the greater part of the population was illiterate in 1842, the Governor requested "the well-informed and respectable inhabitants to assist their neighbours in furnishing the required information" (2). There was no penalties for failure to provide the required information, but Giglio, in 1861, mentioned the difficulty of obtaining correct information from the public.

However, despite this, all the early enumerations were supposed to have been complete.

In 1891, detailed legislation was introduced, and an ordinance enacted for the regulation of the Census. The most important clause was one under which the public were compelled to give the information asked for in the schedules, failing which they would become liable to the penalty of a fine. This curbed their reluctance and no further mention is made in the administrative reports of lack of co-operation on the part of the public - except over the agricultural Census of 1901 which should be treated with reserve. Another reason for the improved situation beginning in 1891 was better publicity. At the two Sundays before the Census, at the Registrar's request, parish priests explained to their parishioners the scope and purpose of the Census. The enumerators, also, encouraged public confidence by emphasising that the information given was confidential and would be used only for statistical purposes.

Until the last Census it had been necessary to re-enact a new ordinance for each Census, but in 1948 the Census Act introduced permanent legislation enabling "the Governor-in-Council, by Order from time to time to direct that a Census shall be taken for these Islands" (3). A second change of importance was one of procedure in the enumeration; for the first time a "de jure" system was substituted for the "de facto" method previously used.

Scope and Format

The first Census, taken in 1842, contained only 7 abstracts, signed by the Inspector of Police. These furnished information on the distribution of the population by localities, the literacy of the people, their occupations, and the number of students. In 1851, the information was more extensive and there were 30 summary abstracts. Occupations were shown, by place of residence and there was an analysis of the ages of the population. There was also new material on the schools, and on the housing of families.

The Census of 1861 was the first to be presented as a bound volume. It contained 142 abstracts covering a large variety of subjects in great detail, and was the first to be broadly comparable with those of Great Britain. That of 1871 was similar, but contained fewer tables, and abandoned those on housing, penal institutions, and the judiciary, whilst reducing the number of tables on public health and medical statistics. The value of these two censuses mainly lies in their analysis of the distribution and occupation of the population by streets of each town and village - a practice that was never again repeated.

In 1881, the scope of the census was enlarged, but the detail was not comparable with the two previous censuses. A better compromise was reached in 1891, when the analyses covered a comprehensive and well-chosen range of subjects, and presented the

results in some detail, breaking down most tables to the level of localities (towns and village-parishes). The pattern established in this Census was copied until 1931, but in each of the Censuses minor variations appeared.

In 1948, more tables were prepared than at any previous Census, but there were so many changes in format that few of the tables could be compared with their predecessors. This difficulty was partially overcome by the preparation of some comparative summary tables going back to 1901, but only a limited number of subjects were treated in that way.

The twelfth Census was taken nine years later, in 1957, but the Report and Tables are not yet (1959) available in their entirety. The preliminary report appeared in 1958 and volume 1, "Report on Population and Housing" in 1959, both of them too late for inclusion in any detail in this thesis. However, summary tables from the 1957 Census are included as additional tables in the Appendix and where possible the data has been incorporated in the text, although for most subjects the period analysed ends in 1956.

A summary of the range of topics analysed in the Censuses since 1861 is given in Table 1 and for detailed reference the comparative analysis over the years 1861-1948 can be consulted in the Appendix. The most remarkable feature illustrated by this analysis is the lack of comparability which has been manifest in

SUBJECTS covered in the CENSUSES

1861 - 1948

Table 1.

Subject	No. of Tables on each subject								
	1861	1871	1881	1891	1901	1911	1921	1931	1948
i) Summary Tables a) Total Population, all elements			1	3	3	3	3	5	
b) Non-Civilian Population			1	6	4	8	4		
ii) Civil Population. Detail Tables:									
Distribution and increase	2	2	3	3	3	2	3	3	4
Ages	2	2	2	9	9	11	9	10	4
Marital status	2	2	3	8	8	6	6	7	7
Occupations	2	2	3	5	5	4	4	4	32
Birthplace and residence	2	2	7	10	10	9	9	10	11
Education and literacy	2	2	7	10	10	8	8	8	6
Religion			2	2	2	1	1	1	
Housing	2		2	5	4	4	4	5	16
Health and Vital statistics	8	2	3	4	4	5	5	2	2
Asylums and Penal Institutes	1		6	4	4	4	4	3	
Maltese abroad			1	1	1	1	1	1	
Miscellaneous	6		10	14					16
TOTAL No. of Tables[1].	19	4	30	80	83	67	61	62	98

1. May not equal the actual no. of tables quoted above as some cover more than one subject.

the hundred years covered by the Censuses; during this time not one table has been preserved intact since 1861.

Elements of the Population

During the major part of the period covered by the Censuses, statistics have been prepared separately for civilian and non-civilian elements of the population, but the definition of these elements has not been uniformly consistent. The Censuses are mainly concerned with the Civil Population which normally comprises the resident population excluding members of the Armed Forces (Non-civilian Population).

i) Civil Population

From 1842 until 1871 the total Civil Population by Census definition included all Maltese crews of vessels abroad, but in this thesis, for comparative purposes with later material, this element has been excluded from all totals of Civil Population. In the Censuses of 1881 and 1891 the "Maltese crews abroad" were again mentioned but more correctly included in the Non-civilian Population. Since then they have received no further mention.

In 1931, the families of non-Maltese Garrison (Army) personnel were included in the Civil Population for the first time and this practice was repeated in the two postwar Censuses of 1948 and 1957.

Apart from these two inconsistencies the remaining numbers are directly comparable for all dates and include the following

elements in the total Civil Population:-

a) Maltese merchant crews in harbour.

b) Maltese militia and Maltese ratings in the Royal Navy when in the Islands.

c) Non-Maltese families of Royal Navy and Royal Air Force personnel.

d) All other civilian residents.

ii) Non-civilian Population

The amount of information on the non-civilian population has declined successively with each Census and, except in 1891 and 1901, was shown only in summary tables. Before 1881 there was no information at all on this non-civilian element but since then the following information has been available:-

Table 2.

Element	Census						
	1881	1891	1901	1911	1921	1931	1948
Royal Navy	X	X	X	X	X	X	
Army	X	X	X	X	X	X	
Royal Air Force					X	X	
Foreign Navies	X				X		
Prisoners of War					X		
Royal Fleet Auxiliary						X	
Non-Maltese shipping in harbour		X	X	X	X	X	X
Maltese crews abroad	X	X					
Families of non-Maltese Garrison Personnel	X	X	X	X	X	X	

Nationality

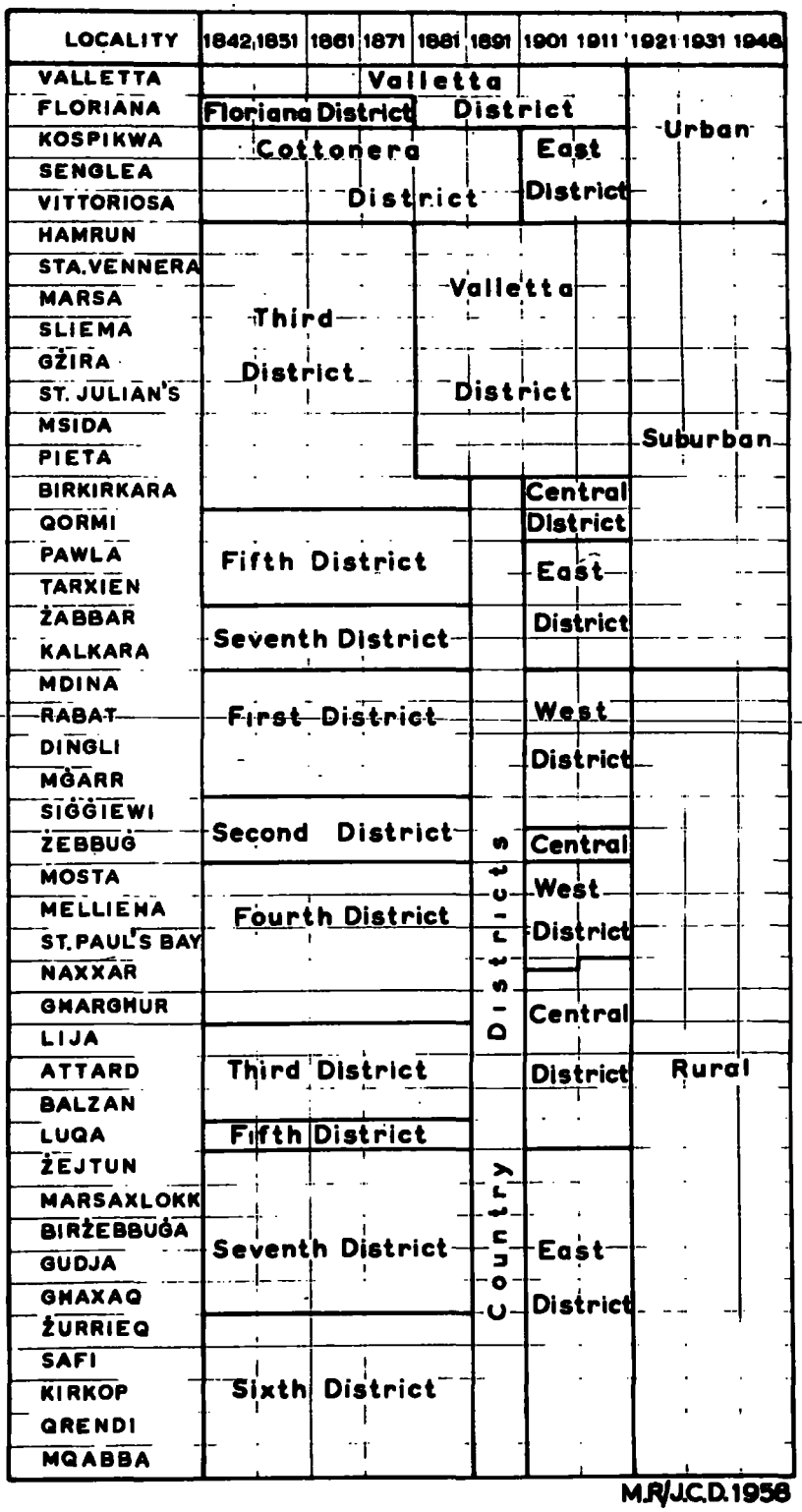
In addition to the distinction of civilian elements from non-civilian there is need in any Census analysis for the separation of the native "Maltese" from the "non-Maltese" elements of the population. The interpretation of census material on these bases reveals a number of complications of definition at various censuses.

Until 1881, "Maltese" included all British persons born in the Maltese Islands, whatever the nationality of their parents, and all persons of Maltese parentage born abroad. The remainder living in Malta but born abroad were classified as "other British" or "foreigners" and the latter groups did not include persons born in Malta of non-Maltese parents until 1948. But in 1948, the "Maltese" and "other British" were grouped together as "British" among whom the only distinctions made were those of birthplace. Under these circumstances the separation of the expatriate British population from the real Maltese is a hazardous operation and has been attempted in no more than approximate terms.

In this thesis, for convenience, the non-Maltese "other British" population is referred to simply as "British" unless otherwise stated, in contrast to the Maltese who are specified by their own name, although their British nationality is recognised. The general term "Maltese" also includes the Gozitan population,

Figure 2.

MALTA – GROUPING of LOCALITIES into CENSUS DISTRICTS



M.R/J.C.D. 1958

just as a reference to Malta generally implies the Maltese Islands unless indicated otherwise by the Context.

Census Enumeration Districts and Localities

The smallest units for which information is presented in the Censuses, apart from the subdivision by streets adopted in 1861 and 1871, are the Localities. These conform generally to the parish limits and at each Census they have been grouped into Districts, but from Census to Census the combination of localities making each district have varied. These changes are summarised in the table opposite (Fig. 2).

For comparative purposes over the entire period covered by the Censuses it is advisable to adopt a uniform system of classification and the combination of localities into Urban, Suburban and Rural Districts is used in this thesis. It first appeared in the Census of 1921 but still represents valid distinctions. This grouping applies only to Malta, however, and in Gozo there has been no attempt at sub-classification.

Boundary Changes, 1842-1948

In Malta, in 1842, there were 30 Census localities. Since then, fourteen new localities have been created, of which ten are within two miles' radius of Valletta, and are in the zone of Suburban growth. Six of these suburban localities were created in the nineteenth century, then in 1901, three new rural, and one further suburban locality were formed. Three more localities

were created in 1921, and one in 1948, but of these only one was rural. In Gozo, the number of localities has increased from seven in 1842 to twelve in 1948, all of which have existed since 1901. The years in which new localities were formed are as follows:-

Table 3.

Year	Suburban	Rural	Gozo
1851	Sliema, Pawla.		
1861	St. Julians, Msida.		Ghajnsielem.
1881	Hamrun, Pieta.		
1891			Kercem, Ghasri, Qala.
1901	Kalkara.	Mgarr, St. Paul's Bay, Marsaxlokk.	S. Lawrenz.
1921	Santa Venera, Marsa.	Birzebbuga.	
1948	Gzira.		

Plans of the boundaries of Malta's Census localities as they were in 1931 and 1948, are held in the Central Office of Statistics. In the administrative report of the 1948 Census it was explained that the census localities do not necessarily coincide with the accepted parish limits, and in many cases variations do occur. At the Census of 1931, however, there was a

Figure 3.

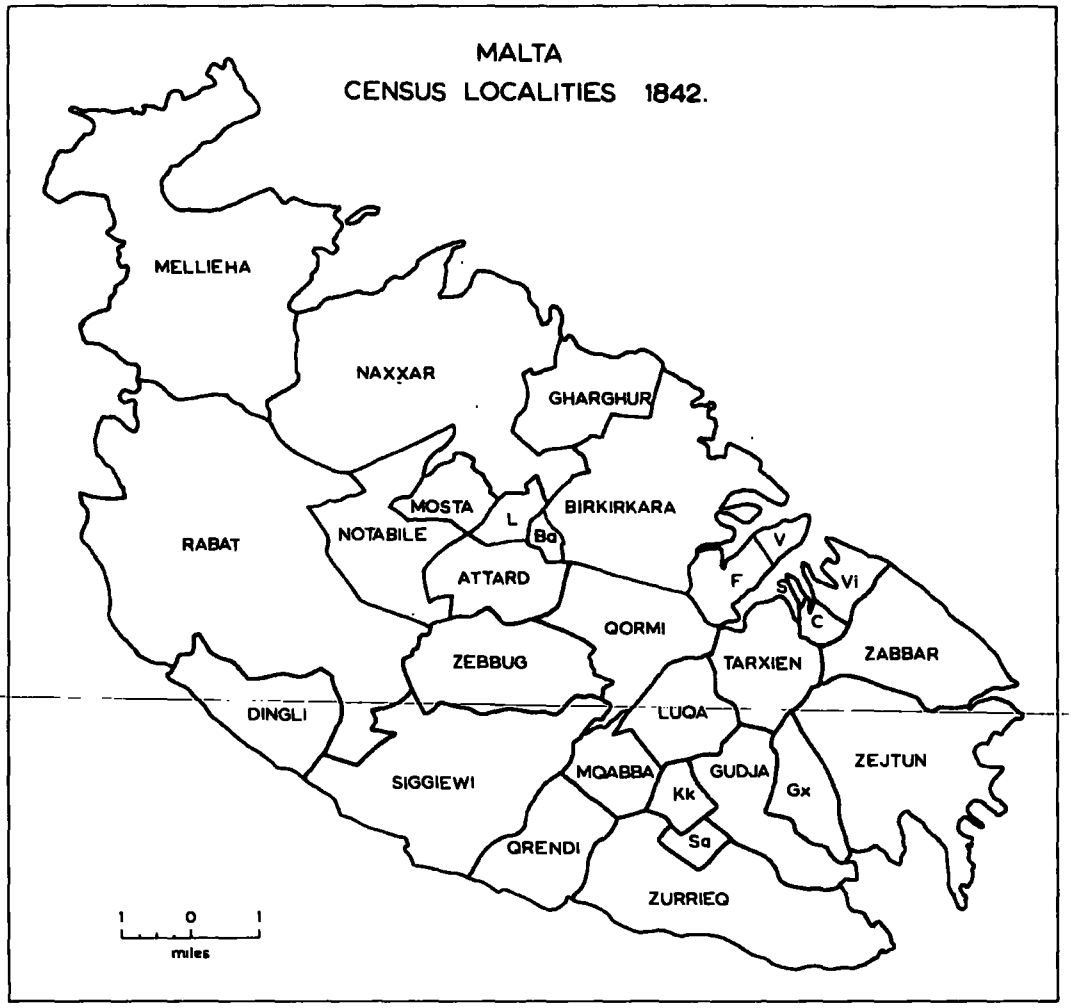
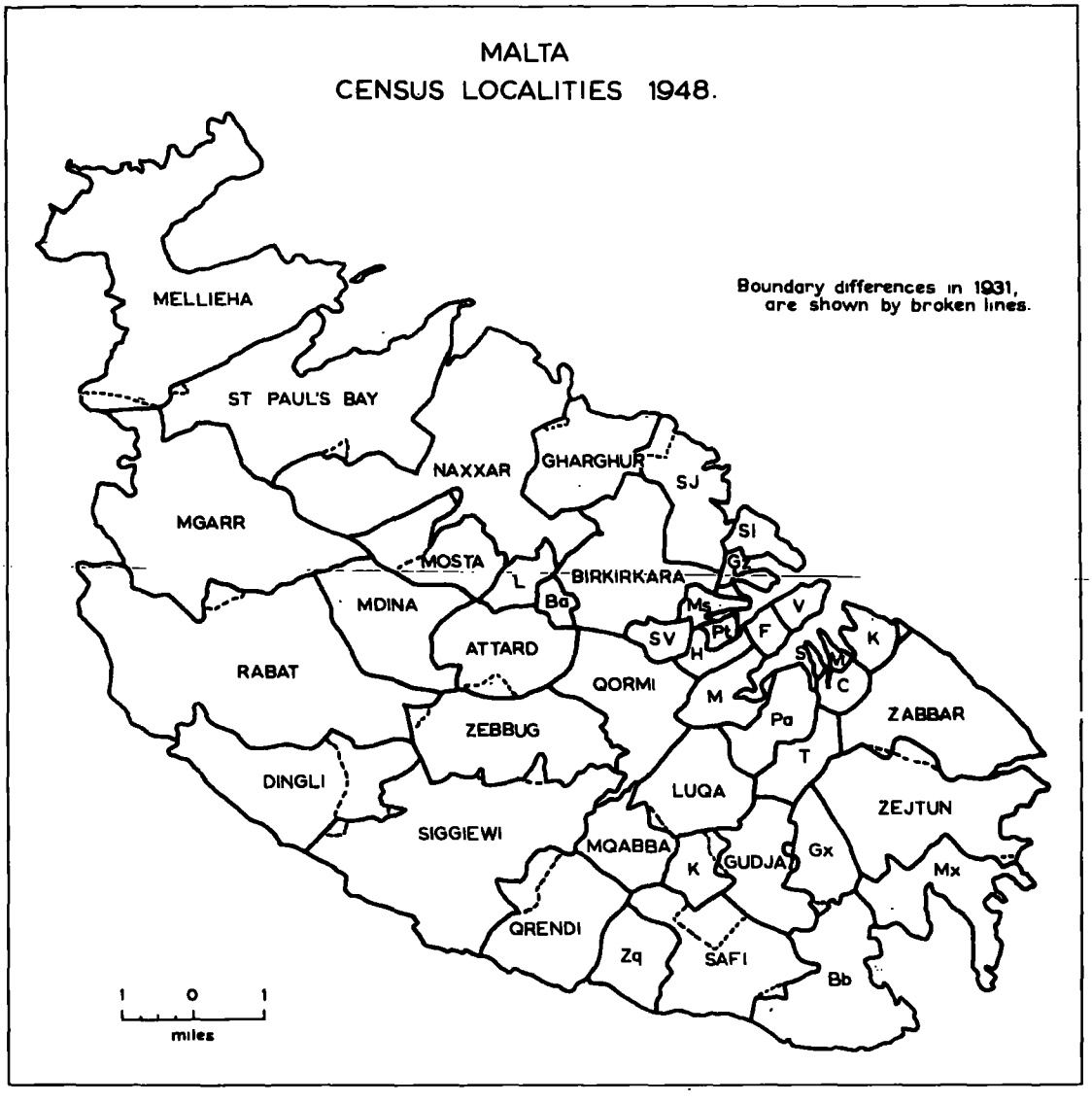

MALTA
CENSUS LOCALITIES 1842.
MELLIEHA
NAXXAR
GHARGHUR
MOSTA
L
BIRKIRKARA
NOTABILE
Ba
RABAT
V
F
S
Vi
C
ATTARD
QORMI
ZEBBUG
TARXIEN
ZABBAR
DINGLI
LUQA
ZEJTUN
MQABBA
GUDJA
Gx
Kk
SIGGIEWI
Sq
QRENDI
ZURRIEQ
1 0 1
miles

Figure 4.


MALTA
CENSUS LOCALITIES 1948.
Boundary differences in 1931, are shown by broken lines.
MELLIEHA
ST PAUL'S BAY
NAXXAR
GHARGHUR
SJ
SI
MGARR
MOSTA
L
BIRKIRKARA
Gz
Ms
V
MDINA
Ba
Pt
F
K
SV
H
S
M
C
ATTARD
RABAT
QORMI
M
ZABBAR
Pa
ZEBBUG
T
DINGLI
LUQA
ZEJTUN
SIGGIEWI
MQABBA
K
GUDJA
Gx
Mx
QRENDI
Zq
SAFI
Bb
1 0 1
miles

close correspondence between the localities and the respective parishes as shown on another map drawn in 1917 and held in the Curia of the Archbishop at Valletta. On these grounds it is assumed that before 1931 the census localities conformed to the parish limits, and the validity of this view is supported in the Report on the 1891 Census, which states that "the boundaries of the various groups of enumeration districts correspond with those of the respective parishes".

The extent to which territory has been gained by new localities, from their neighbours, is interpreted from notes in the Censuses, and from the original parish plans in the Curia, which were produced at the time of the creation of each parish. By retracing these details to 1842, the process of partition can be followed. To this basic information was added some from the Censuses of 1891 and 1901, which had tables showing the number and distributions of isolated farmhouses, by their actual situations within each locality. These tables provide detailed information which adds to the accuracy of boundary interpretation at the end of the nineteenth century.

Two maps (Figs. 3 and 4) show the distribution of localities in Malta in 1842 and 1948, whilst the origins of localities created after 1842 are shown in Figs. 6 and 7. The minor changes of 1948, and differences between 1931 and 1948 are shown in the map of the 1948 Census localities. Finally, the localities of Gozo, as defined in the 1948 Census, are shown in Fig. 5.

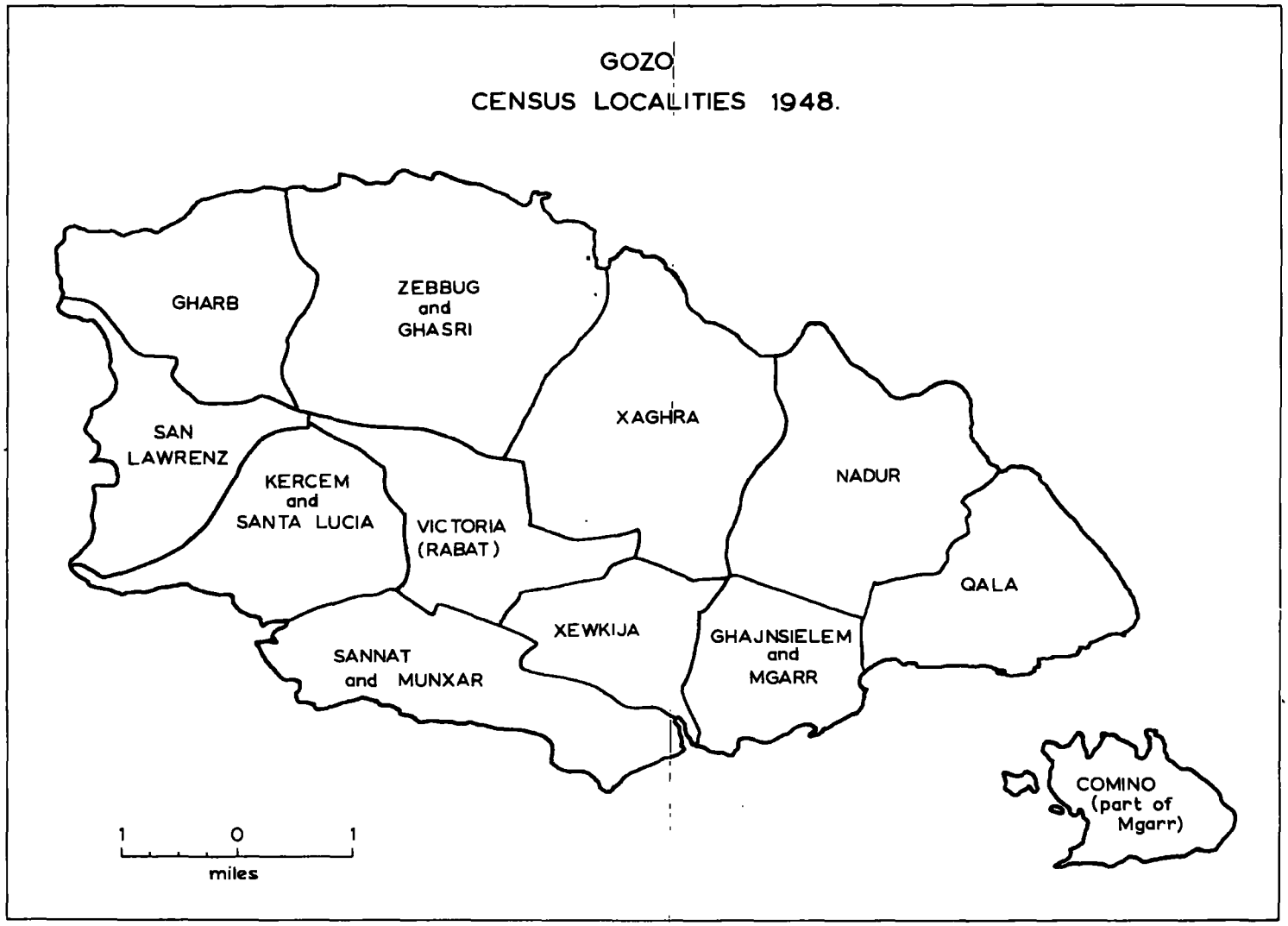

GOZO
CENSUS LOCALITIES 1948.
GHARB
ZEBBUG
and
GHASRI
XAGHRA
NADUR
QALA
SAN
LAWRENZ
KERCEM
and
SANTA LUCIA
VICTORIA
(RABAT)
XEWKIJA
GHAJNSIELEM
and
MGARR
SANNAT
and MUNXAR
COMINO
(part of
Mgarr)
1 0 1
miles

Figure 5.

b) Vital and Migration Statistics.

The problems of migration and vital statistics are rather different from Census statistics which provide the fundamental measurements of population growth. The latter are accessible in the Census volumes and their compilation and presentation follow an accepted fundamental pattern and formula. Statistics of births, deaths and population movements are, in many ways, more complex. The accepted basis of a Census is that there should be a house-to-house enumeration of the population and the returns should all relate to the resident population at a particular time of a stated day. With vital statistics there are several possible causes of confusion arising from changes in methods of registration and classification, whilst migration statistics are more liable to inaccuracy, and can be used safely only in relative and not absolute terms.

Vital statistics

Registers of births and deaths in the Maltese Islands have been carefully kept by parish priests for at least two hundred years and are accessible through the parochial records. These statistics are more easily found, however, in the Blue Books from which births and deaths can be traced back to 1826. Until 1862 the responsibility for recording these figures rested solely with the parish priests but the population was intensely religious and and it was a general rule that a child would be baptised as soon

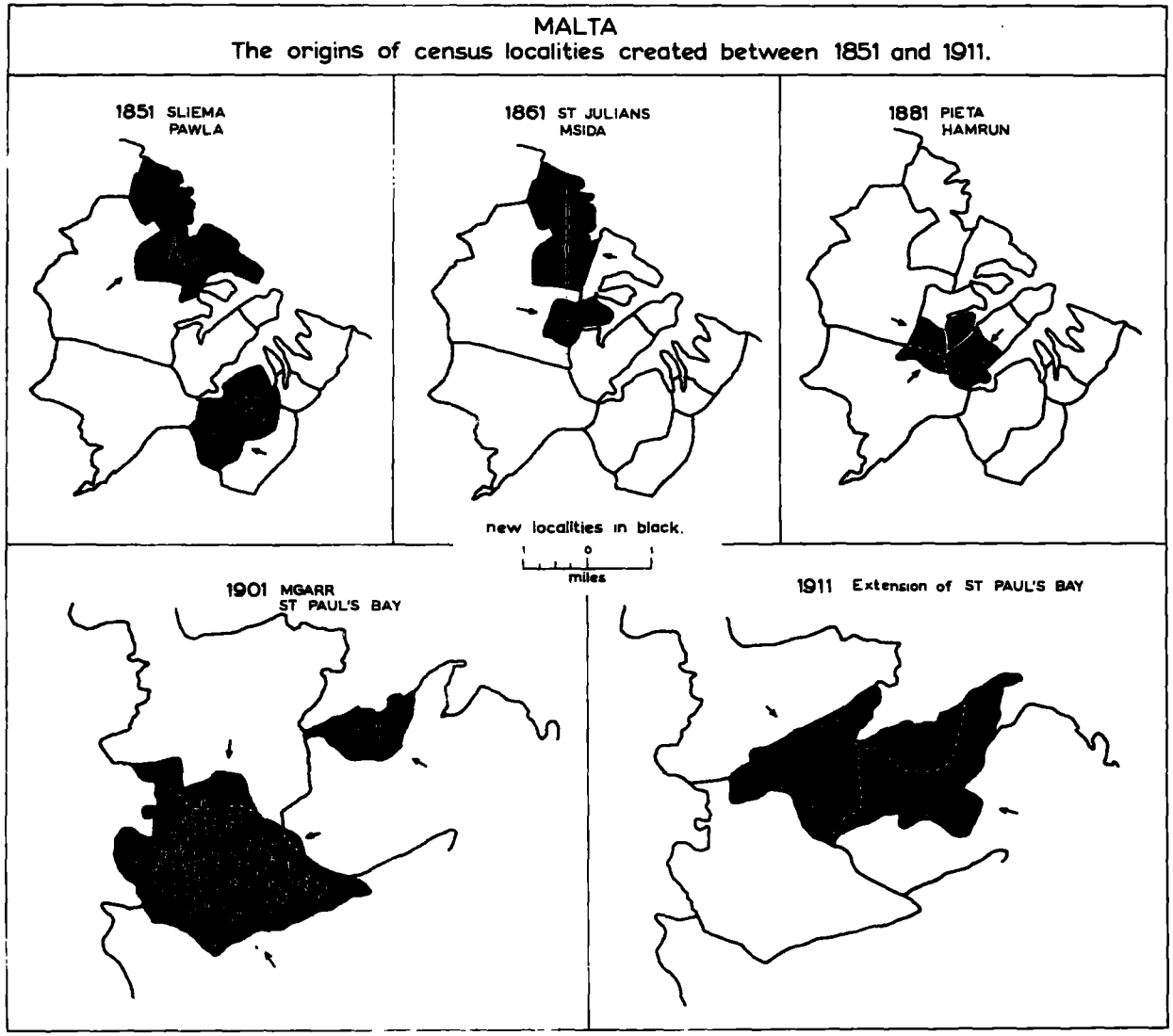

MALTA
The origins of census localities created between 1851 and 1911.
1851 SLIEMA
PAWLA
1861 ST JULIANS
MSIDA
1881 PIETA
HAMRUN
new localities in black.
0
miles
1901 MGARR
ST PAUL'S BAY
1911 Extension of ST PAUL'S BAY

Figure 6.

as possible after birth - usually within a week. Similarly, there is little reason to question the accuracy of records of the numbers of deaths and there is a close correlation between their fluctuations and documentary evidence of epidemics, plagues and famines. After 1862 statistics were compiled by a Registrar General working with local police officers and the registration of both births and deaths became compulsory under Civil Law. Both types of statistics seem to satisfy the conditions and tests set out by R. R. Kuczinski in his "Measurement of Population Growth".

In the use of statistics of births and deaths, still-births have been excluded from both births and deaths; to ensure the uniform application of this principle the figures in the Blue Books are modified where appropriate. Until 1920/21 all the statistics are based upon those in the Blue Books. From 1921 the Annual Reports of the Medical Officer of Health provide more detailed records and they are the source of all subsequent material up to the present day. Birth, death and marriage rates are based upon estimated mid-year populations, except before 1881 for which period the rates computed by C. A. Price, and based upon January populations, have been accepted (4).

Price was fortunate to have separately-documented records for the Maltese and non-Maltese elements of the population. The period of his records ended in 1881. After that time increases

MALTA

The origins of census localities created between 1901 and 1948.

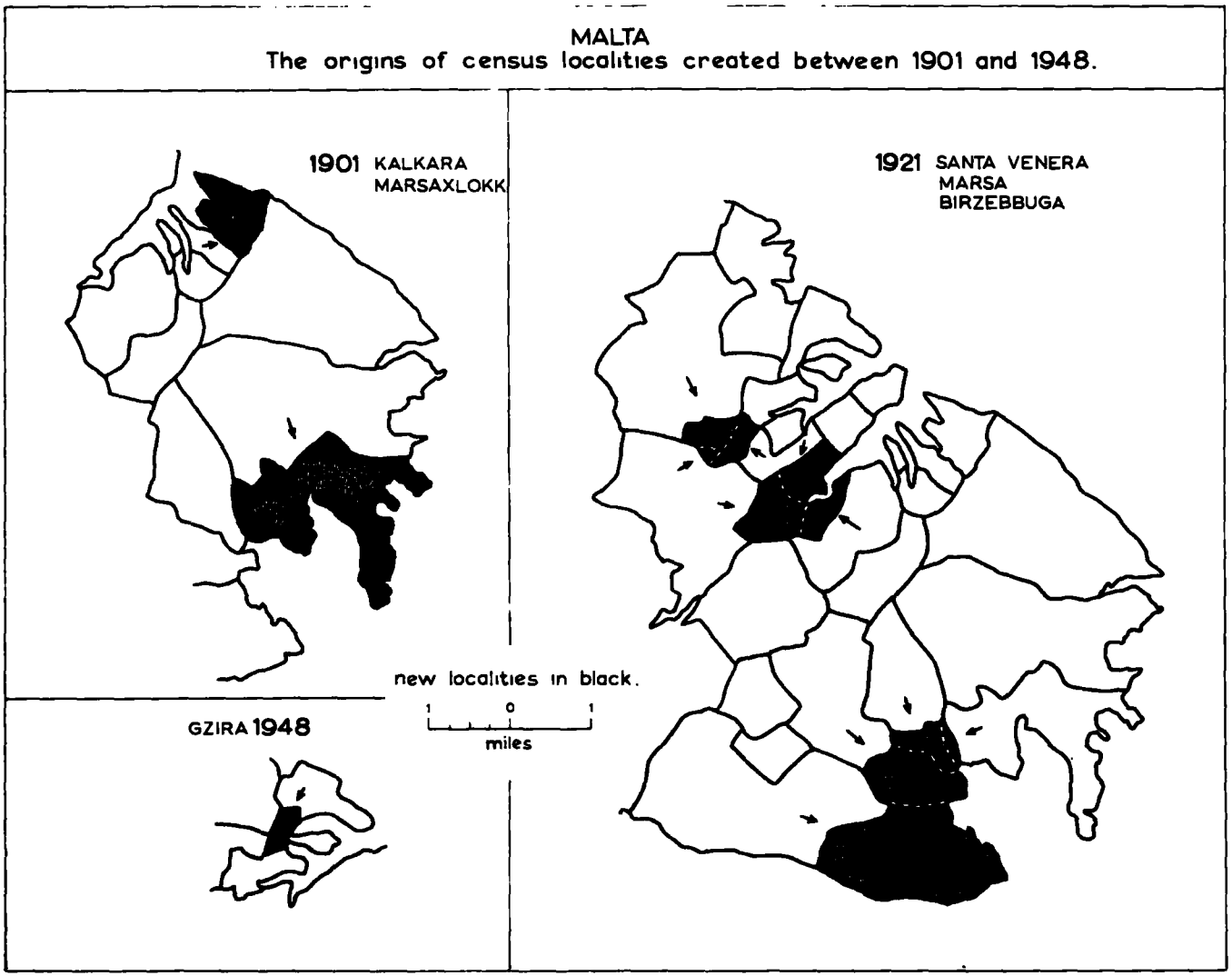


Figure 7.

in the number of English garrison families were only spasmodically documented in the Blue Books and vital statistics were generally presented without distinction of the national elements. Moreover, unsatisfactory documentation of inward and outward movements to and from the Islands make it impossible to consider the Maltese population trends unmodified by non-Maltese migrations. These deficiencies of the statistical material have made it necessary to consider the Civilian population as a whole for the greater part of the survey period. Where statistics which refer only to the Maltese population are available they are discussed in some detail. The most important vital statistics of recent years are for this reason those produced since 1955 which distinguish Maltese from other British and foreign births and deaths (see Part Four, chapter 12). Unfortunately there are no comparable data for the pre-war period.

Migration.

Two aspects of migration have been considered, namely external and internal movements. Overseas migration became an established part of the Maltese scene in the nineteenth century though it was a non-permanent movement. Since 1918, the movement has extended beyond the shores of the Mediterranean towards Australia and the Americas and it has assumed a more permanent nature. The trends and size of net migrations and the direction of movements have been traced for this thesis from the time covered by Price

to the present day.

Estimates of net migration have been based on the issue of passports, Customs and Port Department Statistics and the records of the Emigration Department. For the latter period of the nineteenth century and the first two decades of this, police records of passenger movements were poor - most of them having been compiled from shipping manifests presented by the Masters of all vessels calling at the Port of Malta. There were obvious discrepancies in the records and for the period before the Great War a combination of passenger movements with passport records has had to be used and correlated with estimates of inter-censal net movements.

After the War organised emigration grew, an Emigration Department was formed and it began to keep records of the scale and direction of movement. But, checks on the return movements of former migrants were incomplete and so the total net outward movements were consistently overestimated. Meanwhile the quality of the Customs and Port Department statistics improved, and from 1945 they have shown the annual movements of Maltese, other British and foreigners independently. Further descriptions and evaluation of the material mentioned above are left to a special chapter in Part Five.

Internal migration is the most difficult of all the trends to trace. With the help of fragmentary evidence remaining on the

ground in the form of cisterns and road and field patterns, the extent of medieval settlement has been tentatively suggested. The passage of time witnessed minor shifts in the location of the urban and rural populations and comparative security in the early years of the British occupation saw a dispersion of rural population to the more remote parts of both Malta and Gozo. Then, in the second half of the nineteenth century a pattern of suburban life began to emerge and modify the formerly clear urban-rural contrasts, until in modern Malta the suburban landscape is the dominant theme.

The phasing of these local movements and the ways in which they grew are traced in the first place from the Censuses which analyse the native-born population by birthplace and residence. The best analysis of this type is in the 1948 Census, from which it is possible to trace the origin by birthplace of every person living in the Islands although not the period of arrival in their present residence. An indication of specifically postwar trends has to be sought from a different source - the Food Rationing Office. Ration cards were issued in the last war and are still in use. They are revised regularly and all changes of address are notified to a branch of the Government Department of Trade and Industry, which maintains the records.

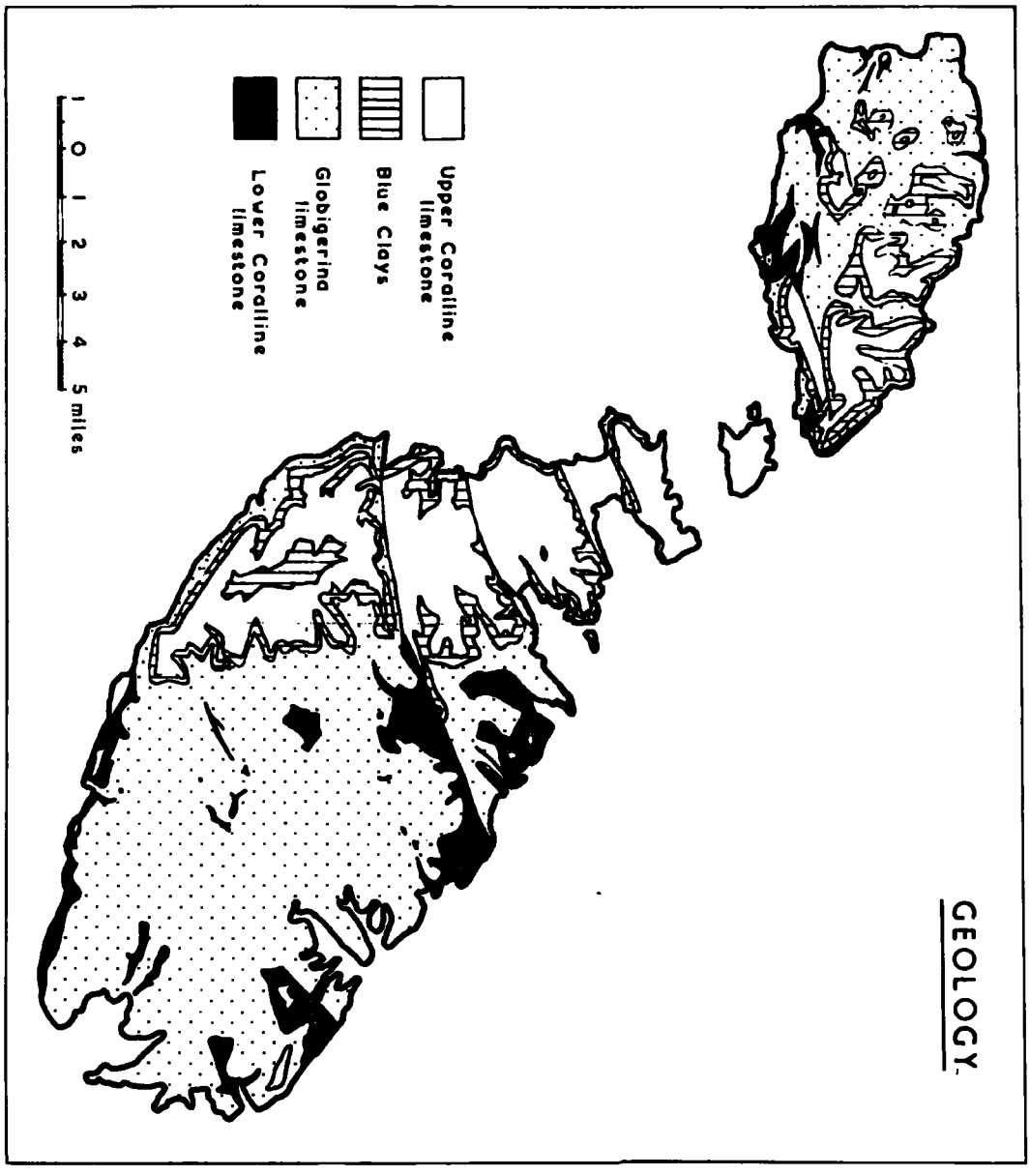
Although the ration cards are still in use the system and meaning of rationing has altered since the war. Today there is

no shortage of the goods which are rationed but the significance of "rationing" is that a quota of bread, flour, pasta and butter can be obtained at a heavily subsidised price. The financial advantages of being registered are considerable and all the evidence of interviews with both shopkeepers and customers suggests that virtually all the native population is included in the Food Rationing Office records. Grocers keep the ration cards of their customers who have to withdraw their cards when they change their addresses, arrange to be registered with a grocer in the new locality and send the card to the Food Rationing Office for the change to be recorded. It is then returned and lodged in the custody of the new grocer. Checks for alterations through births, deaths and emigration are maintained through the Central Office of Statistics.

In principle, this source is comparable with the National Registration records, in operation in England and Wales until 1951, which gave a good measure of the trends of internal movement there. Assembly of the Maltese records however, reveals discrepancies which suggests that they are less reliable than the English figures. In the first place, the records are poorly maintained and there are countless opportunities for clerical errors. There are fortnightly returns of movements between districts (which conform to Census localities), to and from hospitals and institutions, and to and from abroad, adjusted for

births and deaths, but the resultant annual totals of internally-generated movements do not balance. At the clerical level the impression given to the writer, on a number of visits to the Food Rationing Office in Valletta, was that the completion of the fortnightly returns were treated neither as an important nor serious operation; in these circumstances errors could accumulate easily. For this reason the results have not received the attention in this study which might otherwise have been devoted to them. In the absence of tables of birthplace and residence in the 1957 Census, they are nevertheless the most useful indications of postwar internal movements that are available.

Figure 8.


GEOLOGY
Upper Coralline limestone
Blue Clays
Globigerina limestone
Lower Coralline limestone
0 1 2 3 4 5 miles

PART TWO. The Environment.

Chapter Three. Physical Background.

The Maltese Islands form a small archipelago situated in the Mediterranean, about 60 miles from Sicily, and 180 miles from the North African mainland (Fig. 1). In the group there are two main islands, Malta and Gozo, and a number of small islands of which only one, Comino, is inhabited. Their combined area is 122 square miles (Malta 95, Gozo 26, Comino 1 sq. ml.).

The islands lie along a NW - SE axis, and form a single structural unit which has been subject to faulting, tilting and erosion (see accompanying 2" maps of Malta and Gozo). Like much of Sicily the Maltese Islands are composed of Tertiary calcareous sediments of Miocene age (Fig. 8). The oldest beds are the Lower Coralline; overlying them are the Globigerina beds, Blue Clays, and Greensands, whilst the youngest and uppermost rocks are of the Upper Coralline Series.

In Upper Miocene times, uplift took place exposing these sediments. This was followed by intense faulting, and in recent times by partial subsidence. Differential erosion of the Tertiary block has produced a dissected upland capped by the Upper Coralline series. The underlying beds and clays form steep scarps which fall to lower plateaux formed on Globigerina limestones. Only in a few places is the Lower Coralline surface exposed.

In Malta, the Upper Coralline, greensands, and clays, have

been completely removed from the eastern part of the island, which is a low and gently undulating Globigerina platform tilted east-wards and broken only by narrow gorges (wieds), which, although now dry except after heavy rains, are relics of a wetter Pleistocene period. The drainage is towards the east and south-east, into the bays and inlets of St. George's, St. Julian's, Marsamxett, Grand Harbour, Marsaskala and Marsaxlokk. The formation of these deep bays and safe anchorages is due to a combination of faulting and ria-drowning along a coast of comparatively rapid subsidence. Some of the interior valleys follow the same lines of weakness.

To the west is the Upper Coralline plateau which forms the highest part of the Islands, rising to over 800 feet near Dingli. Below it the south-west coast is precipitous and quite inaccessible. Unlike the southern and eastern parts of Malta, the north of the island is a more heavily faulted region of parallel ridges and valleys, divided from the south by the Bingemma hills and the Naxxar-Gharghur ridge. These hills follow the line of the so-called "Great Fault" along which the Victoria Lines were built. There is a similar though not so prominent Great Fault in Gozo, and between these two major fault zones there is a disturbed region of 'horsts' and 'graben'. The two major troughs formed are the North and South Comino Channels, whilst between them lies the island ridge of Comino. In Malta this structural pattern is repeated, and between the ridges of Marfa, Mellieha, Bajda and

Wardija, are the elongated bays and valleys of Mellieha, Mistra and Miziep, St. Paul's and Salina. The valleys are however open and synclinal, contrasting strongly with the deeply-cut gorges further south.

In Gozo, the remnants of the Upper Coralline surface form the tops of a series of mesas, both large and small, which stand out above the globigerina lowlands and give more variety to the relief than is found in Malta. Most of the valleys are structurally controlled, draining northwards the land between the flat-topped plateaux, but there is also a suggestion of a radial pattern of drainage which centres on Victoria. With the exception of the small bays of Xlendi, Marsalforn, Ramla and Mgarr, the coasts of Gozo are rocky and inhospitable.

The islands have a climate which corresponds fairly closely to the characteristic Mediterranean type. Winters are mild and wet, and summers hot and dry, whilst the seasons of autumn and spring are brief. The mean annual temperature is 66°F, whilst the mean monthly temperature ranges from 54° in February, to 78° in August. The diurnal ranges are small. In February the difference between the mean monthly maximum and minimum is only 7°, whilst in August it is 11°. Frosts are rare, and the temperatures do not often exceed 100°.

The rainfall is variable. The average is about 20", but in the ten years ending 1955/56, the minimum recorded was 8", and the maximum 30". The heaviest rainfall ever recorded was 39". Most

of the rain is confined to the period between September and April and falls mainly as heavy showers.

The availability of water is of prime importance not only for agriculture, but for the general supply of the population and to permit the development of industry. But apart from the unreliability of the rainfall, much that falls is lost in surface run-off, whilst most sinks underground through the porous limestone. Any that is retained by the soil is liable to be lost by evaporation. Underground water is therefore the main source of supply, and in the Islands there are two major water tables. That which was first exploited is at sea-level and tends to be rather saline, especially towards the end of the dry season. There is another water table, however, in the Upper Coralline series which is preserved above the impervious Blue Clays. Except where the series is downfaulted to sea-level, water from this 'table' is fresh.

With regard to the conditions necessary for soil formation the factors of climate and geology have not been kind. Where conditions have allowed the development of soils, they are nearly always thin (only a few inches deep), whilst much of the islands are actually bare of soil, and present harsh fractured karstic surfaces. Soil formation where possible at all, is slow, and because of the frequently rugged topography it is always liable to erosion. Therefore, careful conservation by terracing is practised. Most of the soils are derived from limestones, and

vary from 'terra rossa' to white marly soils. Clay soils are found around the Blue Clay outcrops, and in a few places like the Marsa, St. Paul's Valley, and Burmarrad, there are limited soils of deep alluvium.

In this brief summary, the main elements of the physical environment have been mentioned. Topographically, the central and eastern parts of Malta are the most attractive for settlement. In Gozo, settlement is more widely spread, but lies mainly in the central district and on the southern flank looking towards Malta. The problems of the islands are fundamental ones. The most serious are the shortage of water and soil cover, whilst the lack of any form of mineral wealth further inhibits the development of Maltese life.

When the Order of St. John was expelled from Rhodes in 1522, Malta was considered, with Elba, Ischia, and Corsica, as a possible new home. Eight Commissioners who were sent to report on Malta described the island as a rock of soft sandstone, which as a residence "appeared extremely disagreeable, indeed almost unsupportable, particularly in summer."

But, the fine harbour and position in the central Mediterranean eventually turned the scales in Malta's favour, and the trading and commercial stimulus which began with the arrival of the Order has subsequently created conditions which allowed the growth of population at such a rate that Malta is now one of the most densely peopled islands in the world.

Chapter Four. Historical - a résumé from prehistory to the British military occupation.

Prehistory

The earliest evidence of human occupation of the Maltese Islands is provided by a wealth of prehistoric remains. In the cave of Ghar Dalam are relics of human occupation which are mixed with pieces of pottery that are identical with the earliest Neolithic Sicilian discoveries. Thus it is possible that Malta was first colonised from Sicily by primitive farmers in the latter part of the third millenium B.C. (5). By the end of the third millenium, stone-using agriculturalists were already building, in a rough and tentative manner, temples akin to the style of megalithic Western Europe.

In the second millenium there seemed to be a period of relative isolation and of insular development. Remains show a great deal of individuality in craftsmanship, but the sixteenth century B.C. was the climax of the prehistoric period and reflects the great trading expansion of the Mycenean civilisation of Greece (6). There was an elaboration and sophistication implicit in the Maltese temples which indicates a unique development of ritual and liturgy in the first five hundred years of the second millenium, when "Malta and Gozo must have counted as the most magic and potent island sanctuaries of the central Mediterranean world" (7).

The brilliant civilisation of the temple period was followed by people with a much lower standard in craftsmanship and taste who arrived about 1500 B.C. The newcomers who apparently conquered the island by force, like their predecessors also came from Sicily, and their culture was named after Borg-in-Nadur which is the only site providing evidence of their occupation (8).

The final period seemed to be a gradual evolution from the Borg-in-Nadur phase, and was under the influence of the south of Italy and Sicily. This may have been the time of the development of the now famous prehistoric cart tracks which were used for the transport of goods between settlements and the sea (9).

Phoenicians, Carthaginians, Romans and Arabs.

Probably about the end of the ninth century B.C., the first of the Semitic traders and colonisers arrived in Malta and the transition was made to historic times. First the Phoenicians, and then the Carthaginians held Malta, but in 218 B.C. in the early stages of the Second Punic War, Hamilcar surrendered the Islands to the Roman Consul Titus Sempronius. At that time the islands were already well-known and had a cotton industry (10). Then, under Roman rule they achieved a certain autonomy, with the establishment of separate "municipia" in Malta and Gozo, but the outstanding event was the conversion of the Maltese to Christianity by St. Paul on the occasion of his shipwreck in 58 A.D.

The latter phase of the Roman era is a period of uncertainty, but decline in their control of Sicily and Malta is evident in the fourth century. In the early part of the fifth century the Vandals captured Carthage, and like Socily, Sardinia and Corsica, Malta probably came under their rule. A hundred years later, Justinian, the Eastern Roman Emperor, began the reconquest of the West, and Belisarius, his general, may have taken Malta at the time of his victorious African campaign of 533, during which he crushed the Vandal Kingdom in a battle at Carthage.

In the seventh and eighth centuries the Arab advance began. Permanent footholds were established in 827 in Sicily which was finally occupied fifty years later. Malta was taken in 870, and remained an Arab possession for two hundred years. The islands were subject to the Emir of Sicily, but there is no mention of the nature of life in this period apart from a suggestion of improved agriculture (11). The bulk of evidence suggests that Christianity lapsed in this period, for the line of Bishops was interrupted until the coming of the Normans, and as late as 1241 there was reported to be a high predominance of "Saracen" families in Malta (12).

Normans to the arrival of the Order of St. John.

The arrival in 1060 in Sicily, of Roger the Norman, son of Tancrede de Hauteville was followed by a series of successful campaigns against the Saracens whom he gradually drove from

those parts. Eventually he was proclaimed Count of Sicily and in 1090 he took Malta in order to secure his hold in Sicily. Tradition credits Roger with the establishment of a popular council composed of nobles, clergy and the elected representatives of the people. This body, since called the Consiglio Popolare, or Universita, was the centre of local government and later assumed the role of an agency controlling the production, import and sale of grain, the negotiation of which were fundamental to the well-being of the population. Count Roger is also said to have installed a Bishop, built a cathedral and given Malta her national flag.

The Norman sovereignty over Malta was maintained until 1186, when Constance, the heiress of the Sicilian kingdom married Henry VI of the House of Hohenstaufen. Henry who died in 1197 was succeeded by the infant Frederick II and Malta remained with the Hohenstaufens for eighty years. In this period the islands were granted as a fiefdom to members of the Sicilian nobility who acceded to the title of Count of Malta. A system of feudal rule was maintained for over two hundred years, although under strict guidance in the later years of Frederick's reign, during which time imports and exports were controlled, and Maltese medieval agriculture reached its highest pitch (13). However, in this period, the Maltese to provide their dues and livelihood worked as pirates, slavers and carriers of grain between Sicily

and North Africa. An admixture of racial stock probably continued in this period and in 1224 the entire population of the ravaged Italian city of Celano in Abruzzi was transferred to Malta at the command of Frederick II (14), whilst there was also at this time a constant movement between Sicily and Malta of workers and their families to the estates of the nobility.

Differences with the Papacy eventually caused the downfall of the Hohenstaufens and under the Papal flag Charles of Anjou was crowned King of Sicily (and Malta) in 1266. For sixteen years the Angevins uneasily retained these southern provinces but the imposition of taxes and abolition of the old laws and privileges eventually culminated in the uprising and massacre at Palermo in 1282 known as the Sicilian Vespers. Peter of Aragon who helped the Sicilians in their revolt was invited to become King of Sicily, and in the following year Malta also accepted Aragonese protection and rule.

Despite the transfer of sovereignty to the Spanish throne of Aragon, the islands were still given in fief to absentee nobles whose interest in them was only as a source of revenue. But in 1415, under Ferdinand (the Just) a Viceroy was appointed to Sicily, and Malta benefited from this change. She entered a new stage of development towards semi-autonomy during which a variety of Royal privileges were granted to the Consiglio Popolare, and Malta enjoyed some responsibility in the control of her internal

affairs. However, the position soon changed, for in 1420 the poverty-stricken Alfonso, inappropriately named "the Magnanimous", mortgaged the islands to one of his nobles to solve a problem of debt. Eight years later the Maltese collected sufficient cash to pay the mortgage and with these 30,000 gold crowns, Alfonso reclaimed the Islands and swore that they should be reunited in perpetuity to the Spanish crown.

For a hundred years the succession of Viceroys continued, appointed first by Aragon, and after 1479 by the united Houses of Aragon and Castile. Then in 1530 Charles V of Spain ceded Malta and Gozo with Tripoli, to the Order of St. John of Jerusalem in return for the annual rent of one falcon and a continued right to nominal sovereignty under Spain. The Viceroy of Sicily retained the right to appoint a Bishop of Malta who would be chosen from three candidates to be selected by the Order.

The Order of St. John.

The history of the Islands after the arrival of the Knights is well documented, and represents a continuity of rule over two hundred and fifty years. Under the Grand Masters the comparative security of the Maltese was assured but the failure to retain Tripoli which fell to the Turks in 1551, resulted in the Great Siege of 1565 and the deaths of more than 10,000 men, women and children. After three months the Siege was raised, the Turks expelled, and in subsequent years incursions by raiders became

less frequent. As the threat from the East weakened, the Order became more diplomatic than militant and the reason for its existence passed. But the transition from glory was gradual.

While the Knights were in Malta, the standards of living of the local population were improved, and the agricultural potential of the islands was stimulated, to satisfy the comparatively wealthy consumer market of the Knights. Times were also sufficiently stable to allow the people to build. In domestic, military, and ecclesiastical architecture, a great legacy of fine buildings remains as a reminder of the civilisation and urbanity of the Islands during the stay of the Order.

The way in which the Order declined is summarised aptly by Sir Harry Luke who emphasises a rising stress upon personal vanities, which was symptomatic of decay and "as in Venice the Doges grew grander and more lavish as the Republic was tottering to its fall, so in Malta it was left for Hompesch, the last and feeblest of the island's Grand Masters, to convert his mantle from Conventual black to Royal crimson" (15). Meanwhile Bonaparte, having conquered Italy, was in a commanding position in the Western Mediterranean and realised fully the strategic value of Malta. In 1798 he besieged the Island and presented an ultimatum demanding the surrender of the Order. No resistance was offered, so the French moved in and all but the oldest and feeblest of the Knights left and scattered.

The French period and British Military Occupation.

For six days Bonaparte stayed in Malta, and during this time he converted the islands into an imitation of a Department of the French Republic. French was made the official language and the street names were changed. But although the French at first were welcomed, their behaviour which culminated in the pillage of churches eventually prompted retaliatory action, and the Maltese, with British help, succeeded in forcing the French from the countryside and shutting them in Valletta. The ultimate withdrawal of the French from the Islands took place shortly after Nelson's resounding victory in the Battle of the Nile, in September 1800, and so they retired after two years of occupation.

The British henceforward undertook to regulate the trade and commerce of the Isle of Malta until the signing of a definitive Peace Treaty with the French. When the Treaty of Amiens was signed in 1802, it was agreed that the Order of St. John would return to the islands. However, the Maltese felt that this would mean in effect a restoration of French control, and in preference persuaded the British to stay. A largely undefined and certainly unsatisfactory form of Government then followed, until the ratification of the Treaty of Paris in 1814, which stated that "the Island of Malta and its dependencies shall belong in full right and sovereignty to His Britannic Majesty". Thus the last connections with the Order were finally severed.

Under British rule the Maltese have progressed slowly towards political and constitutional autonomy.

Chapter Five. Constitutional development, 1813-1958.

A commission was sent from London in 1812, to enquiry into "all matters touching the actual state of Malta" and to recommend ways and means of setting up a more "British" form of Government. The recommendations of this Commission were embodied in the Constitution of 1813. This constitution was based solely on the conception of the island as a strategic fortress. "It must be a basic principle", said the Colonial Secretary, Lord Liverpool, in May 1812, "that the military authority should be free from all restraint in superseding the civil power, whenever the security of the island appeared to demand it." (16).

By 1831, there was evidence of local restlessness within the political field, and a greater measure of Maltese participation was introduced by the Letters Patent of 1835 which gave the Islands a Council composed of the Governor, Bishop of Malta, three official members, and three nominated members, two of whom were at all times to be Maltese. But the Council still had no real power; the authority of the Governor prevailed, being restrained only in that he had to administer through the Council. A revised Constitution of 1849, introduced for the first time a legislative body; the Governor now could only make laws with the advice and consent of the Council who controlled the distribution of funds.

The constitution of 1887 experimented a stage further with dual control in Government, by trying to reconcile popular control of the legislature with Imperial management of the administration, but this system of power to legislate without the responsibility of putting decisions into practice was not a success. Then in the Letters Patent, of 1903, some real power was transferred to an executive council which included a proportion of elected members.

The 1921 Constitution adopted a diarchical system as a means of reconciling Maltese demands for self-government, with the retention, by the Governor, of the control of the islands' strategic and external policies. Under this system two distinct Governments were established, each with its own legislative and executive powers and responsibilities. In 1930 the Constitution of 1921 was suspended; it was restored two years later, but a second constitutional crisis was precipitated in 1933 (17). This led to further restriction of powers and the delegation of a modified responsibility to the Maltese, that was held until 1936 when the constitution was finally withdrawn.

The 1936 Ordinance reinvested in the Governor full legislative and executive responsibility, though it was then stipulated that the Governor's power should be exercised in consultation with an executive council. The policy of almost bureaucratic control was eventually relaxed in 1939, with the appointment of a new Council of Government similar to that of 1903.

The war record of Malta, prompted in 1943, a promise from the Colonial Secretary of self-government again, after the war, and in 1947 the diarchy was re-established.

Under the 1947 Constitution, the principal responsibilities of the Imperial Government were the defence of the Islands, the Services, Civil Aviation, Immigration, Currency, and relations with overseas countries. A newly elected Maltese legislative assembly, composed of 40 elected members was to have the power to pass laws and administer all other "non-reserved" matters.

Since the restoration of 'Responsible Government' in 1947, the main political themes have been rival claims for Dominion status, Independence, and Integration with the United Kingdom. The Nationalist administration of 1953 proposed Dominion status for the Islands, so that they might be released from their responsibility to the Colonial Office. The British Government rejected this suggestion, but in 1955, when the Malta Labour Party advocated closer economic and political ties with the United Kingdom, more interest was displayed.

A Report submitted after the Round-table conference held in Malta in September 1955, recommended Maltese representation at Westminster, and legislative authority of the Maltese Parliament over all matters, other than defence and foreign affairs which would be under the authority of the Home Secretary. At a Referendum on Integration held in February 1956, a majority of

the voters were in favour of these proposals, and in the following month the British House of Commons resolved to give effect to the recommendations of the Round Table Conference.

Unfortunately, there has been no visible progress towards a new constitution for the Islands, whilst the poverty of Maltese economic resources has maintained a perpetual financial crisis. The refusal of the British Government to meet the budget demands for 1958/9 made by Malta, precipitated the crisis of March 1959. This resulted in the dissolution of the Assembly and the restoration of a situation reminiscent of 1936, for the administration of the Island is again, although temporarily, the responsibility of the Governor.

Chapter Six. Economy and trade.

A threat of bankruptcy hastened the collapse of the Order of St. John and illustrated even then the fundamental economic problems of Malta. In the nineteenth century a slow change from a considerable dependence on externally derived wealth to absolute reliance upon it made the overall instability of the economy transparent. The problem was intensified by the claims of a rapidly rising internal demand which had to be reconciled with the precarious external economic balance.

At the end of the eighteenth century Malta's wealth was drawn from two main sources, both external. Some was drawn from visible trade in which the export of cotton-twist and spun-cotton locally grown and manufactured were the main items. The second source and far larger part was the foreign income derived from the Order's mainland estates, from the taxation of the Commanderies and occasional grants from sympathetic Kingdoms and the Papacy. This income paid for basic supplies of timber, vegetable oils, simple manufactures and grain, the domestic production of which supplied only one-third of the need. In addition, there were imports of a great range of superior consumer goods for the Knights and capital goods for the Garrison. A third but very minor source of foreign currency was that from civil port activity. Shipping dues made a small contribution to the Internal Revenue.

During the whole of the subsequent period the imbalance between the 'National Product' and the circulation of 'Negotiable Income' became further exaggerated. By 1798 the balance of payments was showing an annual deficit of 4,000,000 livres and this was becoming almost impossible to meet from the Order's non-Maltese estates. The period of British occupation and rule which began in 1800 was therefore one in which the basic economic situation had to be reassessed. The economy revived in the singular circumstances of the Napoleonic Wars; British official expenditure replaced that part of the Order's foreign income which had been functionally expended, and other compensation came from the personal expenditure of a new garrison and foreign element numbering 20,000 at its peak.

Meanwhile, the export of cotton declined but the loss was largely compensated by a boom in civil port activity and entrepot trade. Unfortunately, this implied a further swing towards external economic activity. Britain declared Malta a Free Port in 1801 and subsequent Orders gave the Islands an especially favoured status for trading in the Mediterranean. In 1812, Royal Commissioners said "The commercial port of the Community we found daily increasing in prosperity and opulence; fully sensible of the peculiar advantages derived from the protection of Great Britain; anxious only that this Protection shall on no future occasion be withdrawn" (18). External boom coincided with internal inflation

See previous page

See next page

and many farmers gave up cotton growing for the production of grain and foodstuffs. Artisans, weavers and spinners found employment in the port area.

When the boom of the Napoleonic Wars came to an inevitable end commercial and business houses supported agitations which culminated in the 1830's. By this time the peak had been passed "but the indignant entrepreneurs had come to assume the booms to be the rightful norms and viewed the intervening lower levels of prosperity as 'outrageous fortune'"(19). This attitude was strengthened by periodic coincidences of favourable circumstances and Malta has since come to expect such benefits almost as of right. Part of the trouble resulted from the tradition of paternal autocracy under the Knights, which had inhibited the growth of private economic initiative and neglected to train the Maltese in the administration of public finance. The British Administration showed no greater faith in Maltese executive capabilities.

In the 1850's there was a second phase of 'trade distortion' associated with the Crimean War and the introduction of steam power and the steel age. In 1869 the Suez Canal was opened and after 1870 shipping and port activity gave Malta, for two decades, prosperity on a level unknown even during the Napoleonic and Crimean Wars. Only in two of the world slump years of the 1880's did rising expenditure produce revenue deficits. Twenty years earlier under half of the shipping tonnage, entered and

cleared, was extra-Mediterranean, but by 1882 80% of the tonnage using the harbours dealt with extra-Mediterranean traffic.

Before 1890 events produced commercial opportunities but after 1890 Europe turned increasingly to the New World for grain and the volume of trade, mainly from the Black Sea, declined. Ships using the through-Mediterranean route grew more economical in the consumption of fuel and Malta's importance as a bunkering station declined. The Maltese were reminded that the possession of a good natural harbour was not in itself sufficient to sustain their economy. At the end of the century large-scale dockyard and public works construction revived employment but, later, stagnation in commerce and a decline in the constructional work culminated in the severe depression that attracted the attention of a Royal Commission in 1911.

One of the most important indicators of economic change is the reliance of manpower upon employment in agriculture. Employment in the industry varied inversely with general economic activity: cessation of employment elsewhere forced workers back on to the land. Thus between 1851 and 1871, while the population was growing more rapidly than the slow but accelerating commercial activity, sheer population pressure forced up the male level of agricultural employment. Numbers fell during the period of public-works' construction but in the depression after 1906 there was a return to the land. In the same way as emigration attracted

the most enterprising individuals, so, in prosperous times agriculture lost its most vigorous and enterprising workers, while in depression those first forced back to the land were the poor and semi-skilled labourers.

By the turn of the century the economic pattern of modern Malta was becoming more strictly defined. Commerce came more to mean retail trade and dockyard work was increasingly associated with bunkering and naval servicing. By 1905 the Naval Establishment employed over 9,000 men - more than in the entire agricultural industry. Depression in the following year almost halved employment in the Dockyard and the Report of the 1911 Royal Commission is an analysis of the uneasy adjustment to new circumstances, a process still in operation nearly fifty years later. The Commissioners emphasised the fact that "Government expenditure has more than made up for that of the Knights, and has diverted more of the labour of the population to the service, direct or indirect, of the foreign government which applied it to purposes entirely Imperial and unconnected with the special interests of the colony. .....but the basis of this prosperity is artificial and precarious." (20).

Until very recently Malta has possessed poor physical facilities for the handling of shipping. All vessels of over 2,000 tons have had to be worked by lighter, and civil repair facilities have been limited because the needs of the Fleet were paramount.

There has also been a sustained lack of enthusiasm for the local investment of Maltese capital. In such an atmosphere of basic insecurity development is difficult. Moreover, as the Maltese people are remarkably non-maritime in outlook there is no traditional basis for marine enterprise. Hence, the recent handing over of the Naval base to a British civilian firm is a logical step.

The most recent specifically economic report was that of Balogh and Seers (21) using statistics for 1954. The following table based on this material illustrates the 'External Economic Balance' and is still broadly true of the present situation:

1954. External Economic Balance.

A. Negotiable Income - originating externally.		
(i) - Services pay	£6.7	millions
(ii) - Direct expenditure by the Services	3.6	"
(iii) - Estimated spending by non-Maltese service personnel	6.0	"
(iv) - Imperial grants	3.0	"
	17.7	"
- originating internally.		
(i) - Merchandise exports	£1.5	millions
(ii) - Invisible exports	2.9	"
	4.4	"
- Grand total	£22.1	"

B. Expenditure on Imports.

(i) - Merchandise imports	£18.6 millions
(ii) - Invisible imports	1.9 "
	£20.5 "

The most obvious characteristic is one already emphasised, that is the dependence for Negotiable Income (convertible wealth) on factors outside domestic control. While part of the income comes from the provision of industrial and labour services nearly half comes through retail and domestic services to the Garrison and their families. Among imports those of food, drink and tobacco were of almost the same value as imports of manufactures.

The poor material resources of the Islands are such that capital investment for raising production can only be directed to agriculture and to the increase of the productivity of labour in those industrial and commercial services called into being by the locational value of the Islands. In the sphere of social welfare the field is limitless, including all the elements of water supply, public health, education and dietetics. But, capital can only come from external sources and this is the essence of the dispassionate case for continued Maltese existence as a dependency. The possibility of a vastly increased economic turnover within Malta is yet no more than hypothetical. Point has been given to this last statement by recent reappraisals of the locational

value in the strategic sense. The Admiralty Dockyards have been sold to civil enterprises who must compete with the well-established Sicilian and Italian shipbuilding and repairing industries. As a naval base the importance of Malta is declining and the development of the airfields is limited by acute shortage of suitable land for expansion. There is in fact every reason to suppose that the locational value is so marginal as to make the investment of foreign capital a very considerable risk.

PART THREE. Historical outline of population growth and demographic trends.

Chapter Seven. The Population before 1842.

Estimates of Population 991-1842 A.D.

Table 4.

Year	I MALTESE		II NON-MALTESE		III TOTAL
	Malta	Gozo	Order of St. John	Other	
991					21,000
1240	3,800	1,800			5,600
1400					10,000
1528	12,000	5,000			17,000
1530	15,000	5,000			20,000
1565	19,500	2,500	9,000		31,000
	17,500	2,500	3,000		23,000
1582	20,000				
1590	28,864		3,426		32,290
1632	45,450	3,000	4,450		52,900
1741					110,000
1760	66,800				
1798	90,000	24,000			114,000
1807	80,225	12,829		22,100	115,154
1813	96,403	14,400			110,803
1823					112,204
1828	98,618	15,618		1,709	115,945
1837	98,958	16,522		4,398	119,878
1842	97,535	14,330		1,999	113,864

For detailed reference to the source and quality of estimates see Appendix B.

General

The earliest recorded estimate of the population of the Maltese Islands is one of 21,000 made by the Emir Yusuf al Futah in 991 A.D. but this would appear to be excessive in the light of Abate Giliberto's report of approximately 1000 families in 1240 and Bosio's suggestion (22) that total numbers in 1400 A.D. did not exceed 10,000. The Commissioners to the Knights estimated a total population of about 17,000 in 1528 to whom were added shortly afterwards members of the Order and their followers, some 5,000 in all. That the population of the Islands in 1530 was in the region of 20,000 may be assumed from data given by a number of writers including Fra Joannus Quintinus, Bosio and Boisgelin (23).

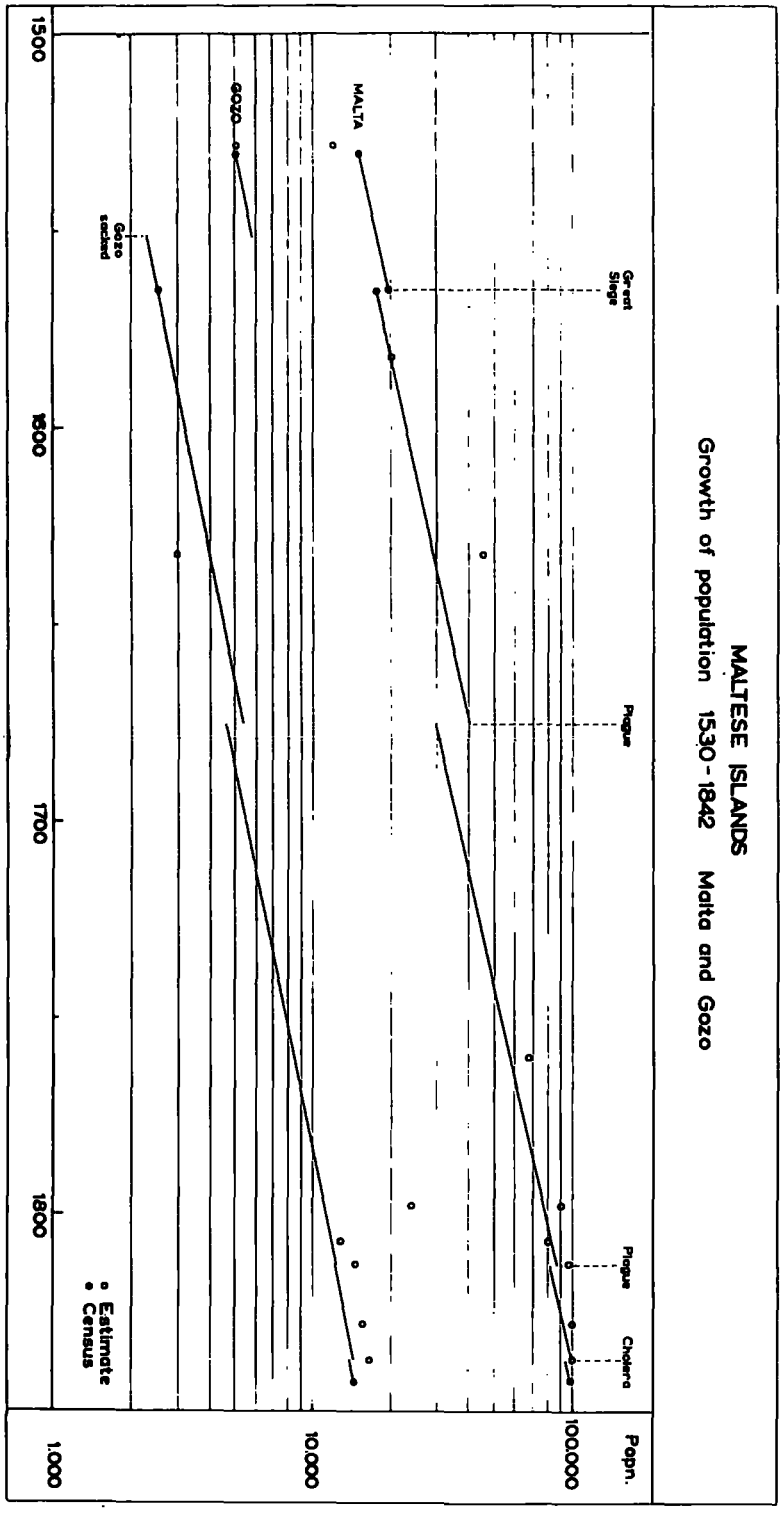
The first half of the sixteenth century appears to have been a period of steady population increase in Malta, but Gozo suffered a severe setback in the Turkish raid of 1551 when large numbers were taken away from the island as slaves. At the time of the Great Siege of 1565, members of the Order numbered 9,000 and the civilian population was in the region of 22,000, a total of 31,000 of whom perhaps 3,000 lived in Gozo. Fatal casualties sustained by the Maltese during the Siege numbered 8,000 according to Zabarella, and Bosio puts the civilian population after the siege at 20,000. In 1582, a similar total was reported for the civilian population of Malta alone by Grand Inquisitor

Visconti. In 1590 an enumeration was made for the Viceroy of Sicily. A detailed enumeration was made for Grand Master de Pawla in 1632 and was recorded by Abela. The members of the Order then numbered 4,450 while the native populations of Malta and Gozo were said to be 45,450 and 3,000 respectively, a grand total of 52,900.

Information is fragmentary for the period 1632 - 1807, although an estimate of 110,000 was made in 1741; it conflicted with Ciantar's figure of only 66,800 in Malta, excluding members of the Order, for the year 1760. The former is almost certainly much exaggerated. Boisgelin's total of 114,000 in 1798 is equally unreliable as is shown by a breakdown of his figure which includes an estimate of 24,000 persons for Gozo, although the smaller island is known to have had only 14,000 in 1842 and there is no evidence of large-scale emigration in the intervening period.

The first detailed enumeration after the removal of the French was recorded in an almanac of 1807 and was based on Parish Registers. This shows a "native Catholic" population of 93,000 and a total of 22,100 "other inhabitants and domesticated strangers". The "census" of 1828 gives a total which differs by only a few hundreds from that of 1807 and although the outbreak of plague in 1813 would in part account for the lack of population growth during the period, there can be little doubt that the 1828 enumeration had considerable deficiencies. Nine years

Figure 9.


MALTESE ISLANDS
Growth of population 1530-1842 Malta and Gozo
Popn.
100,000
10,000
1,000
1500
1600
1700
1800
MALTA
GOZO
Great Siege
Plague
Plague
Cholera
Gozo sacked
Estimate
Census

before the first official Census appeared in 1842 the Governor of Malta, writing to the Secretary of State for the Colonies, said he had no great faith in the census of 1828 and was engaged with the Bishop in ascertaining the exact number in both Islands(24). In 1837 soon after the population had been estimated at just under 120,000, a cholera epidemic hit the islands. Although it lasted for only three months there were over 4,000 deaths of which one-tenth were in Gozo. In 1842 the population was almost 114,000 and earlier estimates were exposed as having been rather too high.

The rate of population growth 1530-1842.

There is insufficient material available to allow much comment on the estimates of population made before the sixteenth century, but there is enough data after 1530 to allow an interpolation of the trends of growth, over the next three hundred years, although only for the native Maltese population.

The estimates made since 1530 are plotted on a semi-logarithmic scale, and the trend of early nineteenth century population growth is back-projected to 1530 (see Fig. 9). An even rate of increase has been assumed to have operated over the whole period and the rate is plotted for an increase from the estimated population in 1530 to the census population in 1842. Assuming a steady increase, all sixteenth century estimates and those of the nineteenth century, are close to the expected

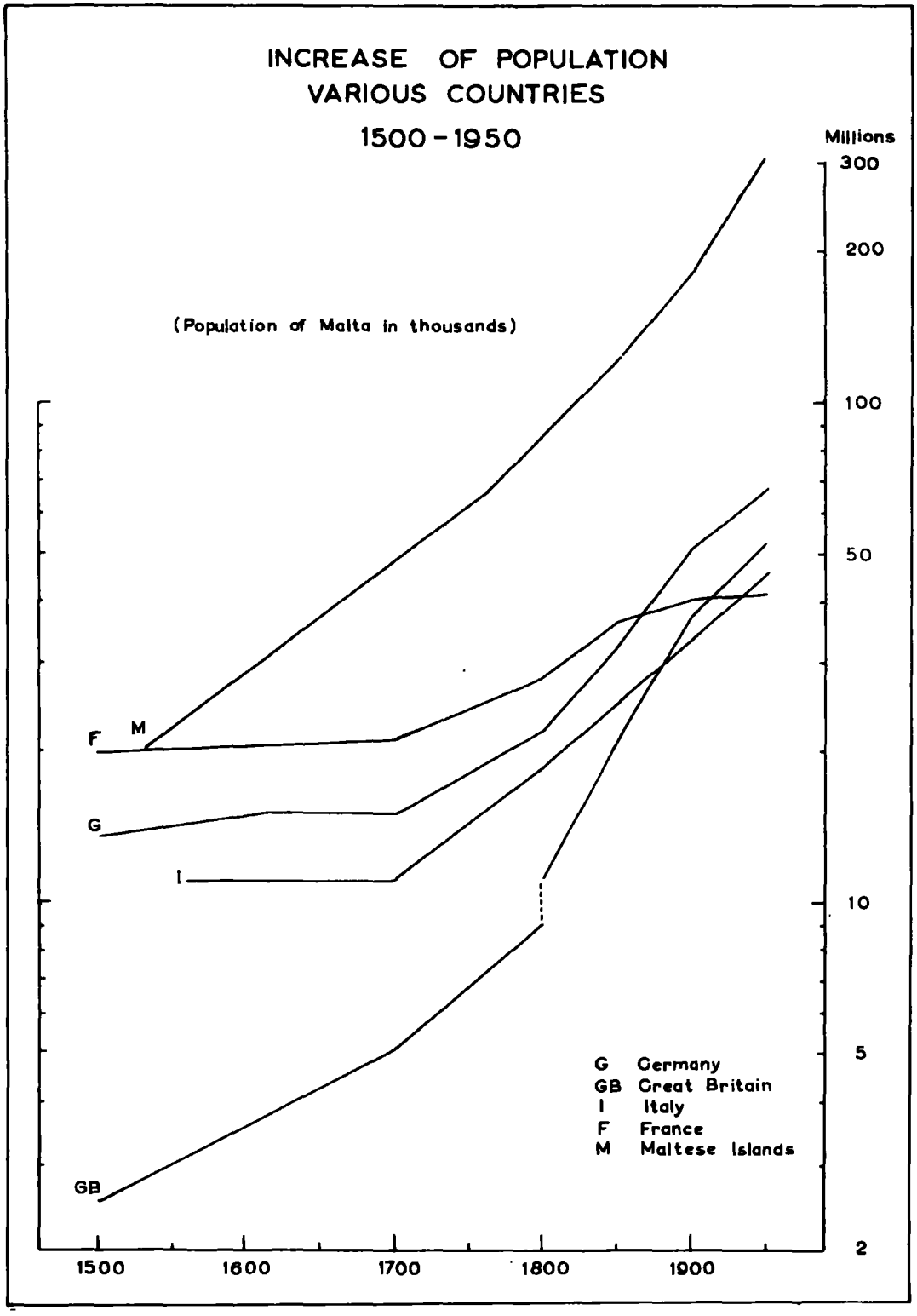
interpolated figures. But in the intervening period the figures of Abela, Ciantar and Boisgelin, all differ from what would be expected.

Abela's estimates for Malta may have been as much as 15,000 too high, for it is unlikely that the Maltese population doubled in fifty years after 1852. Even in recent times when the rate of increase has been higher than ever before, through the steady reduction of a high death rate, it took nearly seventy years from 1871-1948 for the population to double. In contrast, Abela's estimate for Gozo seems to have been too low. The main value of the information supplied by him is the indication it gives of the distribution and relative sizes of villages in the islands (25).

Ciantar's estimates (26) are most interesting. Whereas the figure for Malta is quite near what would be expected, there is none for Gozo and to obtain one the estimate for 1741 must be consulted. In it the number of men in Malta and Gozo able to take arms and form a fresh militia are given. In Malta, comparison with the 1760 total showed that one man in five was in the Militia; in Gozo the ratio was probably the same and if the numbers in the Militia there did really represent a ratio of one in five, then the population of Gozo must have been about 8,600 in 1760. The interpolated population (Fig. 9) is 8,500.

The figures of Boisgelin for 1798 should not be treated seriously. His estimate of 90,000 for Malta may have included

Figure 10.


INCREASE OF POPULATION
VARIOUS COUNTRIES
1500 - 1950
Millions
300
200
100
50
10
5
2
(Population of Malta in thousands)
F
M
G
I
GB
G Germany
GB Great Britain
I Italy
F France
M Maltese Islands
1500
1600
1700
1800
1900

the incoming French population, but cannot have represented the native population which was probably less than 80,000. He quotes 24,000 as the population of Gozo, but may have misread a total of 14,000 - a more likely current estimate. At this time, in fact, the numbers could hardly have exceeded 11,000. It is unfortunate that Boisgelin, who is a standard authority on Malta at the turn of the century, recorded these figures, for his total of 114,000 in 1798 has since been much-quoted. Emphasis on a population in the Islands of about 90,000 seems more realistic, and conforms closely with the trends of growth that followed in the years leading to the Census of 1842.

Whereas the population of Malta increased steadily during the era of the Knights, from 25,000 to 90,000 in 1798, much of the rest of Europe had static or declining numbers, and showed no noticeable increases until the eighteenth century (Fig. 10). The checks of plague, famine, and war, restrained growth in continental Europe, but the security and comparative stability of Maltese life under the Knights allowed a steady growth in the Islands. Even before 1800, mention had been made of the need for emigration to solve the problems of population pressure, as, at that time, two-thirds of the food supply had to be imported (27). Since then, the need for emigration which had been a vague possibility, has turned into reality, and is the only solution generally offered when overpopulation is mentioned. For, in

Malta, the pattern of increase has not only been maintained in the last one hundred and fifty years but the rate has accelerated.

Increase of Population 1530-1956.

Average annual increase (%)

Table 5.

Period	Maltese Islands	Malta	Gozo
1530-1842	0.63	0.74	0.33
1842-1956	0.90	0.96	0.58

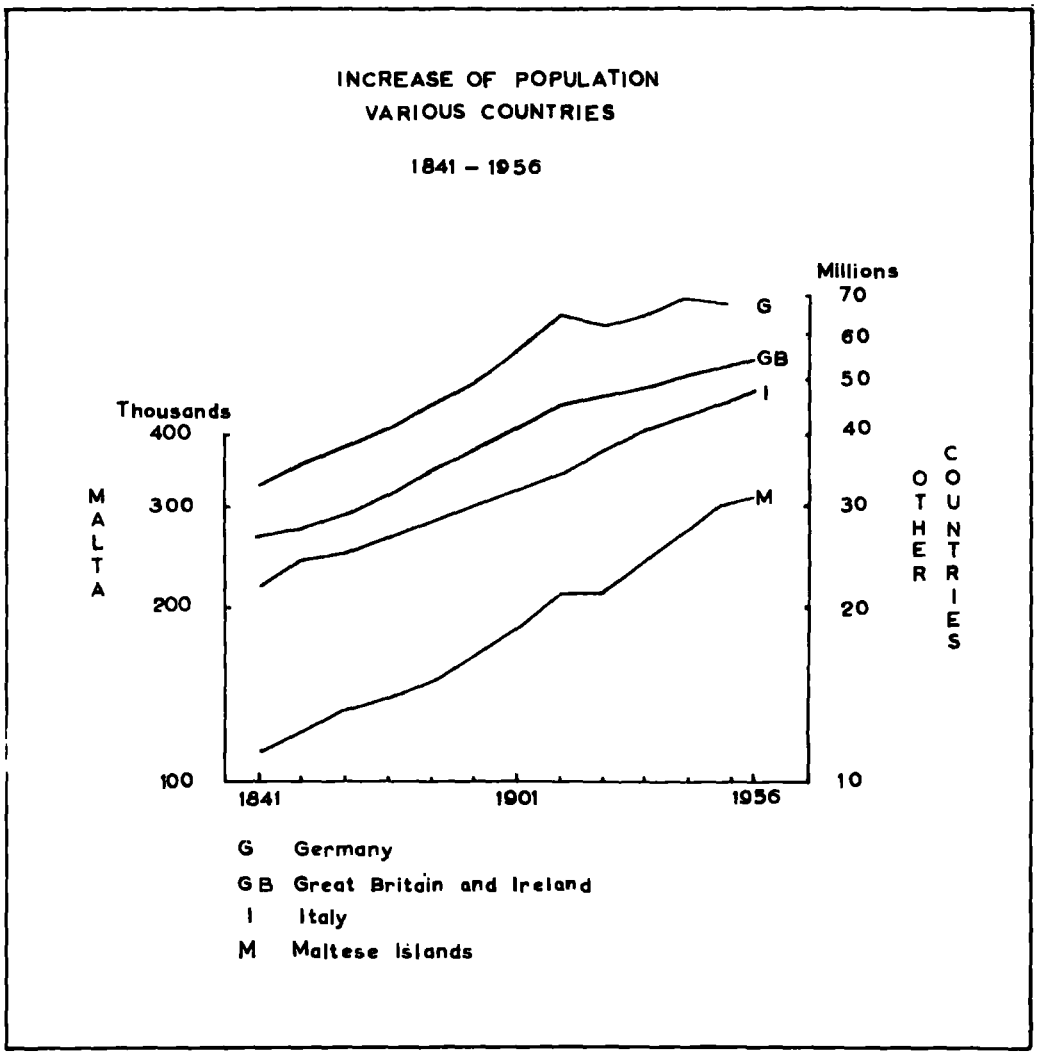
Chapter Eight. Growth of Population 1842-1956.

General

In 1836, when a Royal Commission investigated the political and economic position in the Maltese Islands, one of the Commissioners, Sir George Cornwall Lewis, said that "the real grievance of the Maltese lies beyond the reach of the Commissioners and Governments, namely the excessive population." Only in times of plague and famine had the death-rate approached the birth-rate, which was high even by European standards, and a steady increase of population had been maintained for three hundred years. In 1530 there were 20,000 inhabitants; in 1800, 90,000, and in 1842, the population was nearly 114,000.

Moreover, the area of the islands was small, and the internal resources were insufficient to support such a large population. In 1842, the density was 900 to the square mile, which exceeded that of Barbados - then widely accepted as the island with the densest population in the world. Nevertheless, the comparative stability and economic welfare which accompanied the British, did nothing to check the population increase. Gradually, advances in medical and sanitary conditions brought a fall in the death-rate, and so the rate of increase accelerated. In the years after 1842, the population nearly trebled, and in 1956 it was estimated to be 316,000 and the density over 2,500 to the square mile.

Figure 11.


INCREASE OF POPULATION
VARIOUS COUNTRIES
1841 – 1956
Millions
70
60
50
40
30
20
10
G
GB
I
M
Thousands
400
300
200
100
MALTA
OTHER COUNTRIES
1841
1901
1956
G Germany
GB Great Britain and Ireland
I Italy
M Maltese Islands

Although less than Hong Kong or Singapore, this is a higher density than that of any other area of comparative size, and twice that of Barbados.

Table 6.

Year	Maltese Islands			Malta			Gozo		
	Area	Pop.*	Density	Area	Pop.*	Density	Area	Pop.*	Density
1842	121.8	113864	935	94.9	99522	1049	27.0	14342	532
1901	"	184742	1516	"	164952	1739	"	19790	734
1956	"	316239	2571	"	288453	3021	"	27786	1026

* Civil population only. Sources: Censuses.

Comparison of the recent growth of the Maltese population with some other countries, shows that, as in the years before 1800, the rate of increase was still comparatively high, and in the late nineteenth century, the population of Malta grew almost as fast as that of Germany (Fig. 11). In the last fifty years, when the rate of growth of most countries has declined through a falling birth-rate, in Malta and Italy it has accelerated, and between 1921 and 1948, the Maltese rate was higher than ever before. Only in the last few years has the Maltese birth-rate declined, and migration been able to balance the natural increase, but the elements which could contribute to another sudden rise in population are still present, although latent.

Average annual rates of increase (%) 1841-1951

Table 7.

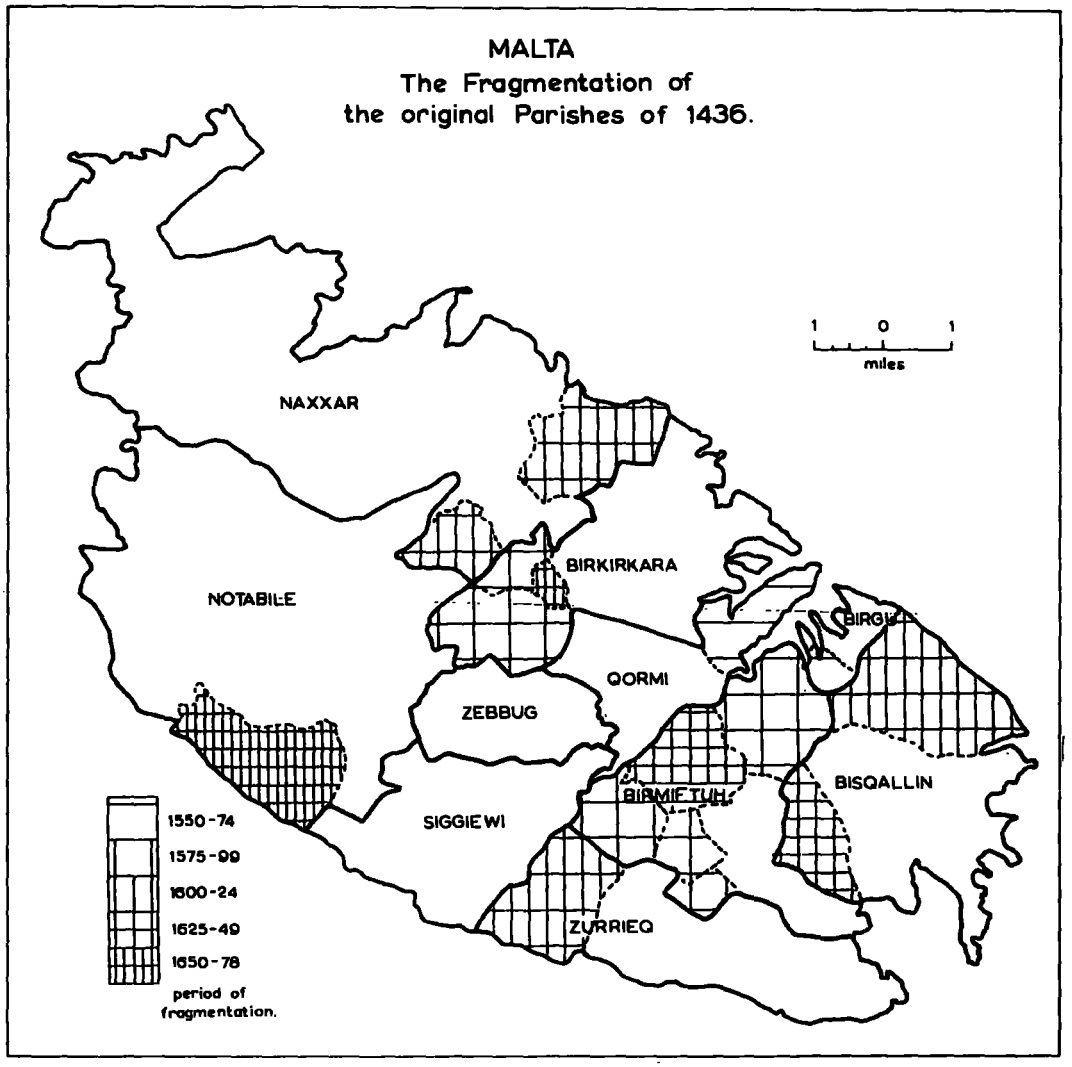
Country	1841-1911	1911-21	1921-51
Maltese Islands	0.89[2]	0.03	1.34[3]
Germany[1]	0.97	-0.39	0.33
Great Britain and Ireland[1]	0.76	0.33	0.40
Italy[1]	0.65	0.93	0.71

1. based on Landry, p.61, and U.N. Demog YB'56. 2. 1842-1911. 3. 1921-48.

The presence of non-Maltese elements in the population has already been mentioned in a previous chapter. Their numbers have never been very large, but their importance has been considerable. Before 1881, there were about 2,000, but with the inclusion of the wives and children of Garrison personnel, numbers rose to nearly 6,000 in 1901, and remained at about that level until 1939, although the proportion of foreigners declined. Since 1945, there has been a rise in the number of Services' families, and in 1948, the non-Maltese element may have totalled as many as 8 or 9,000.

Because this element is non-permanent, and most of the British people, and foreigners, leave after a period of only a few years, they produce fluctuations and changes in the pattern of population growth which are not characteristic of the remainder of the population. The explanation of anomalies of

Figure 12.


MALTA
The Fragmentation of
the original Parishes of 1436.
1 0 1
miles
NAXXAR
BIRKIRKARA
NOTABILE
BIRGU
QORMI
ZEBBUG
BISQALLIN
BIRMIFTUH
SIGGIEWI
ZURRIEQ
1550-74
1575-99
1600-24
1625-49
1650-78
period of
fragmentation.

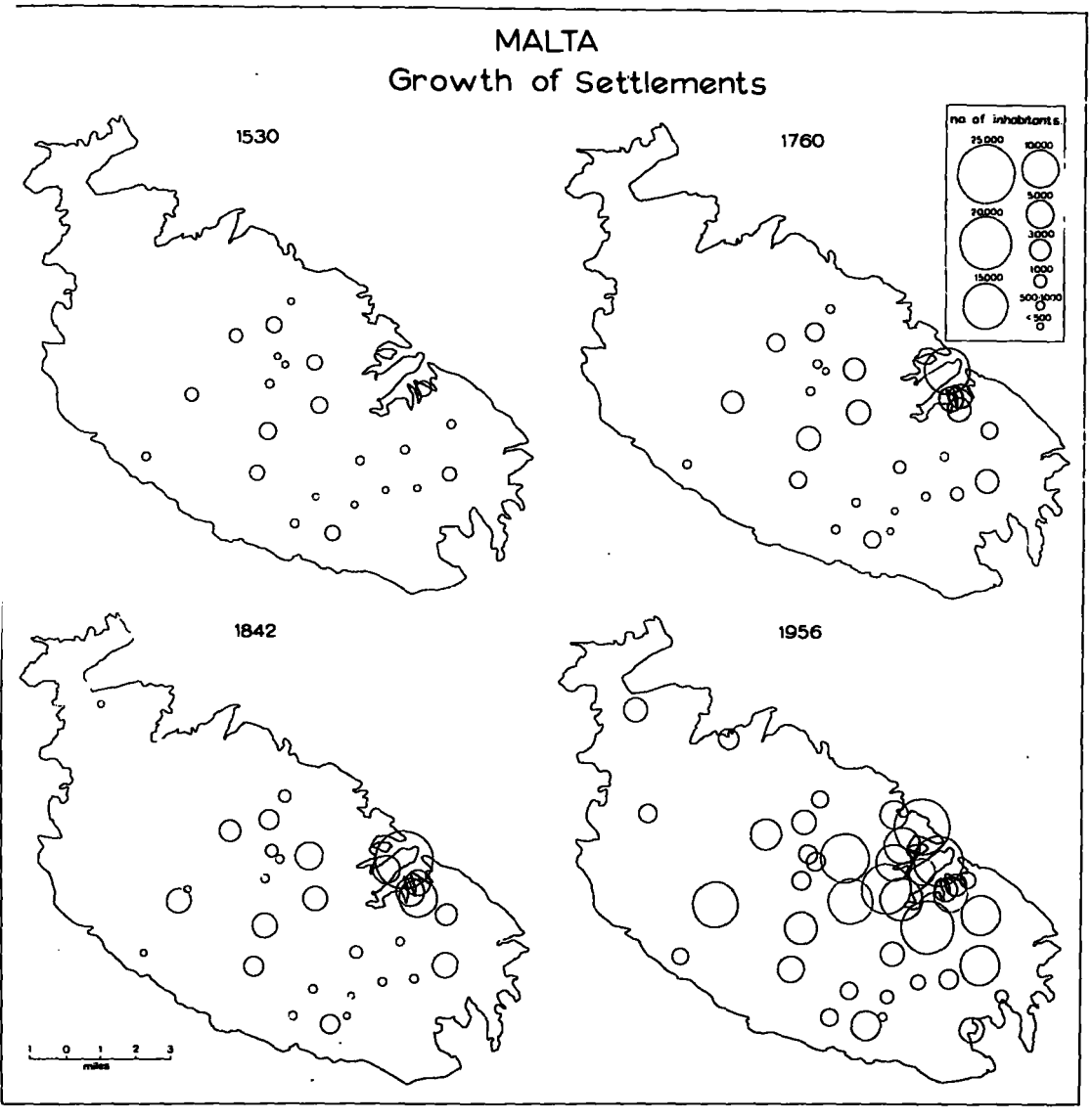
distribution, structure, movement and natural increase, often lie with the non-Maltese element, and where such is the case, it is pointed out. Although the detailed analysis of migration and natural increase, by nationality, are found in later chapters, and the non-Maltese element is considered more fully there, it is well to be aware of its existence, during the present summary of the characteristics of the population.

The elements of the population, by birthplace, are given in Appendix E, Table 2.

The Distribution of Population.

Before the arrival of the Knights, the population was clustered in small villages, all of which were situated well inland. In the heart of each island there was a Mdina - a fortified town within which refuge could be sought in times of emergency, but in Malta there was also a port. It lay on a promontory projecting into the Grand Harbour, and under the shadow of a castle built by the Arabs. This town called Birgu, and later named Vittoriosa, was the centre of the island's commerce, whilst the ecclesiastical and administrative capital remained in Mdina. In 1436, in addition to Birgu and Mdina (Notabile), there were nine parishes in Malta, and from these were fragmented a further fifteen before the end of the seventeenth century (Fig. 12). Most of the consolidation, however, took place in the central and southern parts, whilst the more exposed and rugged north and west remained sparsely peopled.

Figure 13.


MALTA
Growth of Settlements
1530
1760
1842
1956
no. of inhabitants
25,000
10000
5000
20000
3000
1000
15000
500-1000
<500
1 0 1 2 3
miles

The natural focus of trade and commerce was the Grand Harbour, which had initially attracted the Order to the Islands. They established their headquarters in Birgu, but soon had to start building on the neighbouring peninsula of Isola, and later spread inland, building on the sloping land at the head of the creeks. Together, these formed the Three Cities, which retained a common identity, as they were encircled by fortifications later known as the Cotonera Lines.

But, before long, the combination of overcrowding in Birgu, and the vulnerability of the Three Cities, which had been shown in the Siege of 1565, prompted the Knights to move their headquarters to the much larger peninsula of Xibberas, and by 1575 the new city of Valletta was almost complete. The new city soon dominated the island, and grew at a pace such that by 1800 it held a quarter of the population of Malta. When the British arrived, the entire civil administration was concentrated in Valletta, and after the collapse of the Universita, which had been based on Mdina, the position of Valletta was supreme.

Estimates of population made before the first Census (28) show that Valletta reached a peak of importance in the early part of the nineteenth century, and since then, with the Three Cities, her population has slowly declined, whilst that of the remainder of Malta has increased rapidly. The second half of the nineteenth century was the period of suburban spread, which has been a

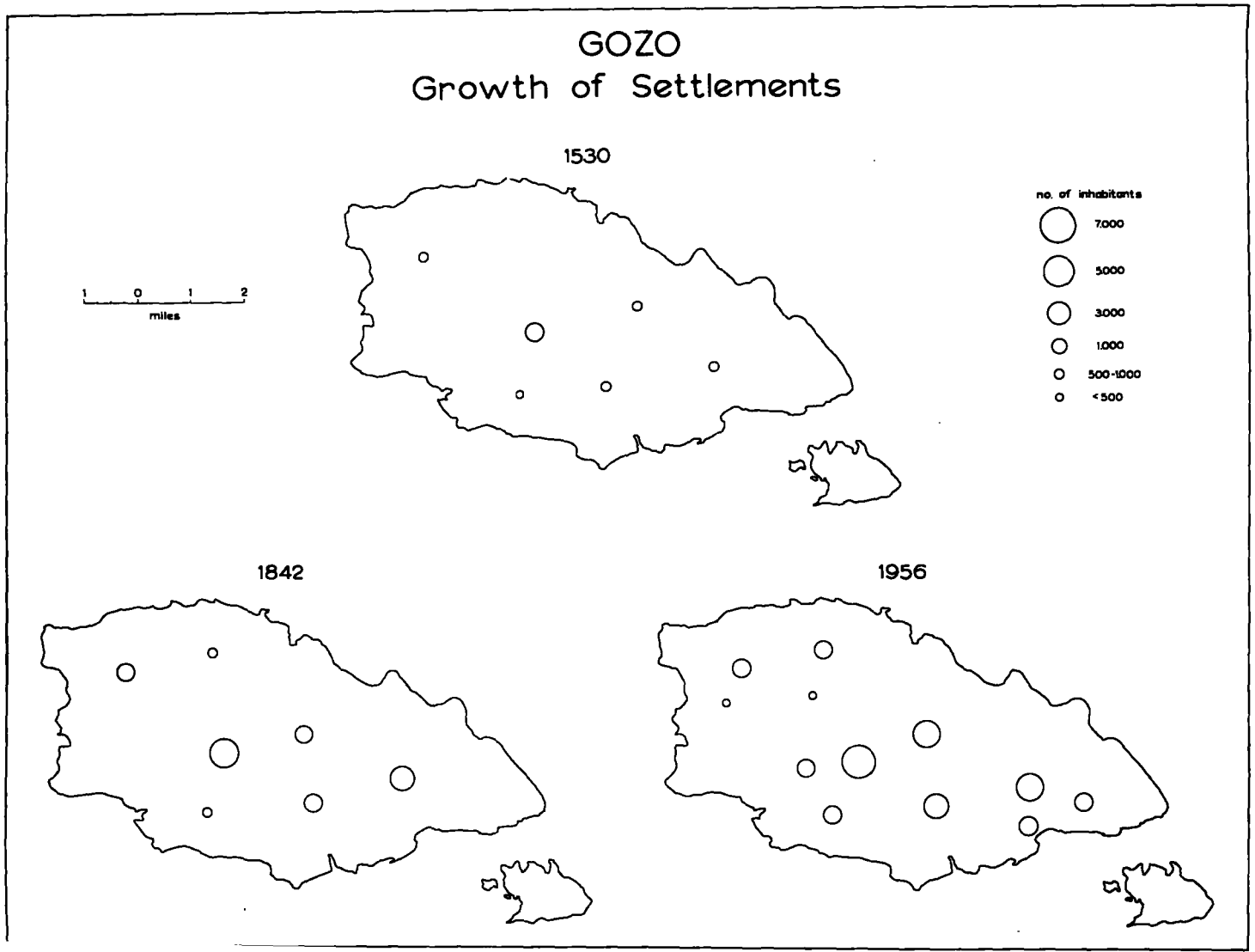

GOZO
Growth of Settlements
1530
1842
1956
1 0 1 2
miles
no. of inhabitants
7000
5000
3000
1000
500-1000
<500

Figure 14.

combination of movements outward from the congested urban areas, and inward from rural Malta.

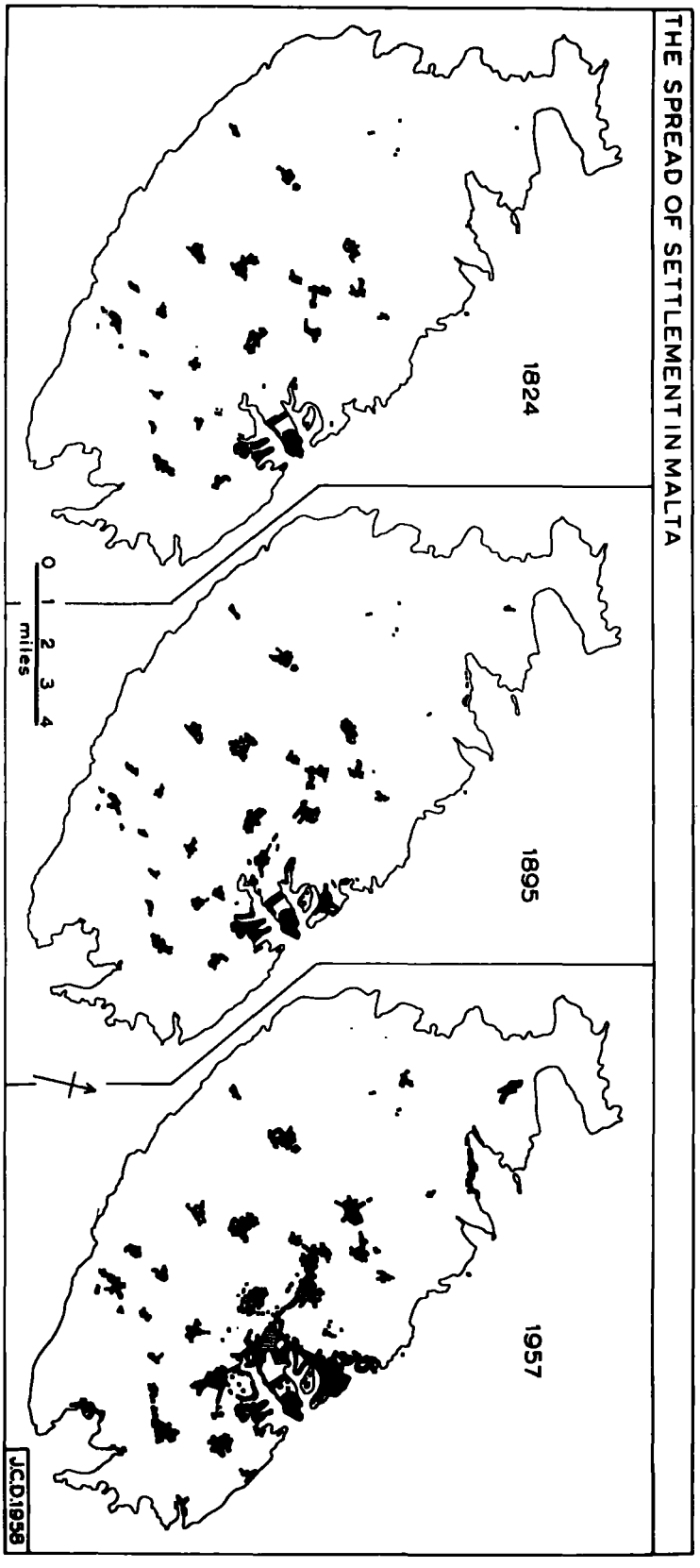
This trend has been maintained in the last fifty years, but the latter period has also seen the establishment of coastal villages, mainly around Marsaxlokk Bay, and the development of settlement in the north, where Mellieha, St. Paul's Bay, and Mgarr, have all been of recent origin, although hamlets in these places have existed for several hundred years.

The War of 1939-45, caused the virtual evacuation of the urban area, but since the war a reconstruction programme has been almost completed, and the population is growing again, although the plans do not envisage more than half the former density in the Three Cities, and the population of Valletta is planned not to exceed 20,000.

Changes in the distribution of population and the development of new towns and villages are restricted to Malta. In Gozo villages have grown larger and spread in a straggling fashion over the hilltops, and hamlets like Ghasri, San Lawrenz, and Kercem have become sufficiently large to gain their own parish churches. But still, the old Mdina, and its suburb of Rabat (Victoria, in official terms), dominates the life of the island, and all roads lead to the citadel.

The distinction of urban, suburban and rural districts in Malta is based upon the distribution and growth of population in

Figure 15.


THE SPREAD OF SETTLEMENT IN MALTA
1824
1895
1957
0 1 2 3 4
miles
JCD:1958

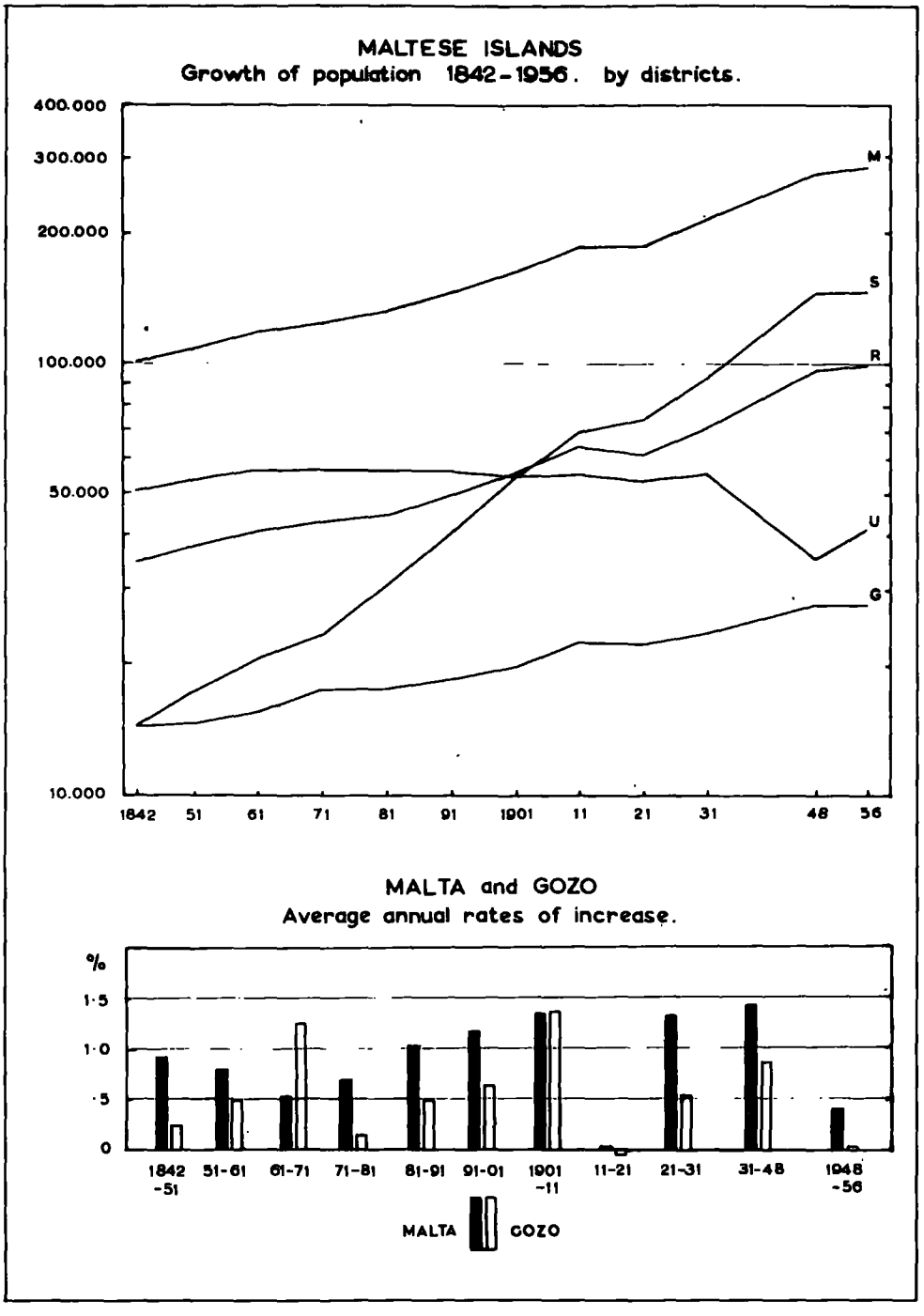
three areas, each with their own peculiar characteristics. The urban area consists of the fortified towns of Valletta, Floriana and the Three Cities. With the exception of Cospicua, each of the towns lies on a peninsula, and all are confined in area by elaborate fortifications as well as by the topography. The lack of space for further development has precluded the growth of this zone.

Around the harbour is an important zone of suburban settlement which has both accepted the urban overflow and taken some of the population from rural areas. It extends inland for a distance varying between two and three miles, and only the villages on the inward margin are more than a hundred years old. The limits are St. Julians in the north, Birkirkara and Qormi in the west, and Tarxien and Zabbar in the south. The growth which began as the extension of settlement along the harbour area, spread inland in a secondary phase of ribbon development, which has now linked the old villages of Birkirkara and Zabbar with Valletta, through a continuous built-up area (Fig. 15).

Beyond the suburban zone lies Rural Malta, where villages retain their individuality and a measure of isolation, which has been lost by the minor elements of the conurbation of the Harbour area.

In 1842, the Urban area held half of the population of Malta. By 1956, this had declined relatively and absolutely, to only 14%

Figure 16.


MALTESE ISLANDS
Growth of population 1842-1956. by districts.
400.000
300.000
200.000
100.000
50.000
10.000
M
S
R
U
G
1842
51
61
71
81
91
1901
11
21
31
48
56
MALTA and GOZO
Average annual rates of increase.
%
1·5
1·0
·5
0
1842 -51
51-61
61-71
71-81
81-91
91-01
1901 -11
11-21
21-31
31-48
1948 -56
MALTA
GOZO

of the total. The Suburban increase has been large; in 1842 it held 14% of the population, and in 1956 51%. In fact the balance has shifted so that the proportions in urban and suburban areas have been reversed in the intervening 114 years. The Rural area has maintained a third of the population throughout the period, although the density of settlement has nearly trebled.

Malta. Percentage Distribution of Population 1842-1956.

Table 8.

District	1842	1861	1881	1901	1921	1948	1956
Urban	50.6	48.0	43.3	33.2	28.2	12.6	14.5
Suburban	14.5	17.4	23.1	33.1	39.2	52.6	50.9
Rural	34.9	34.6	33.6	33.7	32.6	34.8	34.6

Sources: Censuses and 1956 Statistical Abstract.

Increases in Population.

The way in which the population has grown is shown in the graph (Fig. 16). Whilst the total population has trebled, that of Gozo has not quite doubled since 1842 and only in one inter-censal period has the Gozitan rate of increase been higher than that of Malta. The Maltese trend starts with a comparatively high rate of increase until 1861; this fell between 1861 and 1881, but gathered momentum in the following thirty years reaching a very high level in 1901-11. The war years that followed showed virtually no increase of population, but in the next twenty-seven

years a high rate was resumed. Between 1948 and 1956 the rate fell again to a level lower than at any time except in the decade of the First World War.

In Gozo, the trends have been subject to more fluctuations. In 1842, Gozo contained 13% of the population of the islands, but in 1956 this had been reduced to less than 9%. There was an extraordinarily high increase between 1861 and 1871, but in 1911 to 1921, when the Maltese population barely increased, that of Gozo declined. Again, since 1948, the Gozitan population has remained virtually unchanged.

All the districts of Malta show a relative decline in the rate of growth between 1861 and 1871, which continued until 1881 in the rural as well as the urban districts, but suburban Malta shows in 1881 the first real signs of the rapid growth which was maintained until the last war. The rate of growth of the suburban area was higher before 1911, than after, but that of the rural area was greater in the period after 1921. Between 1911 and 1921, the time of the first great wave of migration, the rural area suffered more than the others. The return to the Urban area after the last War is reflected in the very small increases of suburban and rural population over the same period.

In the Urban district there are five localities, and among these the trends show considerable uniformity (Fig. 17). In Valletta, the decline of population apparently dates from the

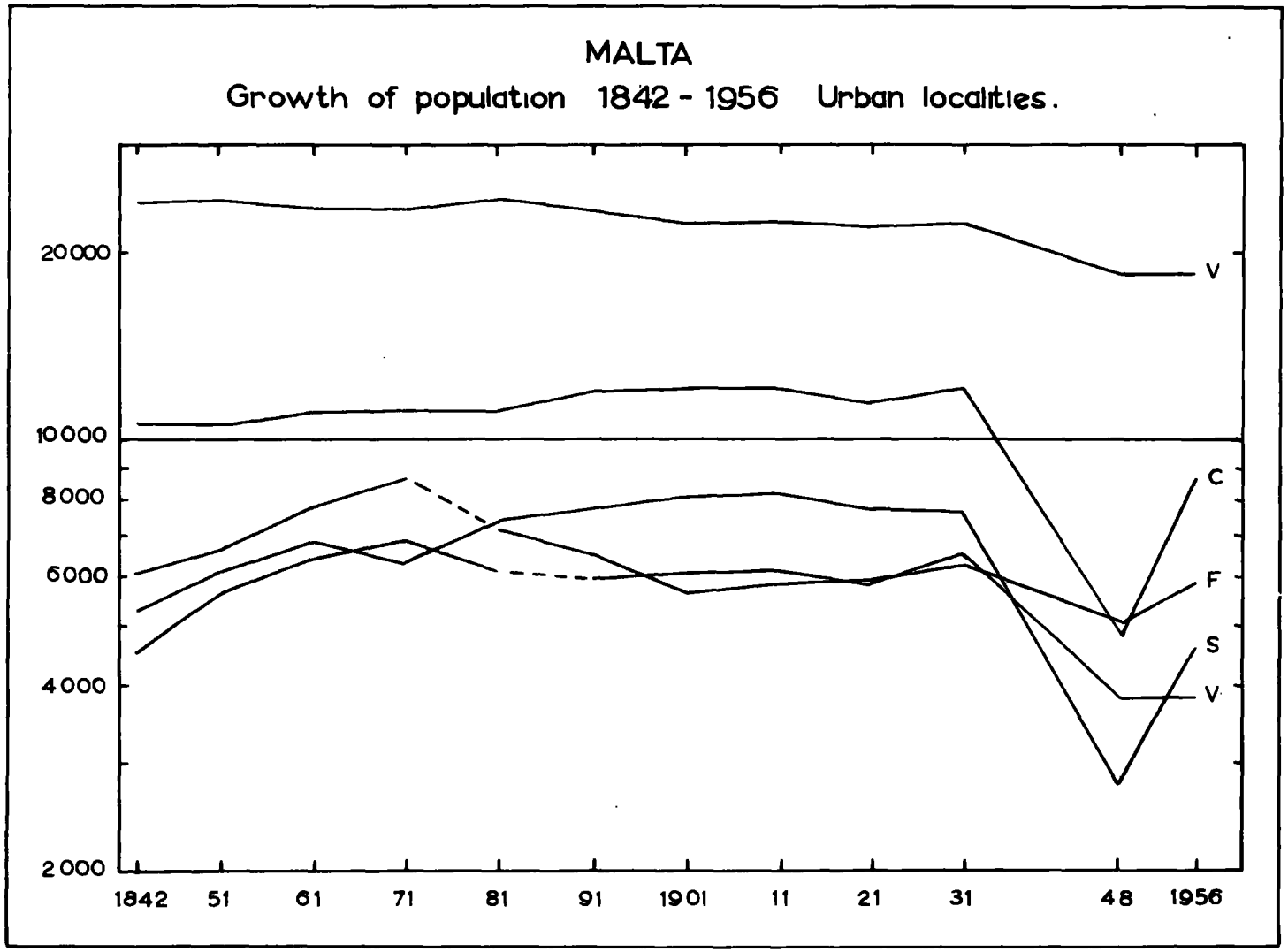
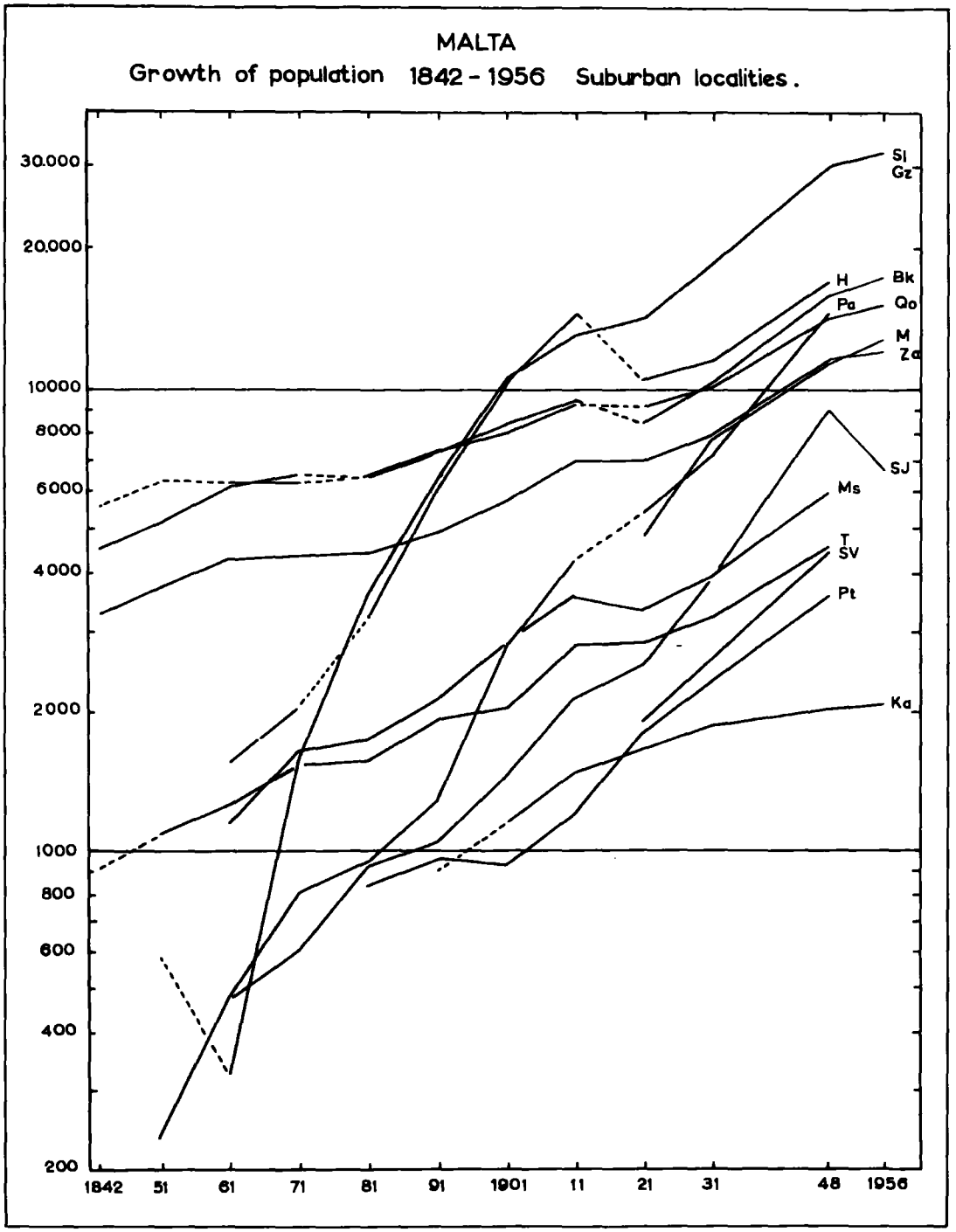

MALTA
Growth of population 1842 - 1956 Urban localities.
20000
10000
8000
6000
4000
2000
1842
51
61
71
81
91
1901
11
21
31
48
1956
V
C
F
S
V

Figure 17.

Figure 18.


MALTA
Growth of population 1842 - 1956 Suburban localities.
30.000
20.000
10000
8000
6000
4000
2000
1000
800
600
400
200
1842
51
61
71
81
91
1901
11
21
31
48
1956
Sl
Gz
H
Bk
Pa
Qo
M
Za
SJ
Ms
T
SV
Pt
Ka

first Census, but in the other localities it was not really felt until after 1871. Floriana suffered to the greatest extent, whereas Senglea and Cospicua were still growing, although slowly, until 1911. In the war years, the population fell more sharply in the Three Cities than in Valletta, and in Floriana it actually grew. In the 1940's, Cospicua and Senglea suffered most, and after 1948 their populations grew again more rapidly than Floriana, whilst Valletta and Vottoria remained stationary.

The most noticeable distinction among suburban localities is the difference between old and new villages (Fig. 18). Birkirkara, Qormi, Zabbar, and Tarxien, all have shown a lower rate of growth than the other nine localities, but among the older group the most vigorous trend is that of Tarxien which has gradually become subordinate to the new town of Pawla, so that now the two are contiguous. It is the growth of the towns of Pawla, Hamrun, Sliema and St. Julians which have been the most remarkable features of the nineteenth century. In 1842 the hamlets on those sites, contained together less than a thousand people, but in 1956 there were 70,000, which was equal to one-half of the suburban population, and a quarter of the population of the whole island. The oddity of the suburban group is Kalkara, which reflects the pattern of relative decline more characteristic of Urban Malta. It also emphasises that the suburban expansion has been concentrated about the harbour of Marsamxett, rather than

Figure 19.

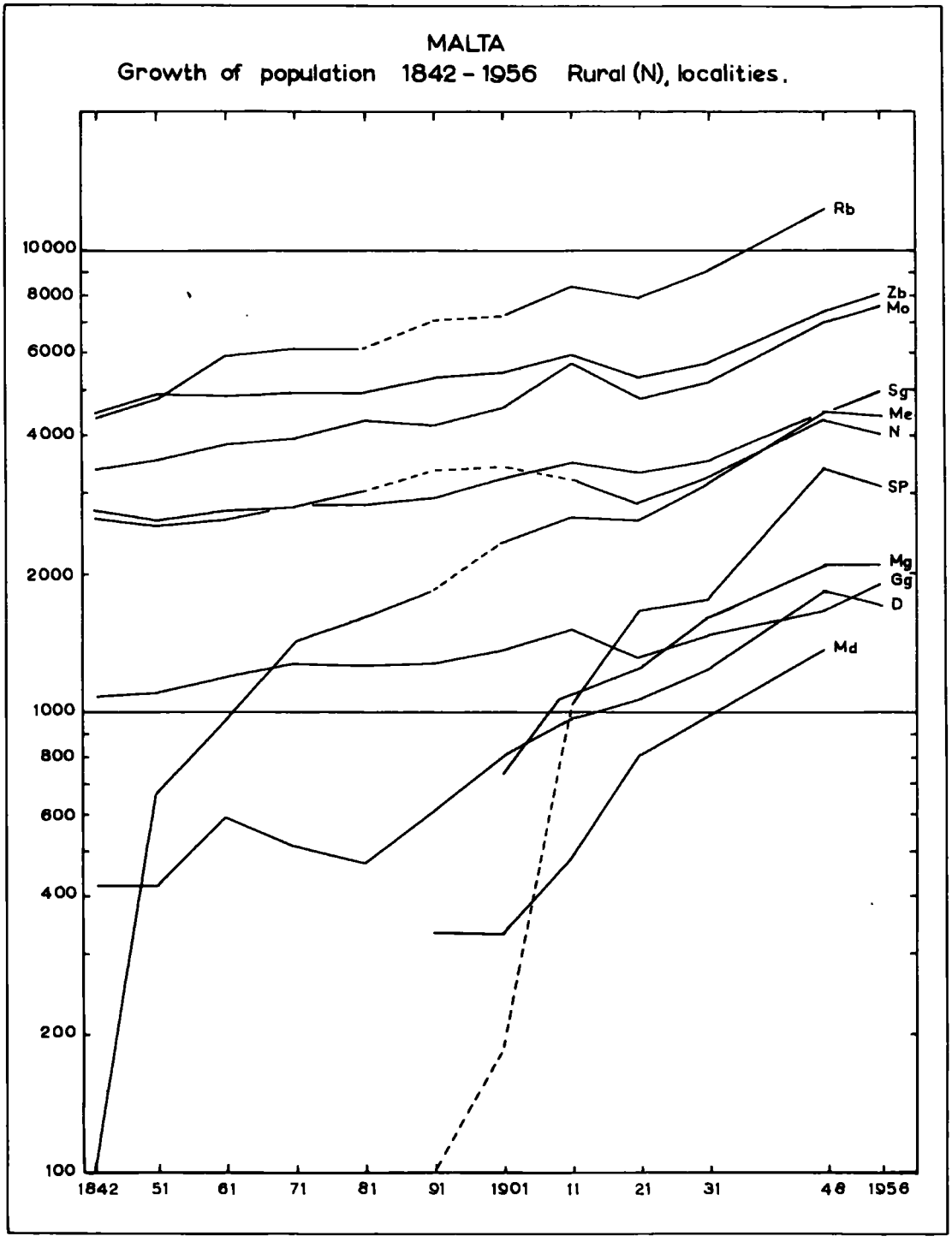

MALTA
Growth of population 1842 - 1956 Rural (N), localities.
Rb
Zb
Mo
Sg
Me
N
SP
Mg
Gg
D
Md
10000
8000
6000
4000
2000
1000
800
600
400
200
100
1842
51
61
71
81
91
1901
11
21
31
48
1956

Figure 20.

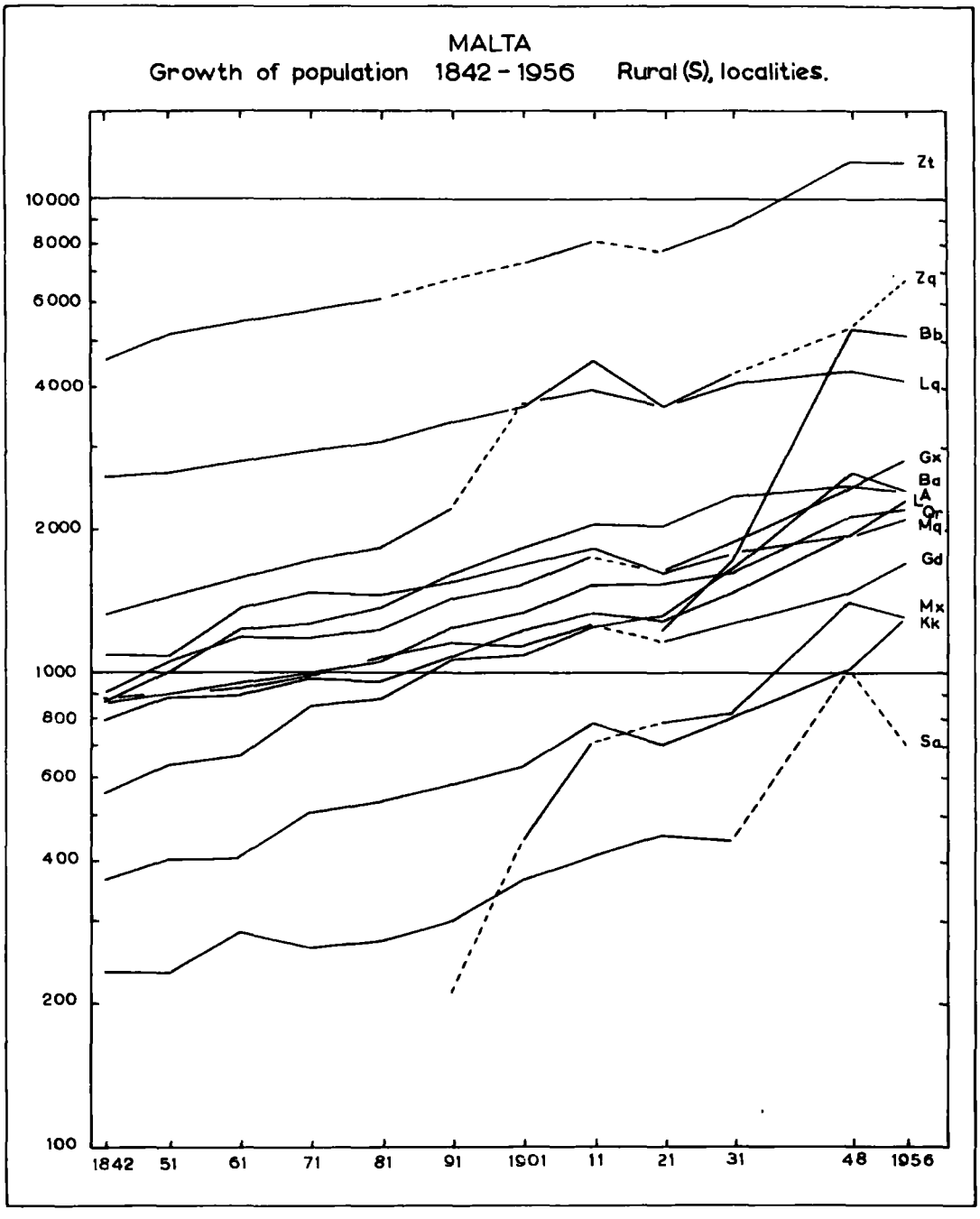
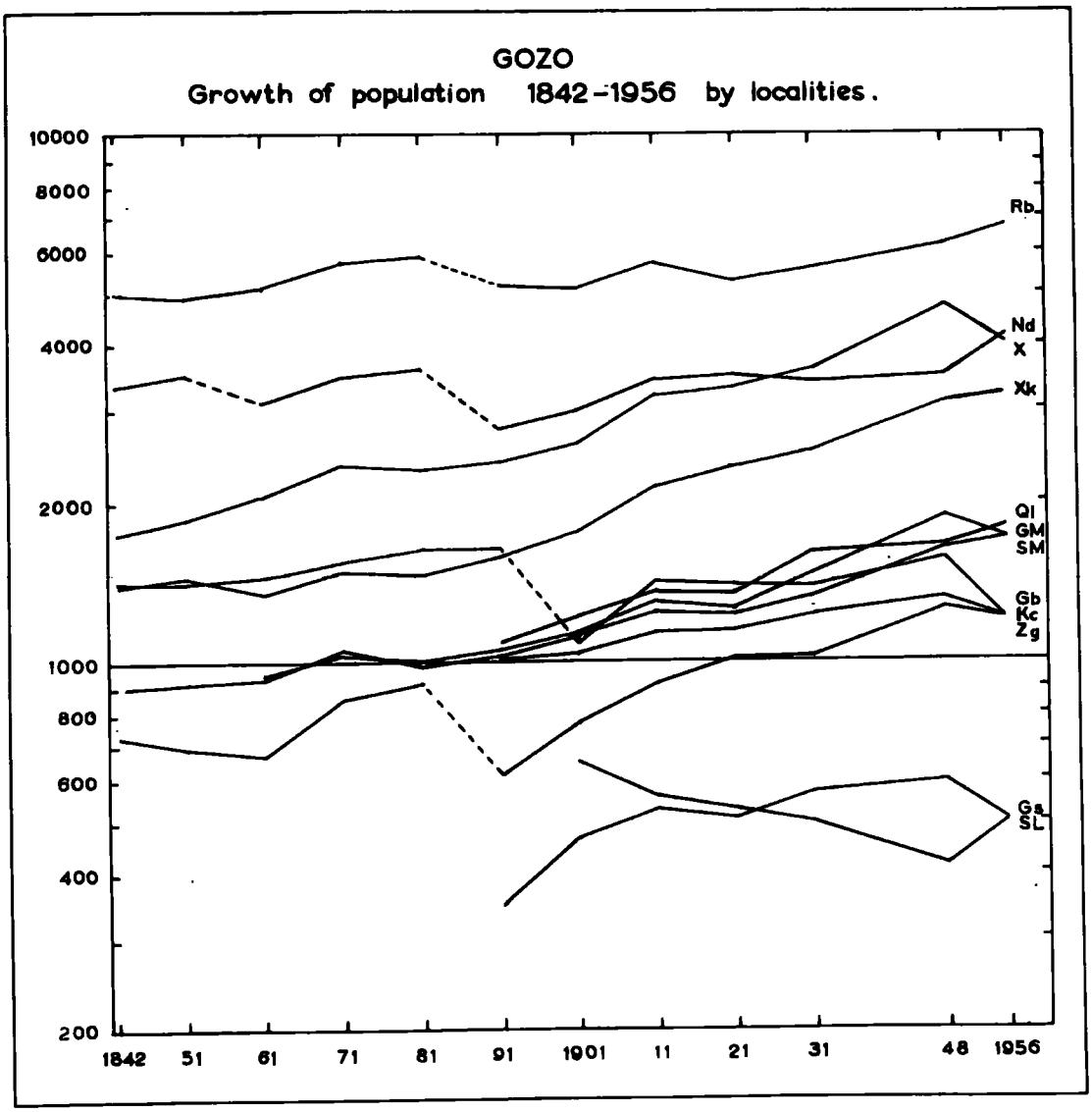

MALTA
Growth of population 1842 - 1956 Rural (S), localities.
10000
8000
6000
4000
2000
1000
800
600
400
200
100
1842
51
61
71
81
91
1901
11
21
31
48
1956
Zt
Zq
Bb
Lq
Gx
Ba
LA
Qr
Mq
Gd
Mx
Kk
Sa

Figure 21.


GOZO
Growth of population 1842-1956 by localities.
10000
8000
6000
4000
2000
1000
800
600
400
200
1842
51
61
71
81
91
1901
11
21
31
48
1956
Rb
Nd
X
Xk
Ql
GM
SM
Gb
Kc
Zg
Ga
SL

the commercial and naval Grand Harbour.

Again, with the rural areas (Figs. 19 and 20) the rate of growth of new localities is the outstanding feature (i.e. Marsaxlokk, Birzebbuga, St. Paul's Bay and Mellieha) but there is a measure of conformity among the remainder, although the small numbers in Dingli were subject to sharp fluctuations in the mid-nineteenth century. A few places show big increases in population between 1901 and 1911, especially Zurrieq, Kirkop and Mosta, but the greatest proportional losses were suffered by these same three villages and Gharghur in the following decade. After 1921, except for the new villages of Birzebbuga and St. Paul's Bay, all the localities shared a uniform rate of growth.

The Gozitan pattern, as already mentioned, reflects the lowest rate of increase (Fig. 21). The largest villages have grown least (Rabat and Nadur), but Xaghra and Xewkija have grown at a faster rate than the average. Of the smaller villages, Zebbug and Ghasri have grown most, but unlike Malta, the villages formed in or after 1891 do not show an increase of above-average proportion. San Lawrenz, created in 1901, showed a steady decline of population until 1948.

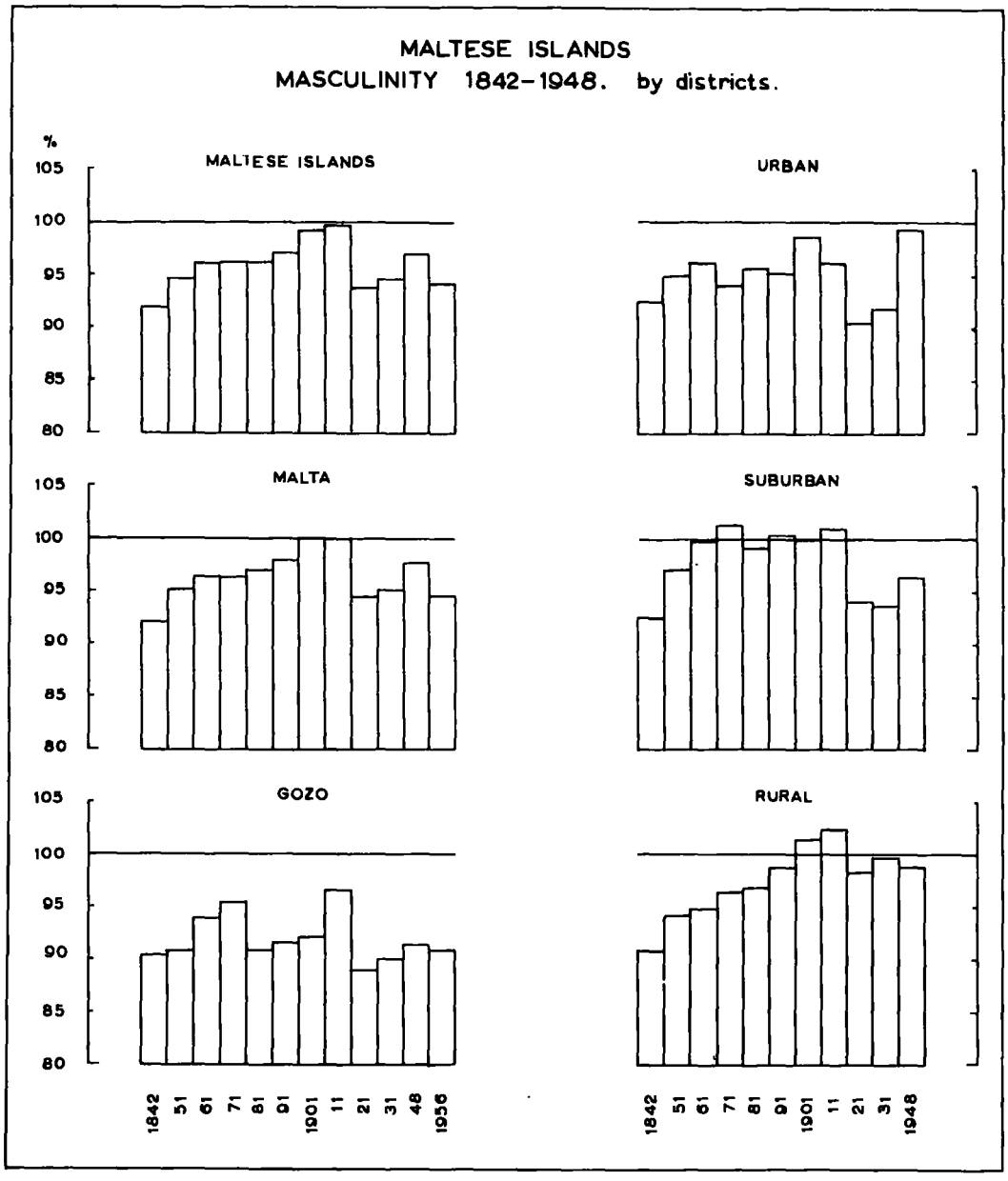
Chapter Nine. Sex and Age Structure, civil condition and family size.

Masculinity.

Ideally, in a country where the structure of the population has not been modified by migration or other special factors, it is to be expected that the numbers of males and females should be equal. More males are born than females, but infant mortality rates are higher for them, and a lower female mortality rate which operates throughout the later periods of age, adjusts the proportions so that amongst the older section of the population there are more women than men.

In the Maltese Islands, both overseas migration and internal movement have had an important effect upon the sex-ratios. The low ratio of males to females was apparent as early as 1842 - a disproportion which was apparently the product of the movement overseas of more men than women. In the following seventy years, however, there was an adjustment of the balance, until parity was almost reached in 1911. This represented a return of men to the Islands, but in the decade of 1911-21, which was important for the high level of emigration, the proportion of males fell again. In 1931, and 1948, the masculinity increased, but after the recent wave of migration which reached a peak in 1954, the level was low in 1956.

Figure 22.

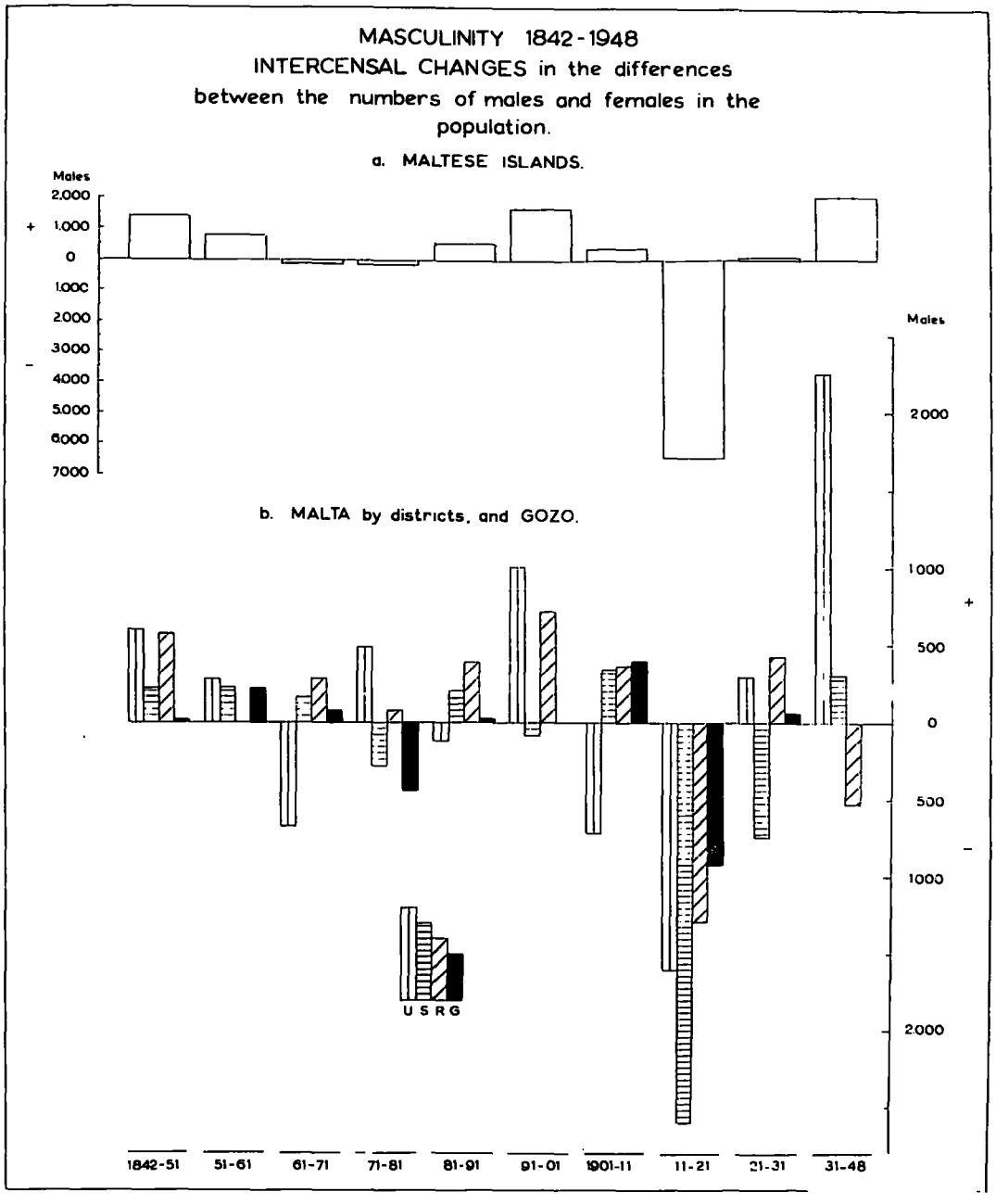

MALTESE ISLANDS
MASCULINITY 1842-1948. by districts.
%
105
100
95
90
85
80
MALTESE ISLANDS
URBAN
MALTA
SUBURBAN
GOZO
RURAL
1842
51
61
71
81
91
1901
11
21
31
48
1956
1948

Masculinity in Malta has been consistently higher than in Gozo (Fig. 22). The range extends from a low 92.1 males per hundred females in 1842 to 100.1 in 1901. In Gozo, masculinity was least in 1921 (88.9), and highest in 1911, but apart from the latter year, only at two other times were there as many as 95 males per hundred females. Unlike Malta, masculinity was low in Gozo in 1901, and where, as in this case, the Gozitan trend is the reverse of the Maltese, it may well be the result of movement to Malta, without involving the more serious step of migration overseas. The consistently lower masculinity of Gozo does however emphasise the fact that emigration, whether to Malta or further afield is more important and serious a feature of life in the smaller island.

Within Malta, the analysis by districts, shows a characteristic pattern for each of the groups. The similarity between districts extends as far as the sharing of a low masculinity in 1842, and a comparatively high level in 1901 and 1911. The group which conforms most closely to the Maltese trend is the Urban area, although the general level is below the average for the island. The outstanding feature is the high masculinity in 1948, which is not shared with the other areas; in 1921 the lowest masculinity is shown by the urban area.

In the suburban area, the period of 1861 to 1911, was that of the most marked growth, and in it the ratios remained equal, which

Figure 23.


MASCULINITY 1842-1948
INTERCENSAL CHANGES in the differences between the numbers of males and females in the population.
a. MALTESE ISLANDS.
Males
2,000
+ 1,000
0
1,000
2,000
3,000
- 4,000
5,000
6,000
7,000
b. MALTA by districts, and GOZO.
Males
2000
1000
+
500
0
500
1000
-
2000
U S R G
1842-51
51-61
61-71
71-81
81-91
91-01
1901-11
11-21
21-31
31-48

suggests that the inward movement of this period must have been well-balanced between the sexes. The lower masculinity after 1911 is strongly marked, but less subject to variation than in the urban area.

The rural pattern is different again, for the masculinity increases steadily from 1842 until 1911, when the level was the highest ever recorded in Malta (102.5). After 1911, even, masculinity remained atypically high and like Gozo it was higher in 1931 than in 1948.

Apart from the general features which can be pointed out by the presentation of actual ratios of masculinity, the important factor is the manner in which it changes. Without involving any movement the masculinity will rise in a population with a surplus of females, for although there may be the same absolute excess of females, proportionately, the discrepancy is reduced as the population becomes larger. Therefore, in a way, a more interestin measure is that of changes in the levels of masculinity represented by intercensal changes in the differences between the numbers of males and females (Fig. 23). This gives an indication of relative changes between censuses and with caution can be interpreted as an indication of the scale and direction of movement both internal and overseas. It does not, however, relate movement to the size of the population from which it springs, and, for example, it underestimates the comparative importance of movement from Gozo.

For the islands as a whole, the changes in masculinity after 1871 and before 1931, conform to the pattern of overall net migration (see Fig. 36). But between 1842 and 1861, there is a relative increase in the number of males, although this is a period interpreted by Price as one of net emigration. The lack of correlation may be due to random variation, which is always liable to occur in small populations, but the agreement of the changes with the pattern of net migration in recent years, does suggest that these figures may be of some significance. The increased masculinity of the 1931-48 period is related to changes in the population brought about by the last War. In 1931, there was an extraordinarily large female excess among the non-Maltese population (29). When the war began, they were evacuated, and in the post-war period, the non-Maltese population which returned, came back in balanced numbers. Hence, since 1931, the masculinity has increased, although there has been no net migration over the period.

The analysis by districts has a number of interesting features. The relative decline, of 1861-71, in males, in the urban area, is matched by a similar decline between 1901 and 1911, as the harbour improvement scheme ended. The inward movement of 1891 to 1901 may well be represented by the rising proportion of males moving in to work in the urban area. The increased urban masculinity of 1948 suggests that the population which returned to the

reconstructed urban area, after the war, came back in unbalanced numbers, causing an adjustment in the ratio of males and females which compensated the female bias of 1931.

Fluctuation in the suburban district has been slight except in the 1911-21 period when the greatest outward movement seems to have been from the suburban area. This trend recurred in the following decade, but the fall in masculinity in the latter period is almost certainly caused by the inclusion in 1931 of garrison families in the civilian population. Among them there is an excess of Services' wives most of whom live in Suburban Malta.

The rural district varies, but changes before 1911 are all positive showing rises in the number of males. The largest increase is between 1891 and 1901, the time when many people were returning to employment in Malta, from North Africa. The declining number of males between 1931 and 1948 probably was a prelude to the migration of the next eight years.

Ages of the population.

The age composition reveals a high proportion of children in the Maltese Islands. There were more than in other European countries, and Australia, and a similar proportion to Barbados, another densely populated and rapidly growing island. The percentage was also similar to Japan, but lower than that of Puerto Rico, one of the fastest growing populations in the world where

Figure 24.

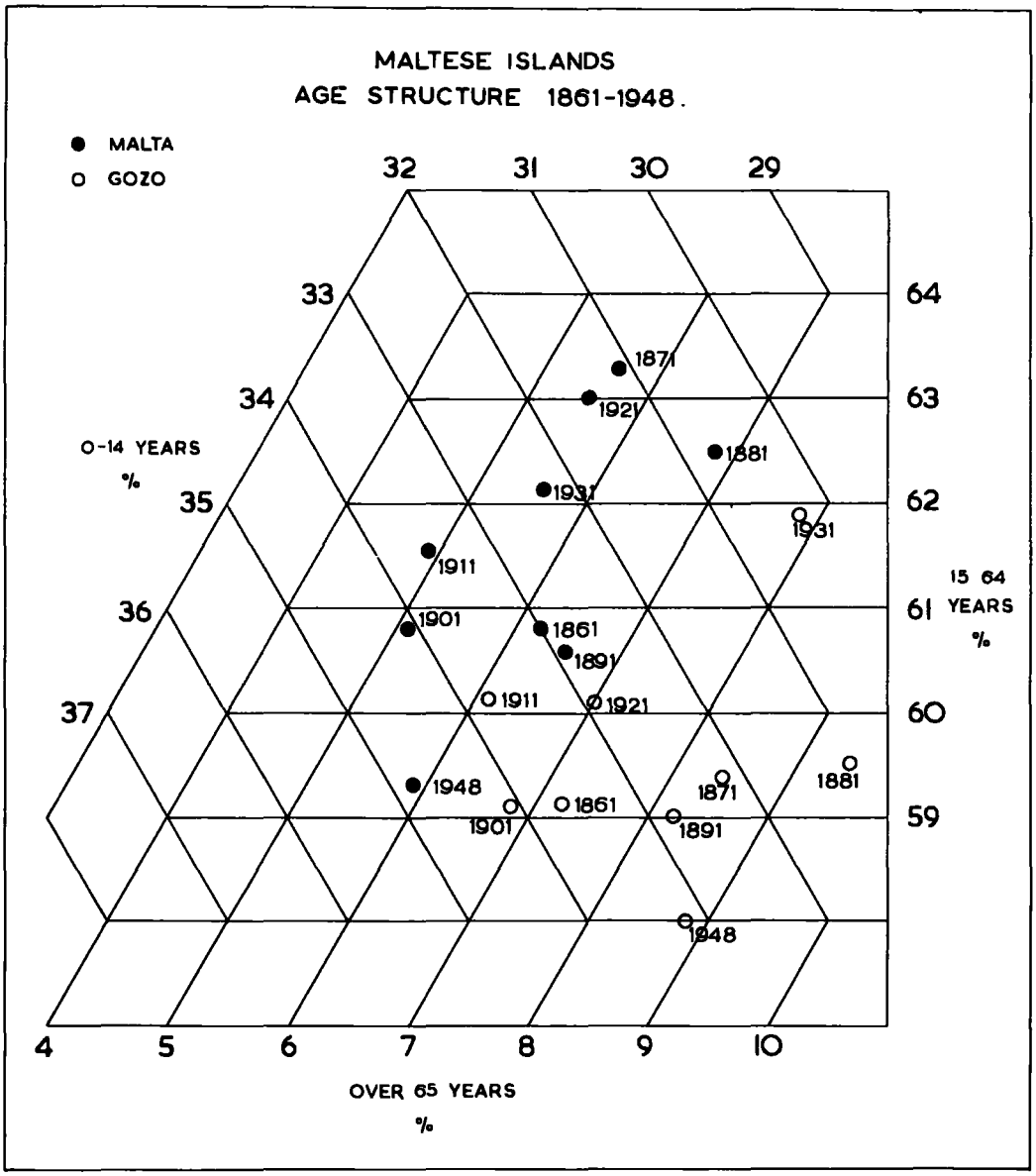
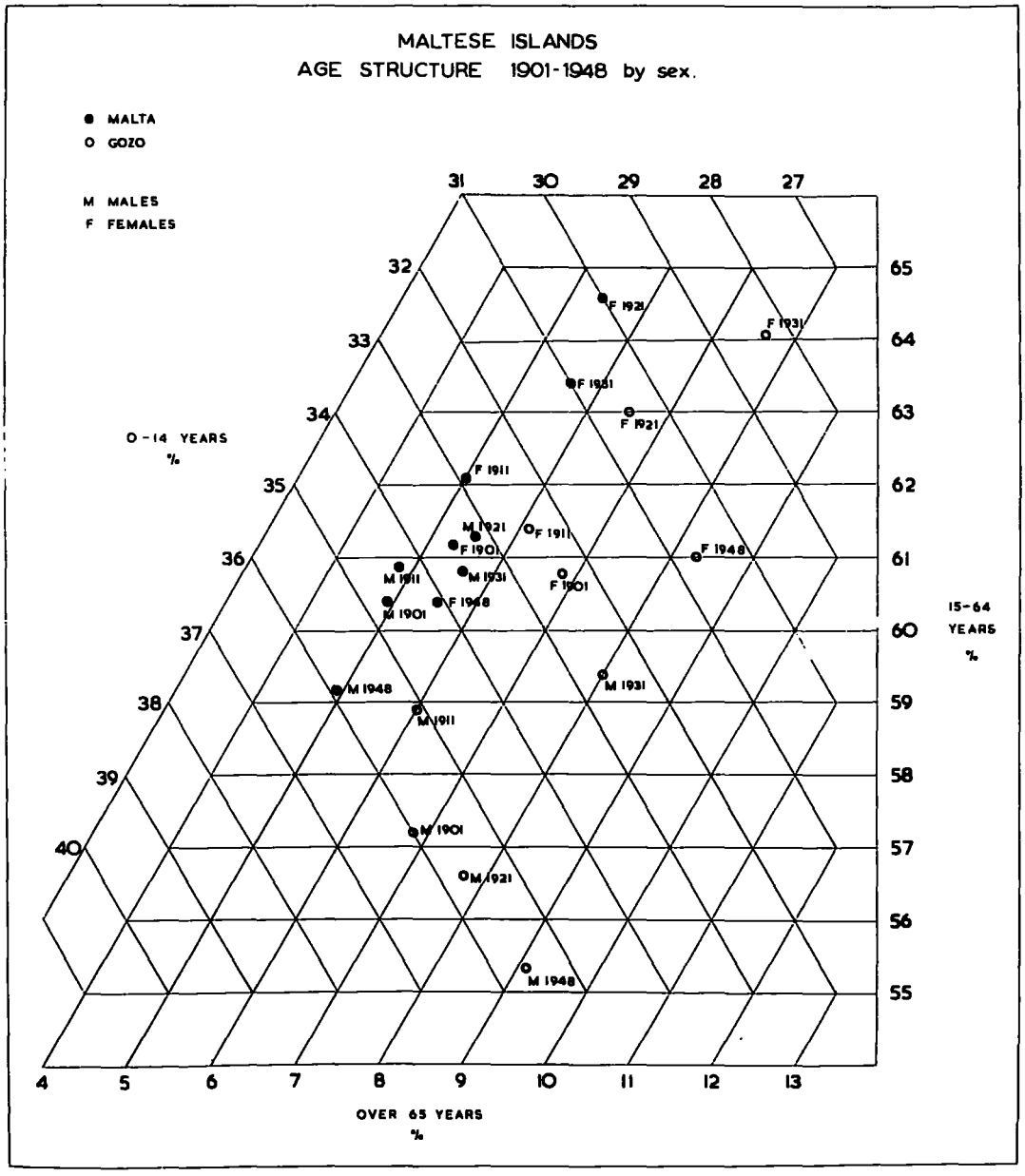

MALTESE ISLANDS
AGE STRUCTURE 1861-1948.
MALTA
GOZO
0-14 YEARS
%
15 64
YEARS
%
OVER 65 YEARS
%
32
31
30
29
33
34
35
36
37
64
63
62
61
60
59
4
5
6
7
8
9
10
1871
1921
1881
1931
1911
1901
1861
1891
1911
1921
1948
1881
1871
1901
1861
1891
1948
1931

Figure 25.


MALTESE ISLANDS
AGE STRUCTURE 1901-1948 by sex.
MALTA
GOZO
M MALES
F FEMALES
0-14 YEARS %
15-64 YEARS %
OVER 65 YEARS %
31
30
29
28
27
32
33
34
35
36
37
38
39
40
65
64
63
62
61
60
59
58
57
56
55
4
5
6
7
8
9
10
11
12
13
F 1921
F 1931
F 1931
F 1921
F 1911
M 1921
F 1911
F 1901
F 1948
M 1911
M 1931
F 1901
M 1901
F 1948
M 1948
M 1931
M 1911
M 1901
M 1921
M 1948

there is a population increase of 3 per cent per annum.

Age-distribution of the population of various countries (%)

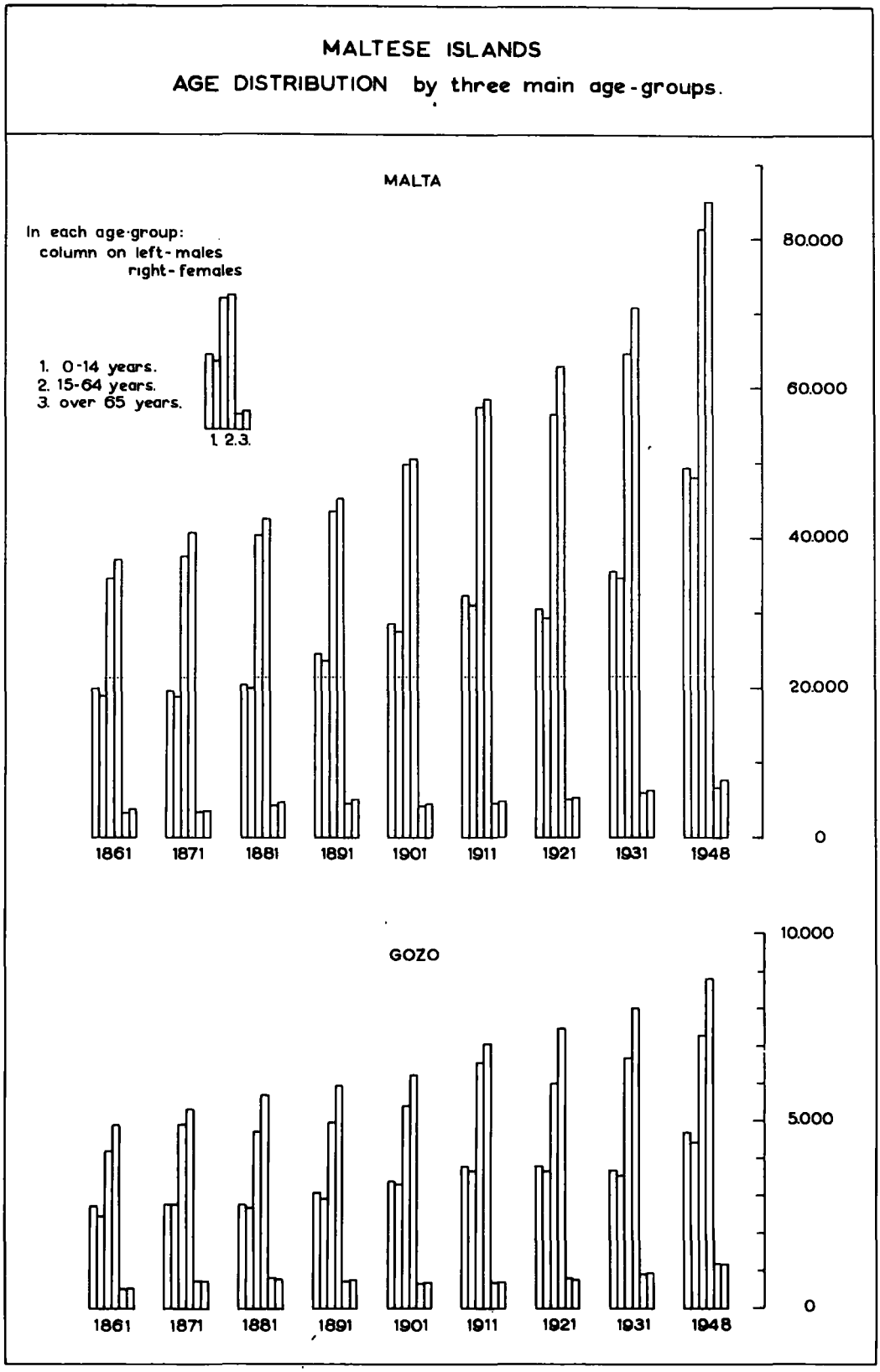
Table 9.

Country	Under 15	15-64	65+
United Kingdom ('48)	21.4	67.9	10.7
Australia ('47)	25.1	66.9	8.0
Italy ('49)	26.5	65.6	7.9
Ireland ('46)	27.9	61.5	10.6
Netherlands ('50)	29.4	62.9	7.7
Barbados ('46)	33.2	60.5	6.3
Malta ('48)	34.8	59.3	5.9
Japan ('50)	35.4	59.7	4.9
Puerto Rico ('40)	40.6	56.0	3.4

Sources: Univ. Demographic Year-books, 1949-50, and 1951.

The population of Gozo differs from that of Malta, having a higher proportion of people over 65, and a much smaller proportion in the working age group (15-64). Variations between the proportions in each of the main age-groups since 1861, are shown in Figure 24, but there is no recognisable evolutionary trend, although before the post-war 1948 data (a period of high birth-rates), there had been a decline in the percentage of young children, from 1891 to 1921 and 1931. This was, however, more marked in Malta than in Gozo. The high proportion in the working

Figure 26.


MALTESE ISLANDS
AGE DISTRIBUTION by three main age-groups.
MALTA
In each age-group:
column on left - males
right - females
1. 0-14 years.
2. 15-64 years.
3. over 65 years.
1 2 3
80.000
60.000
40.000
20.000
0
1861
1871
1881
1891
1901
1911
1921
1931
1948
GOZO
10.000
5.000
0
1861
1871
1881
1891
1901
1911
1921
1931
1948

age groups in Gozo in 1931 cannot be ascribed to a large increase of the population under 15, but is an indication rather of a return to the islands of people who were formerly in Malta or abroad.

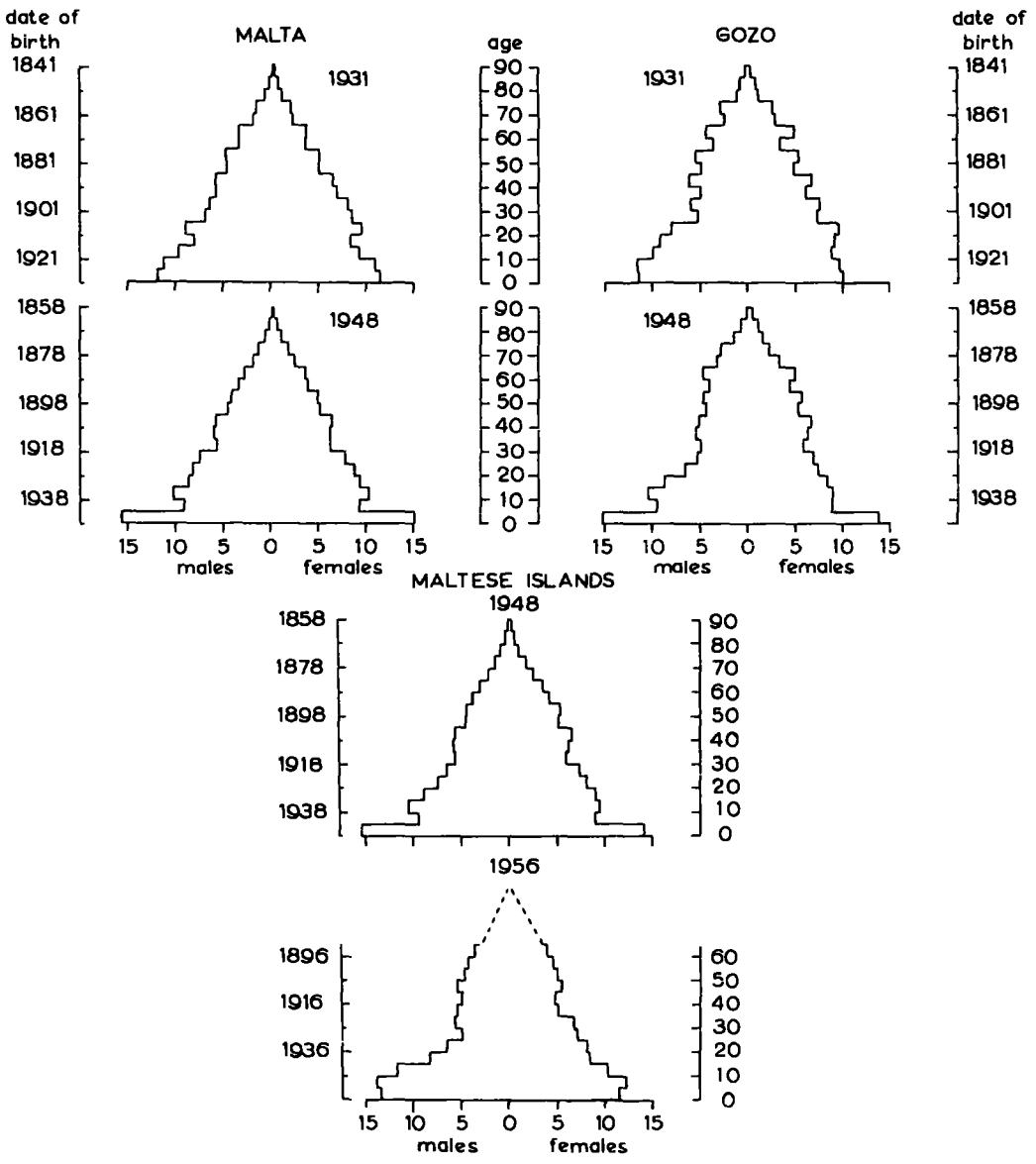
The analysis of the age-structure by sex, in Fig. 25, shows a consistently higher proportion of females of working age, than of males. Between 1901 and 1948, the male range was from 59.2 to 61.3 in Malta, and 55.3 to 59.3 in Gozo, in comparison with a female range from 61.2 to 64.6 in Malta, and 60.7 to 64.1 in Gozo. There was however no distinction between the ranges of each sex, among the over 65's.

In terms of actual numbers (Fig. 26), the children under 15 have increased from 44,000 to 106,600 between 1861 and 1948. The numbers of working age have grown from 80,700 to 182,600, and of old people from 8,200 to 16,800. The greatest relative increase is therefore among the children, but among them there have been two distinct periods of growth: between 1861 and 1881 there was virtually no change in rate, and the growth showed an absolute increase of only 4%. In the next thirty years, the absolute increase was 57%. By 1921, there was another decline, but in 27 years from 1921 to 1948 there was a second large increase, this time of 62%. Throughout the period, the ratio of males born to females remained fairly constant (102 to 104 males per 100 females).

Figure 27.

MALTESE ISLANDS

AGE PYRAMIDS showing percentage population in each 5-year age-group.



Among the working-age group, the rise in the number of women has been at a steadily accelerating rate, whereas that of the men fell sharply in 1921. The numbers over 65, declined in 1871 and 1901 but rose steadily in all other years. Masculinity was least in 1921 (89) among the working ages and highest in 1901 and 1911 (98), but among the small number of old people, the ratios varied from a maximum in 1921 of 98, to 88 in 1891 and 1948, but showed no progressive trend.

To revert to the actual distributions within the age groups, a comparison of the two islands brings out great differences in Gozo, where the number of children increased only by 75%. The only periods where there were significant increases in the number of children were between 1901 and 1911 and before 1948. Together they account for 72% of the overall increase. The disproportion between men and women in the working population has already been anticipated in the analysis of masculinity, but again that disproportion is much greater in Gozo than in Malta. In 1921 there were fewer than 80 men for every 100 women in Gozo.

The most recent developments and evolution of the population are summarised by a comparison of the age pyramids in 1948 and 1956 (Fig. 27). The high number of children under 5, a product of the post-war period, had, in 1956, been absorbed in the age-groups of 5-15 years, but the proportion of under 5's in 1956 did not equal the number of 1948. The other striking feature is the

very small proportion between 15 and 45 years of age, in 1956, showing a wastage, more prominent among males, which is a product of emigration.

Conjugal Condition.

The proportions of the population who are single, married and widowed, has remained virtually the same since 1901. Fifty years ago the percentages were similar to those for Britain, but in 1947 the proportion of married people in Britain had grown since 1901 by 13% whilst Malta had increased by only 2%.

Marital Status of Population over 15 years. Various countries.

(% in each class)

Table 10.

Year	Country	Single		Married		Widowed	
		M	F	M	F	M	F
1901	Maltese Islands[1].	44.1	38.5	51.3	50.5	4.6	10.9
1901	Great Britain[2].	41.9	40.1	52.9	49.0	5.2	10.9
1948	Maltese Islands[1].	42.0	37.6	53.7	51.9	4.3	10.5
1947	Great Britain[2].	29.2	27.9	65.6	59.4	5.2	13.0
1947	Australia[3].	32.8	26.3	61.8	61.6	5.4	12.1
1946	Ireland[4].	55.1	44.9	39.5	42.7	5.4	12.4

Sources: 1.Censuses. 2.Royal Commission on Pop. II p. 200 etc.
3.Aus. YB'56 p.588. 4.U.N. Demog. YB.49/50.

At the end of the war, the proportion married was higher than in Ireland, and there was a higher proportion in Ireland, who never married, than in Malta. But nevertheless the Maltese percentage never married was twice that of Great Britain, for men, although similar to the British level among women.

Percentage of Population, over 65 years, who have never married.

Table 11.

Country	Males	Females
Maltese Islands ('48)	17.6	19.8
Great Britain ('47)	9.6	16.3
Australia ('47)	13.2	14.1
Ireland ('46)	25.4	23.3

Sources: as for Table 10.

In recent years there has been a great disparity between the actual numbers of married men and women in the Islands, and in 1921 and 1931 there were only 92 married men for every 100 married women. This factor further reduced the number of "effective" marriages in the islands.

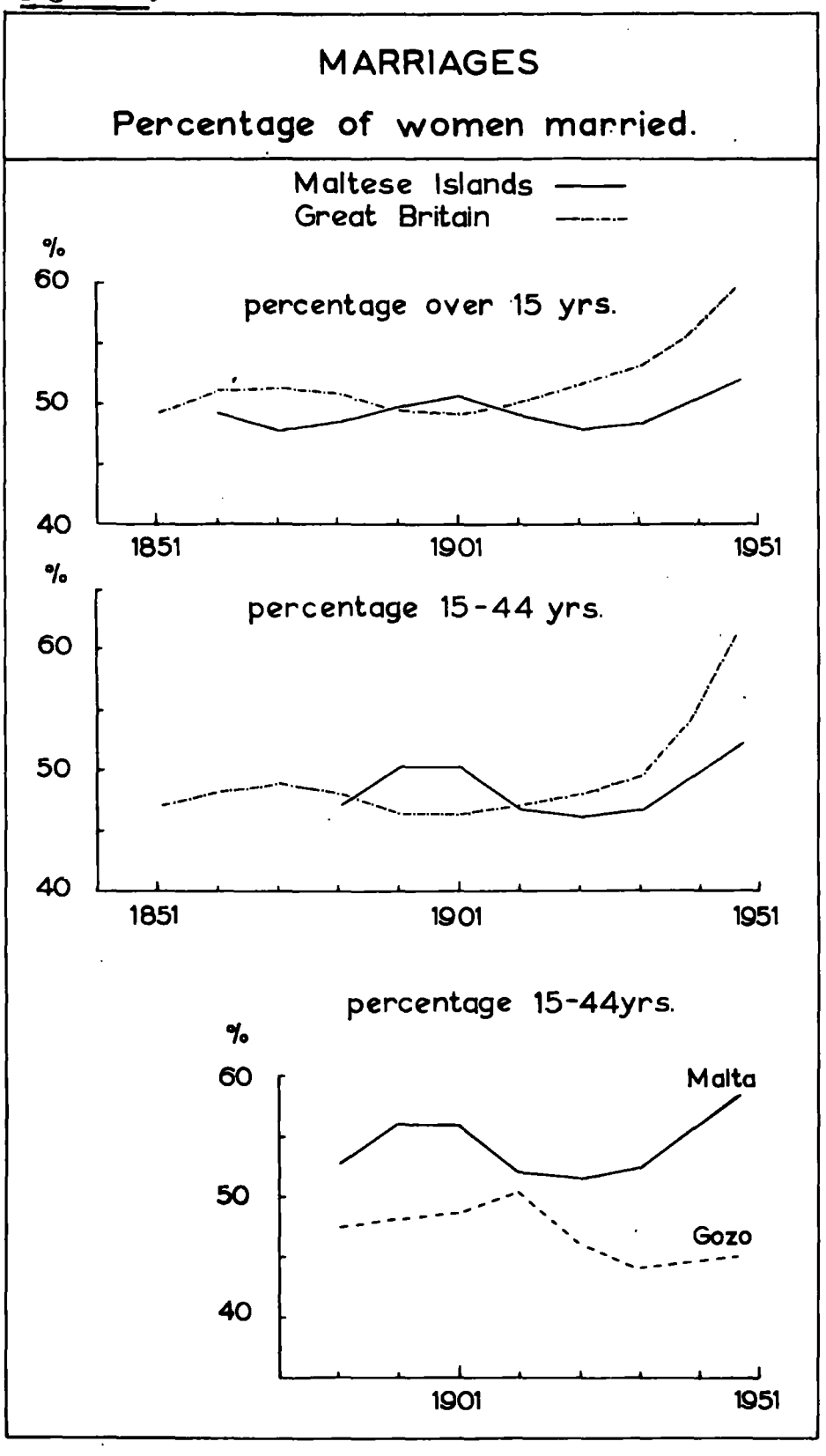
Maltese Islands. Numbers of persons married.

Table 12.

Years	Males	Females	Males as % of females
1901	30,758	31,224	98
1911	34,223	34,743	99
1921	33,482	36,576	92
1931	38,140	41,509	92
1948	51,838	53,308	97

Sources: Censuses.

Figure 28.


MARRIAGES
Percentage of women married.
Maltese Islands
Great Britain
%
60
50
40
percentage over 15 yrs.
1851
1901
1951
%
60
50
40
percentage 15-44 yrs.
1851
1901
1951
percentage 15-44yrs.
%
60
50
40
Malta
Gozo
1901
1951

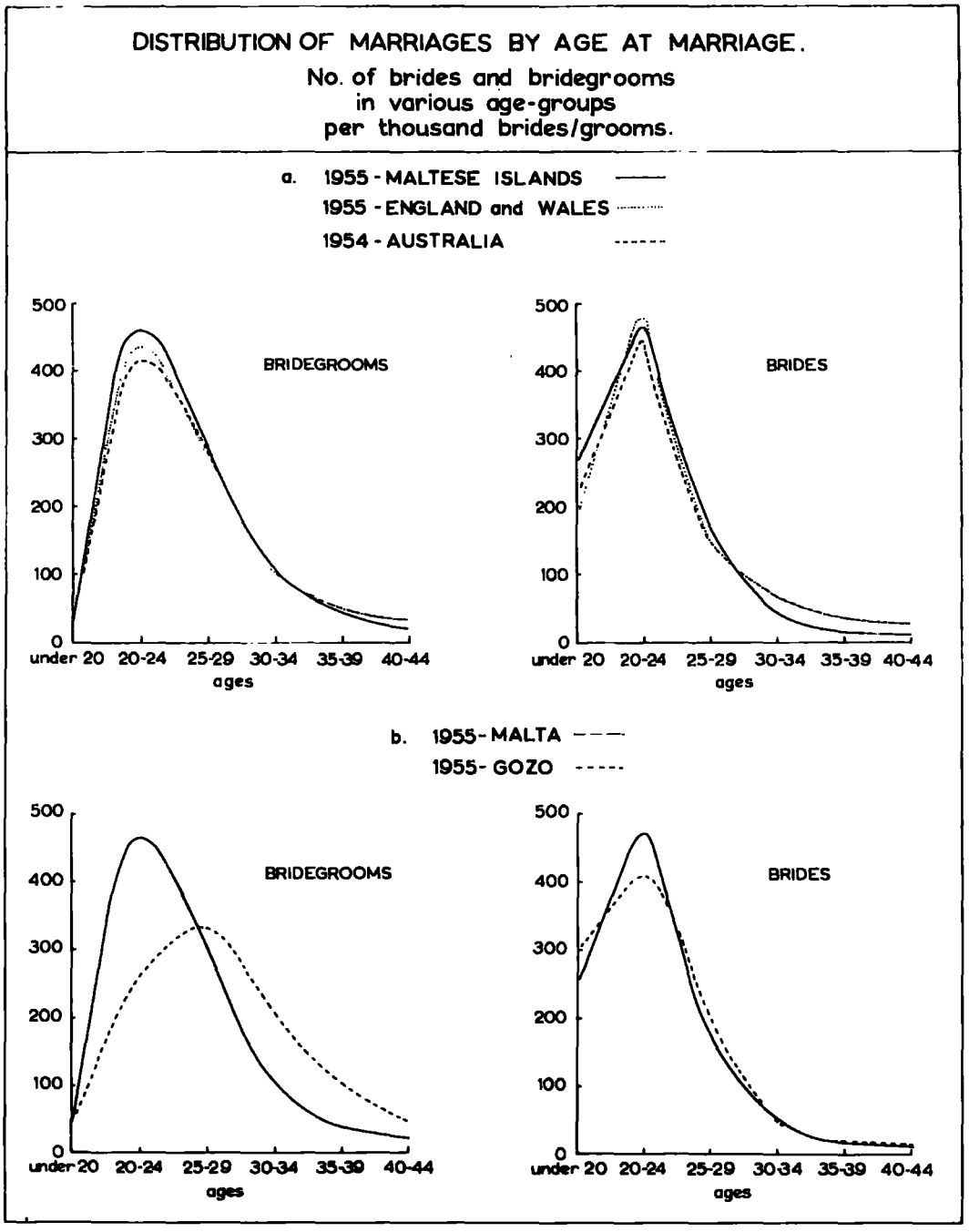
The low masculinity of Gozo has been described already, and this reflects upon the marriage rate also. In Malta, 54% of men and 53% of women were married; in Gozo, the percentages were 49 and 45 respectively, and there were never as many 'single' males as females. The proportions of women married, in Britain and the Maltese Islands, are shown in figure 28.

Although fewer people in Malta marry than in Britain, Australia or Ireland, the age of marriage of those who do marry is lower than in most countries. Nearly 80% of men who marry are married before they are 30, and in 1955, 90% of brides were under 30. In England and Wales, the percentages for the same year were 74 and 81. Furthermore, whereas a quarter of Maltese brides were under 20, the comparable figure for England and Wales was only one-fifth of the total (Fig. 29a).

In Gozo, in addition to proportionately fewer marriages, the age of marriage is delayed later than in Malta. This is especially noticeable among bridegrooms (Fig. 29b). In 1955, the most usual age of marriage was 28 in Gozo, in comparison with 22 for grooms in Malta, (the figures in 1956 were 25 and 22). In Gozo a higher proportion of brides marry before they are 20, although the proportion married by the age of 25 is similar in both islands.

A comparison with the results found by Price (table 13) shows how the pattern of marriages has changed since 1880. In 1955 a

Figure 29.


DISTRIBUTION OF MARRIAGES BY AGE AT MARRIAGE.
No. of brides and bridegrooms
in various age-groups
per thousand brides/grooms.
a. 1955 - MALTESE ISLANDS
1955 - ENGLAND and WALES
1954 - AUSTRALIA
BRIDEGROOMS
BRIDES
500
400
300
200
100
0
under 20
20-24
25-29
30-34
35-39
40-44
ages
b. 1955 - MALTA
1955 - GOZO
BRIDEGROOMS
BRIDES

smaller percentage of men married before they were 20, but there was little change in the age of marriage among women. The modal age of marriage was still, in 1955, 22 for men and 20 for women. In England, in the late nineteenth century, the number of young marriages was much smaller than in Malta at the same time, but the subsequent English trend has been the reverse of the Maltese.

Table 13.

Country	Mean age at marriage		Most usual age		% married before 20	
Maltese Islands	M	F	M	F	M	F
1864-80[1].	25.3	22.0	22	20	7.5	29.2
1955[2].	27.4	23.2	22	20	3.4	26.2
England and Wales						
1891-95[3].					2.0	10.4
1901-05[3].	28.5	26.4			1.6	8.1
1955[3].	28.9	25.9	23	21	3.7	21.1

Sources: 1. Price p.229 2. Stat. Abstract 1956

3. Registrar General's Stat. Review for England and Wales 1955 pp. 74-76.

The Size of Families.

The Census of 1948 is the first source to be available with information from which a precise calculation of family size can be made. Previous estimates were generally to the effect that the "average Maltese family is of four or five children" but no

one ventured any further, to say how many children women were likely to bear in the course of their married life, or to make any enquiry beyond the statement of the bald fact of average size. That was the position until June 1955, when a Family Census of the Islands was made (30), but no results of this survey have been published, and as far as is known the material lies dormant.

Maltese Islands, 1948.

Percentage of married women with various numbers of children born.

Table 14.

	Maltese Islands	Malta	Gozo
None	12.7	12.8	11.4
1-3	33.7	34.4	25.8
4-9	39.8	39.2	46.3
10 and over	13.8	13.5	16.4

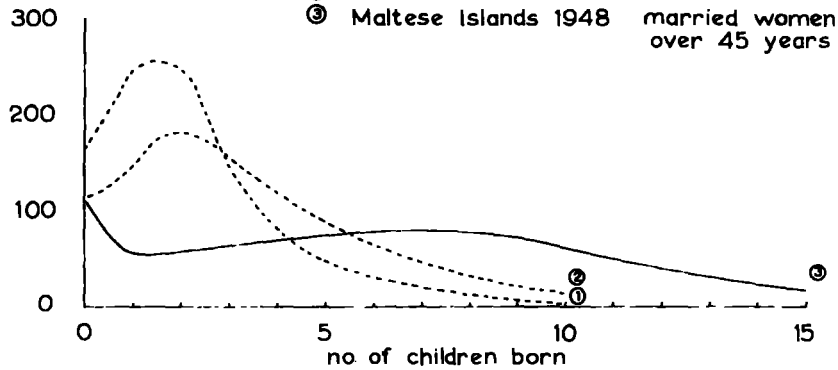
In the Islands over half of all the married women have borne four or more children: in Gozo nearly two-thirds. An extraordinarily high proportion had ten or more children, and once again the proportion was higher in Gozo than in Malta. This does not, however, represent the ultimate number of births a woman may have, and the table on the following page compares the number of women, for cohorts of completed fertility, who have had various numbers of births, in Britain and the Maltese Islands.

Figure 30.

FAMILY SIZE

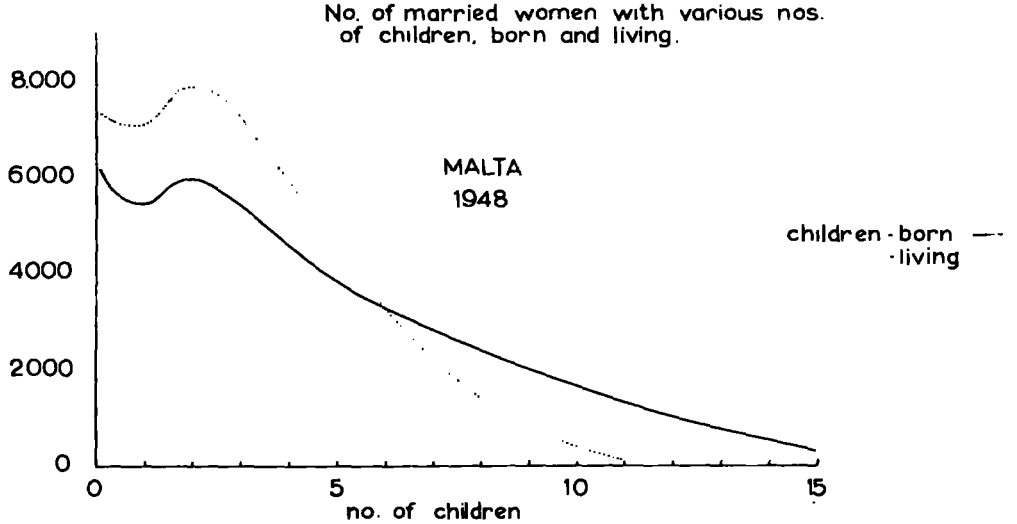
a) Cohorts of completed fertility.

No. of live births/000 married women:-
① Great Britain 1946 date of marriage 1900-09
② " " " " " 1925
③ Maltese Islands 1948 married women over 45 years



b) All ages.

No. of married women with various nos. of children, born and living.



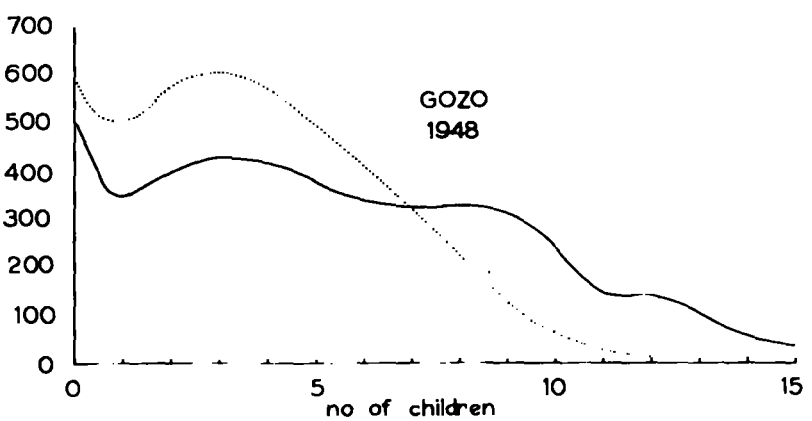


Table 15.

Children	Great Britain '46		Maltese Islands '48
	a	b	c
None	10.3	17.2	11.3
1-3	48.2	63.6	17.8
4-9	37.8	18.6	45.0
10 and over	3.7	0.6	25.9
	%	%	%

a. women married between 1900 and 1909. (Royal Commission on Population, 1949/50, vol.2, p.109, Table 11)

b. " " in 1925. - ditto -

c. married women over 45 years. (Census 1948)

This table summarises the data in the graph (Fig. 30), and shows that 70% of Maltese women eventually have four or more children, and a quarter of the total more than ten children. In contrast, even among the early British cohort, only 40% had four or more children, and the percentage has almost halved since then. In Malta, the British pattern of fertility is achieved ten years before the Maltese woman has completed her child-bearing period, and the eventual number of children born to a Maltese woman is probably comparable with rates in England at the time of the Industrial Revolution. In 1948, the mean number of children borne by married and fertile women was 7.35, and for all married women 6.53.

Figure 31.

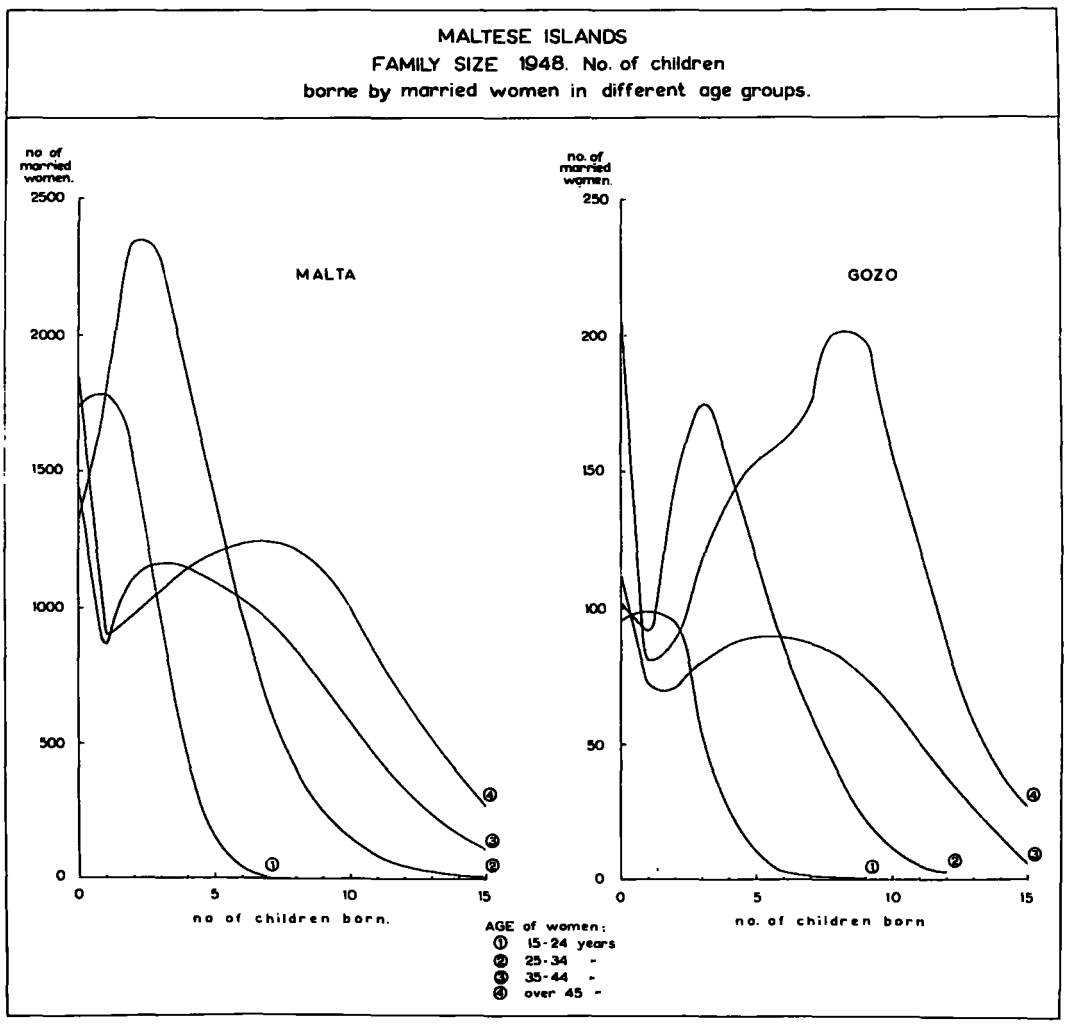

MALTESE ISLANDS
FAMILY SIZE 1948. No. of children
borne by married women in different age groups.
no of married women.
2500
2000
1500
1000
500
0
MALTA
0
5
10
15
no of children born.
no. of married women.
250
200
150
100
50
0
GOZO
0
5
10
15
no. of children born
AGE of women:
① 15-24 years
② 25-34 "
③ 35-44 "
④ over 45 "

Figure 31, shows the actual proportions of women bearing various numbers of children in the course of their child-bearing life, in Malta and Gozo, picking out ten-yearly cohorts, and distinguishing those of child-bearing age from women over 45, of whom most have completed their period of fertility. The correlation of the curves of the age-group 25-34, with the British cohort of completed fertility is close. Among the women over 45, in Gozo, more women have borne eight and nine children, than any other number and nearly 80% have borne four or more children.

The Census shows the proportion of children born who were still living at the time of the Census, and this adds a further perspective to the statement of actual family size.

Table 16.

	Size of family born	Children born	Living	%
Maltese Islands 1948	1	5,691	5,089	89
	10	20,020	12,552	63
	16+	12,674	5,117	48
	all families	254,887	170,907	67

This reduces the mean number of children per married woman from 4.8 to 3.2. There is no comparative material available in the English Fertility Census of 1947 but the following table of the percentage of mothers with various numbers of live children shows that proportions are still above the British total - unadjusted for mortality:-

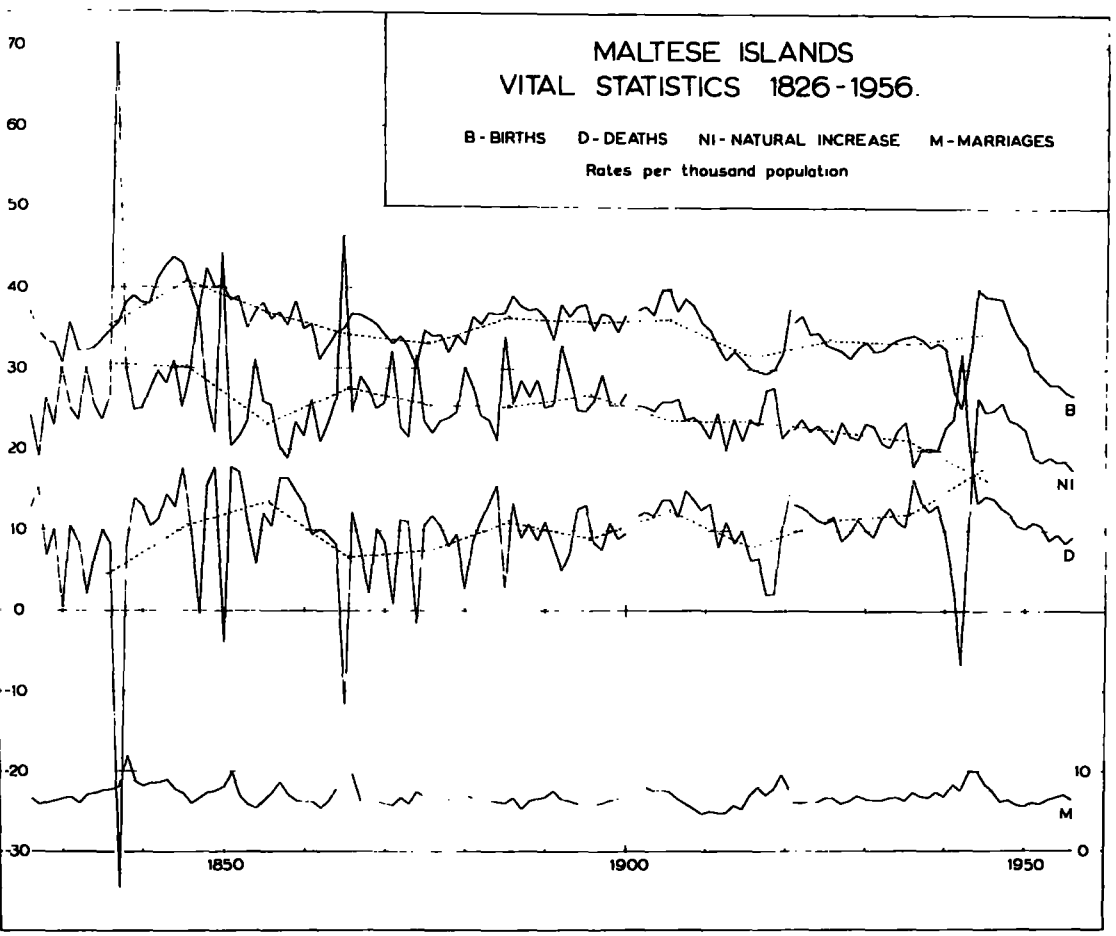
Percentage of married women with the following number of live children, 1948.

Table 17.

Children	Maltese Islands	Malta	Gozo
0	14.9	15.0	13.1
1-3	45.0	45.7	37.3
4-9	38.6	37.9	47.2
10+	1.5	1.4	2.4

Effective family size has in the past been reduced mainly by an extraordinarily high rate of infant mortality. In recent years this has been checked, and larger families can be expected, unless adjustments operate in the birth-rate, marriage or fertility rates in the immediate future. The past trends of these which together contribute to the natural increase of the population are considered in the following section.

Figure 32.


MALTESE ISLANDS
VITAL STATISTICS 1826-1956.
B - BIRTHS D - DEATHS NI - NATURAL INCREASE M - MARRIAGES
Rates per thousand population
70
60
50
40
30
20
10
0
-10
-20
-30
10
0
B
NI
D
M
1850
1900
1950

Chapter Ten. The Elements of Population Growth - vital and fertility statistics and migration.

General

Since changes in population are the balance of births, deaths, migration, the trends of each of these, and their relative contribution to the growth of population must be considered. It took nearly 70 years for the population to grow by 100,000 from 1842, but between 1905 and 1947, during only 42 years, it grew by a further 100,000. Since 1842 there has been a net increase of just over 200,000 in 114 years. In the same period nearly 70,000 people (net) have emigrated, and the natural increase of the population has amounted to 267,000.

Natural increase

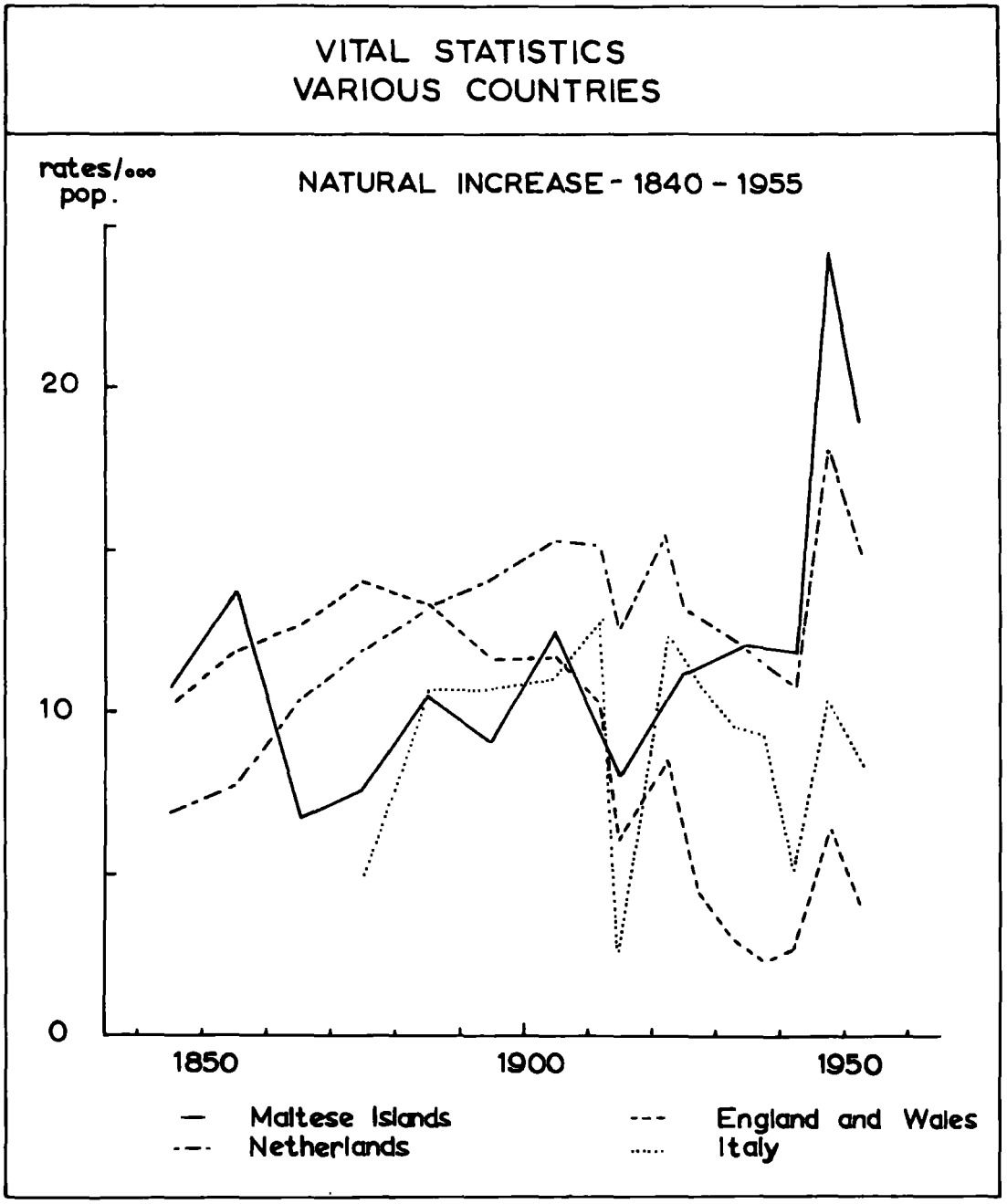
The statistics of births, deaths, marriages, and natural increase are all presented in the appendix and the rates shown in Figure 32. In the years since 1948 the natural increase of the population has reached its highest level, and the rise has been caused by a remarkable post-war decline of the death rate. The natural increase in the decade 1831 to 1840 was 5,241, whereas in 1941-50, despite a low birth-rate in the war years, the excess of births over deaths was 52,833. The current increase is about 5,000 a year, which was the product of a decade a hundred and ten years ago.

In 1831-40, the rate of natural increase was less than 5 per

thousand, and towards the end of the century it was 10. In 1941-50 it had risen to 18, and since then it has been maintained at about 19. The general trend has, therefore, been one of a rising rate, but rising in a series of peaks with intervening troughs. The peaks were in 1851-60, 1881-90, 1901-10, and 1941-50, and the rates have been highest in the first and last periods. The former was a period of very high birth rates, and moderate death rates. It was also a time of very early marriage; the latter was the time in which the remarkable fall in the death rate took effect, and births rose after the war. The troughs were lowest in the early and mid-nineteenth century and corresponded to times of frequent sickness and epidemic; the late 60's and early 70's was one such period.

The annual fluctuations in the natural increase are reflections of individual events of historic importance, and from the detailed trends it is possible to reconstruct the main wars, plagues, epidemics, famines and droughts, all of which have left their mark. Only in six years have the numbers of deaths exceeded the births. In 1837, '47, '50 and '65 epidemic cholera inflated the death rates, and in 1874 a variety of diseases among which smallpox and cholera were important, combined with the low birth-rate of that year to produce a deficit. That very bad year was, in fact, the culmination of a number of years in which disease had been prevalent. The worst of the years of the last

Figure 33.


VITAL STATISTICS
VARIOUS COUNTRIES
rates/ooo pop.
NATURAL INCREASE - 1840 - 1955
20
10
0
1850
1900
1950
Maltese Islands
England and Wales
Netherlands
Italy

war, 1942, was the last in which the number of births was less than the deaths.

The vital statistics of other countries have been selected to compare with Maltese trends so that the significance of the Maltese figures can be better appreciated. Comparisons with Britain are generally available, and are valid as it is by the adoption of British standards and principles that the improvement of health has been sought for the islands. Where possible, comparison is also made with Italy, and the Netherlands which is the most advanced of the European countries in its measures to control the death rate. Australian figures are also used, as they represent the rates of the country to which most Maltese migrants go, and with which there is consequently considerable contact. The inclusion of West Indian examples like Puerto Rico and Barbados is made because their problems are similar to those of Malta, population pressure, lack of economic opportunity and emigration.

The natural increase of nineteenth century Malta was a little lower than that of the rest of Europe. By the turn of the century it was similar to Britain and Italy, but lower than the Netherlands which had the highest rate in Europe. In the last twenty years, however, it has exceeded even the Netherlands, and in 1951-5 it was six times the British level (see Fig. 33). Although much above the European average in recent years, it is

lower than Puerto Rico (27 in 1951-5) and a little below Barbados (20)* in the same years. In both these countries, as in Malta, the large increase is a product of a low death rate, comparable with and even lower at times than the British level, and a still high birth-rate.

Births

The birth-rate of the Islands has remained between 30 and 40 per thousand over almost the entire period covered by the records, which start from 1826, but only in the 1840's has it exceeded 40, and since then, only twice has that rate even been approached. The birth rate fell below 30 per thousand in 1917, and again in the recent War, but what appears to be a more permanent downward trend has become established in the last few years, and the rate has been below 30 since 1952 (Fig. 32).

The general trend, therefore, has been that of a declining birth rate. It first appeared after the peak of the 1840's, and continued until the 70's, but revival followed and there was a high birth rate throughout the last twenty years of the century. It still increased in 1905 and 1906 - almost to 40, but the next few years brought unemployment and depression, and foreshadowed the trough of the 1914 war. After the war, the rate recovered to 38, but after three years above 35, it fell, to remain about 33 until the last war.

In common with most parts of Europe which suffered in the war,

* per thousand

the rate slumped in the early 40's, but the recovery in 1944 was to a level above anything recorded since 1850. This extraordinarily high rate was maintained for four years, but the decline which was bound to follow, began in 1948, and since then it has been both rapid and sustained. The rate of 26.7 in 1956 is the lowest ever recorded in any year except 1942 when war disrupted life in the islands.

A comparison with the statistics of other countries shows that Malta's birth rate was high, until as recently as 1952. Landry specified three main classes of birth rates: firstly, countries with rates above 30 per thousand, where the restriction of births was not practised, or if it was, only rarely. In the period preceding the last war, there were no continental European countries in this group, for most had passed from it in the nineteenth century. Consequently, Malta shared the high rate with the Middle East, Asia, and Central and South America. The second group of birth rates, between 20 and 30 per thousand, was one in which Landry assumes that the restriction of births is practised. Within this range, prewar, were the countries of Southern and Eastern Europe, and since 1952, Malta. Most of Europe has now progressed a stage further, to Landry's third group, and since 1947, nearly all European countries have had birth rates below 20 per thousand. Indeed in the 1930's all of north-western Europe, except the Netherlands, was already classified in this

range. A summary of the changes in the birth rate in selected countries is presented below:-

Table 18.

Year	Eng. & Wales	France	Italy	Netherlands	Malta
1841-50[1].	32.6	27.4			40.9
91-00[2].	29.9	22.2	34.9	32.5	35.9
1901-10[2].	27.2	20.6	32.7	30.5	36.2
1938[3].	15.1	14.6	23.8	20.5	32.8
1947[3].	20.7	21.4	22.2	27.8	38.8
1956[3].	16.1	18.6	18.1	21.2	26.8

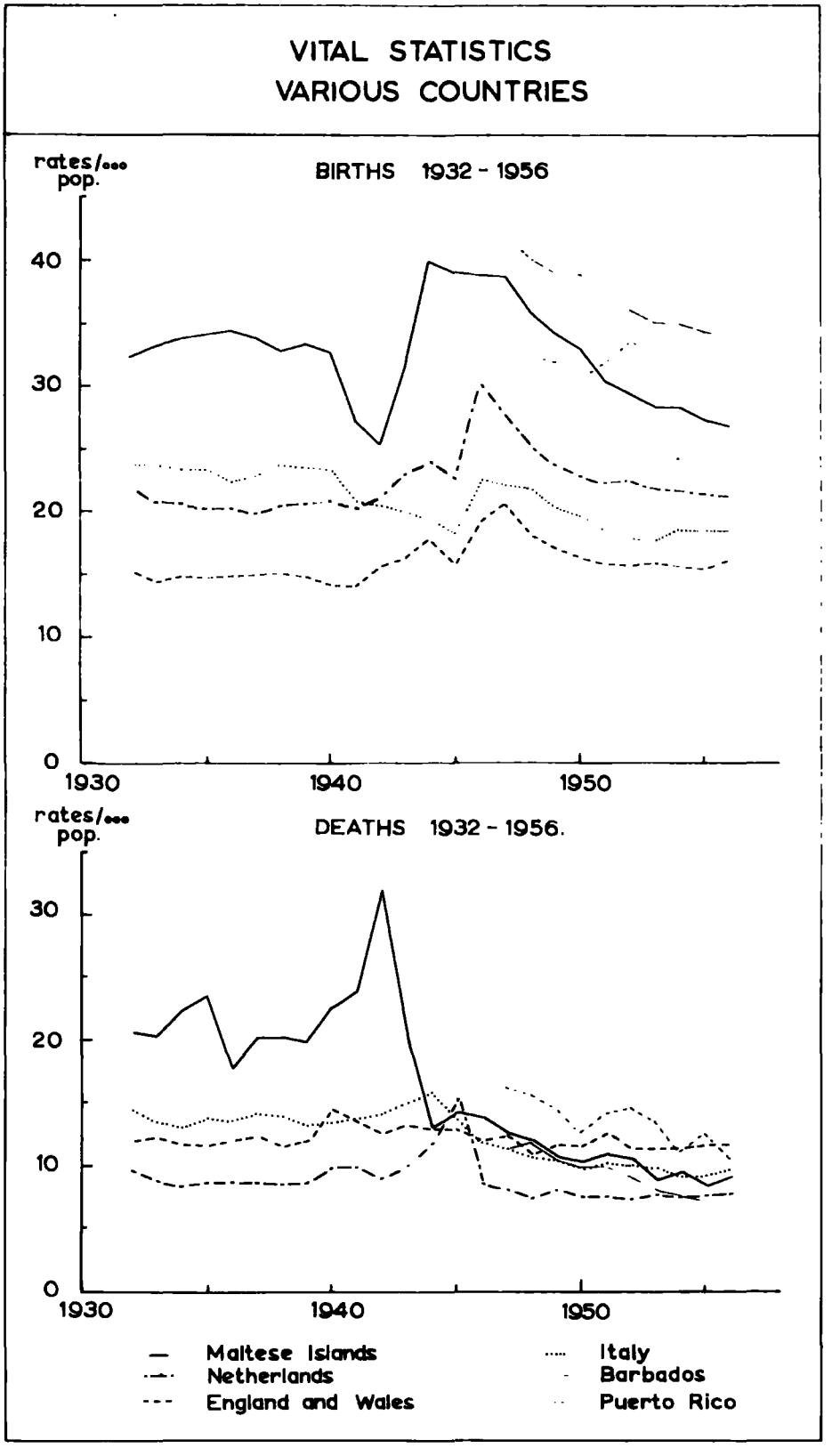
Sources:

1. Landry p.303. 2. Woytinsky p.144. 3. U.N. D.Y.B. 49/50, '57.

In the late nineteenth century Maltese rates were comparable with those of southern Europe, but the subsequent decline has been delayed much longer in Malta. The last two decades of the nineteenth century and the beginning of the twentieth century, were marked generally by great economic progress and accompanied by a tumbling birth rate. In Malta the circulation of capital in public works, and more money in the island resulted in a rise in the birth rate.

The pattern of natality since 1911, has been similar in Malta to trends elsewhere in Europe, although the fall in the Maltese birth rate in the Great War was not as severe as in Italy, France or Germany. Even so, in 1917/18, births had fallen by one-

Figure 34.


VITAL STATISTICS
VARIOUS COUNTRIES
rates/000 pop.
BIRTHS 1932 - 1956
40
30
20
10
0
1930
1940
1950
rates/000 pop.
DEATHS 1932 - 1956.
30
20
10
0
1930
1940
1950
Maltese Islands
Netherlands
England and Wales
Italy
Barbados
Puerto Rico

quarter from the level of 1905/6. In the twenties and thirties, the Maltese level stabilised while the rest of Europe continued to fall. Most centres fell by 10 per thousand between 1919 and 1939, but the Maltese birth-rate actually increased. The postwar response to the return of peace-time conditions was a soaring birth-rate, but Malta reached an earlier peak than most countries (Fig. 34). Subsequently, the only decline comparable with the Maltese, is that of the Netherlands, but whereas most other countries have almost stabilised in the last few years, the Maltese rate, in 1956, was still falling.

Deaths

The decline of mortality in the last few years has been even greater than that of births. Before the last War, it had only fallen below 20 per thousand on three occasions, and in eleven separate years it had exceeded 30; since 1953, it has stayed consistently below 10, and so become directly comparable with the most advanced countries of Western Europe, actually being less than that of the United Kingdom which was 11.7 in 1956.

In the nineteenth century the Maltese death rate was subject to great variations and until 1900 showed large annual fluctuations. The worst years were those of epidemic-cholera, but even in the latter part of the century when this was less prevalent, the rate remained high. The three main factors responsible for the high level of mortality were disease and poverty, a very

high infant mortality rate, and unsanitary living conditions. The first of these aspects to be tackled in the desire to control the death rate was the problem of sanitation and living conditions Improvements began with a start on extending the sewerage of Malta in 1879, but the scheme did not get seriously under way until the end of the century, and early improvements were only in the Harbour area. Nevertheless, from a rate of nearly 27 in the 1890's, it fell to less than 24 in the next decade. There was further improvement after the Great War as drainage schemes were extended, and in the 30's it had fallen to 21 per thousand (see page 118 et seq.)

Even though better drainage, and a parallel development of the water-supply, achieved important results, there was a much greater decline when the problem of the extraordinarily high infant mortality rate was tackled. As recently as the 1920's it was still over 250 per thousand, and only in 1936 did it fall below 200. The Medical and Health Department Report of that year emphasised the need for ante- and post-natal care of mothers and infants, and for the first time health centres were set up, although their presence was not immediately appreciated. The war-time conditions delayed the decline, but in 1944 it had fallen to 116, and the Report of 1947 hopefully forecast that if the present rate of reduction was maintained, it would fall below 100 by 1950. In fact this was achieved in 1949, and since then the

decline has continued, so that in 1956 the infant mortality was only 42.7, once again, the lowest ever recorded.

The effect of this upon the death rate has been to reduce it from over 20, in all except one year in the 30's to 13.5 in 1944, 10.3 in 1950, and 9.3 in 1956.

In the nineteenth century, the common level of mortality was between 20 and 30 per thousand, and in mid-century Malta was similar to other countries of Europe, but before 1900 the rates had fallen below 20 in Scandinavia and Britain, and the remainder were soon to follow. In Western Europe the death rate has been halved in the last two generations; in Malta this has been achieved in less than twenty years (Figure 32).

Table 19.

Year	Eng. & Wales	Italy	Netherlands	Malta	France
1871-80[1].	21.4	29.9	24.3	25.6	23.7
91-00[1].	18.2	24.2	18.4	26.8	21.5
1901-10[1].	15.4	21.6	15.2	23.7	19.4
20-30[1].	12.2	16.8	10.2	22.5	17.0
1947[2].	12.4	11.5	8.1	12.8	13.2
1956[2].	11.7	10.3	7.8	9.3	12.2[3].

Sources: 1. Woytinsky p.165. 2. U.N.D.Y.B. 1957. 3. 1955.

As in Malta, the overall European decline has mainly been derived from the reduced infant mortality. At the beginning of

the nineteenth century the rate was 250 to 300 per thousand, but by the end of the century it was below 150 in nearly all of northern Europe. In Italy, it fell below 200 before 1880, and below 100 before 1940 - the level which Malta reached ten years later. Since then, the Maltese rate has been below Italy, and comparable with most of Western Europe, which represents a remarkable progress when it is remembered that only thirty years before, Malta was comparable with Europe in 1800.

In an effort to further reduce the death rate in Malta, a government-organised pre-natal clinic came into being in 1956, twenty years after it had been first mentioned, and from this further reductions in infant mortality may be anticipated, for that of Holland in 1956 was only 20, or half of the Maltese rate in the same year.

Marriage and Fertility.

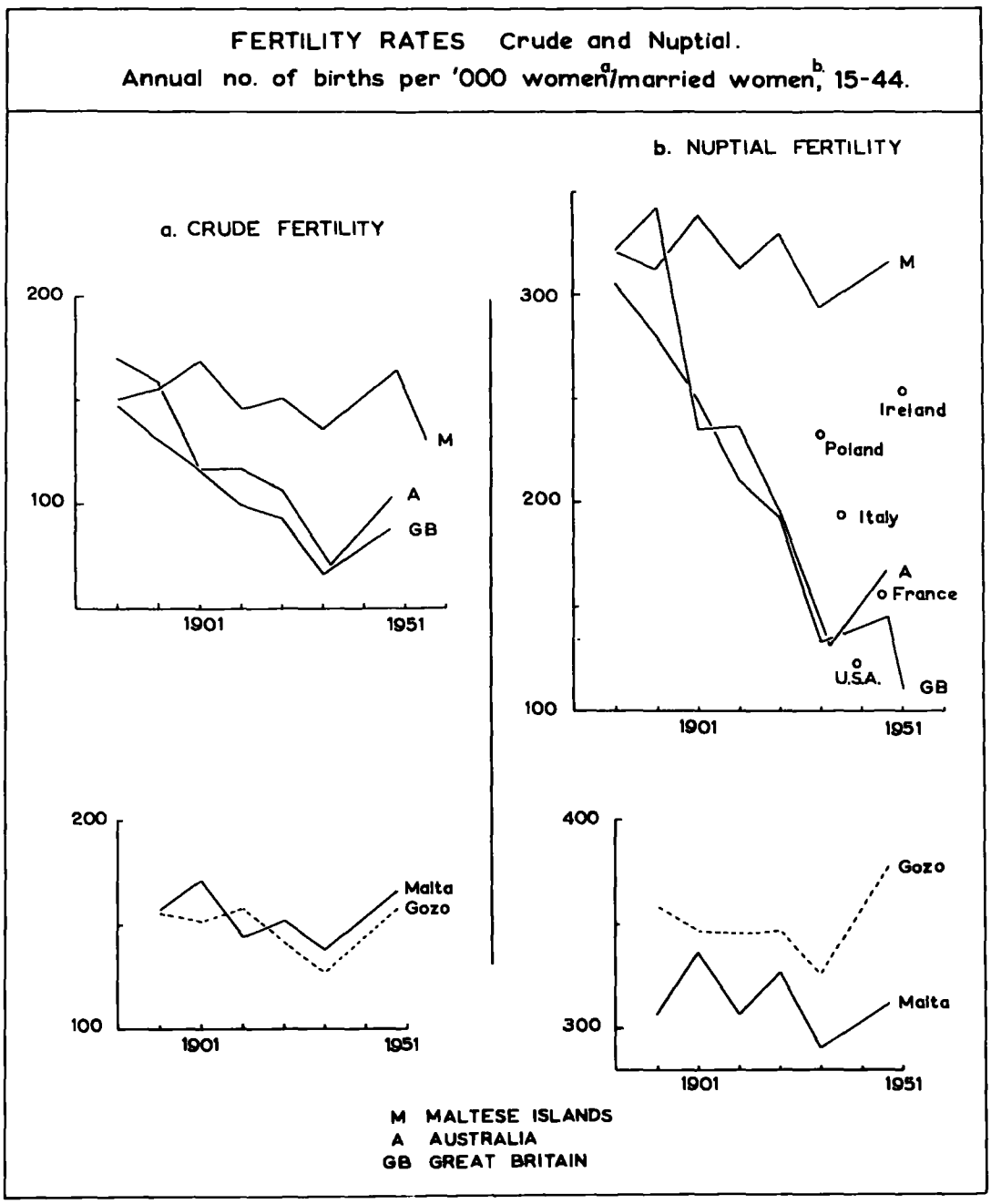
It has been shown in the statement on the conjugal condition of the population that a lower proportion are married in Malta than in Britain, that the age of marriage in Malta also is lower, and the family is much larger. The comparatively high birth-rate in Malta which has brought such large families into being, is a reflection of the marriage and fertility rates of the population. For, the principal factors affecting the level of births are the proportions of women of child-bearing age in the population, and the proportion of such women who are married.

The marriage rate has declined since the early 1800's. In 1831-40 it was 8.0 per thousand population, and in 1951-56 it was down to 6.4. It fell below 7 in the 1850's and has remained generally below that level since then, except in the periods following the wars (Fig. 32). Annual variations have followed changes in economic conditions, as was the case with the rise in the rate soon after 1900. The marriage rate also responded by jumping, after the island suffered from plagues, epidemics, and wars. After the cholera of 1837, 1850 and 1865 the rate rose, and again it increased after the two recent wars. In each war, there have actually been twin peaks, one at the beginning and the other at the end.

A high marriage rate maintained for several years is generally an indication of prosperity. This was reflected in the rate of 8 per thousand in the first five years of the century, but the depression which culminated in the arrival of the Royal Commission in 1911 was accompanied by a fall in the marriage rate to less than 5. In the 1920's and 30's, after the postwar rise, variations were slight and there was a slow revival of the rate from 6 in 1921, to 7 at the beginning of the War.

After the anticipated high marriage rate of the immediately post-war years, it fell away, but since 1950 there has been an unexpected recovery, which has not been matched by a comparable rise in the number of births.

Figure 35.


FERTILITY RATES Crude and Nuptial.
Annual no. of births per '000 women[a]/married women,[b] 15-44.
a. CRUDE FERTILITY
200
100
1901
1951
M
A
GB
b. NUPTIAL FERTILITY
300
200
100
1901
1951
M
Ireland
Poland
Italy
A
France
U.S.A.
GB
200
100
1901
1951
Malta
Gozo
400
300
1901
1951
Gozo
Malta
M MALTESE ISLANDS
A AUSTRALIA
GB GREAT BRITAIN

In Europe, the Isle of Man and Northern Ireland have similar rates. Ireland's (Eire) is lower (5.5 in 1955), but most other countries have rates over 8 per thousand.

It is possible to make an assessment of the fertility of the population by a comparison of the Censuses with vital statistics, and relating the number of births to the number of women of child-bearing age, or to the number of married women of child-bearing age. The first gives a crude fertility rate, and the second a nuptial fertility rate.

Figure 28, recapitulates the extent of marriage in the Islands, comparing it with Britain where since 1911 the proportion of married women in the population over 15, has been consistently higher than in Malta. This must be contrasted with the higher Maltese birth-rate. It also shows that even within the islands there are contrasts and there are a higher proportion of married women in Malta than in Gozo.

Crude and nuptial fertilities are shown in the next series of graphs (Fig. 35). The Maltese trends are compared with the British and Australian rates, both of which showed a steady decline in the level of crude fertility, from nearly 160 births per thousand women of 15-44 years to about 70 in 1930. In 1947, when a very high proportion of the population were married, the Australian rate rose to over 100, and the British to nearly 90. In Malta, in the same period - from 1881 to 1948 - the rate only

fell below 140 once, in 1931, and in the rest of the period fluctuated between 140 and 170. In 1948 it was 165, which was the second highest rate ever recorded in the islands, and only slightly less than the very high level of Australia in 1881. In 1956 the crude fertility rate had fallen in Malta to 130, but the marriage rate had risen slightly in the period since 1948 and the level of marriage among women must be assumed to be the same as in earlier years or a little higher. Consequently, it does seem as though this recent trend may represent a fall in nuptial fertility, although no statistics are available to test the possibility.

The nuptial fertility rates (Fig. 35b) make each of the countries considered, more directly comparable, as this allows for different proportions of marriages in each country. By this assessment, the outstandingly high fertility in Malta is even more strongly emphasised. Only in 1931, has the Maltese fertility fallen below 300, a level of nuptial fertility not reached by the other countries since 1901. The Irish level of 253 per thousand in 1951 was ranked in the Census of Ireland as probably the highest in the world (31), but that of Malta is in fact 25 per cent higher, a rate which over seventy years cannot be said to have shown any real sign of decline.

Fertility, marriage and birth-rates, have all been outlined above and yet the pattern of the post-war decline in the birth-

rate has not yet been justified. Fertility is stable, or was until 1948, the marriage rate has not declined since 1945, and the previous trends of nuptial fertility do not suggest any imminent decline. One strong possibility, however, is that the answer may be provided by the pattern of post-war migration which is concealing a decline in the married population. Many migrants from the islands return to get married, and then leave with their brides for their new homes. Their children are born overseas, and so, marriages which have been registered in the islands give rise to children born and registered abroad.

If this is so, it means that the decline of emigration from Malta would see a rapid revival of the birth-rate in the immediate future, and it shows that the present pattern of natural increase is controlled by the decisions of emigration policy.

Migration.

The pattern of nineteenth century migration has been the subject of close study by Price. His period begins in 1842 and extends to 1881, and he acquired a statistical background to the study from the records of the Passports Office in Valletta.

The Department of Emigration was not formed until after the First World War, so the intervening period is covered by an interpretation of the records of the Passports Office, and of the trends of movement shown by statistics of passenger movement collected by the Customs and Port Department. After 1918, the

pattern of movement is derived from the statistics of the new Emigration Department, and the records of the Customs and Port Department.

Comparability of material is one of the biggest problems. In the period covered by Price, the Maltese population only is considered. Subsequently, the statistics are for the entire civil population which from 1901, in the table below, includes the families of the Garrison. The best check upon the scale of movement is provided by the combination of material from the Census reports and vital statistics, over intercensal periods. The differences between the net increase in population and the natural increase represents the intercensal net migration.

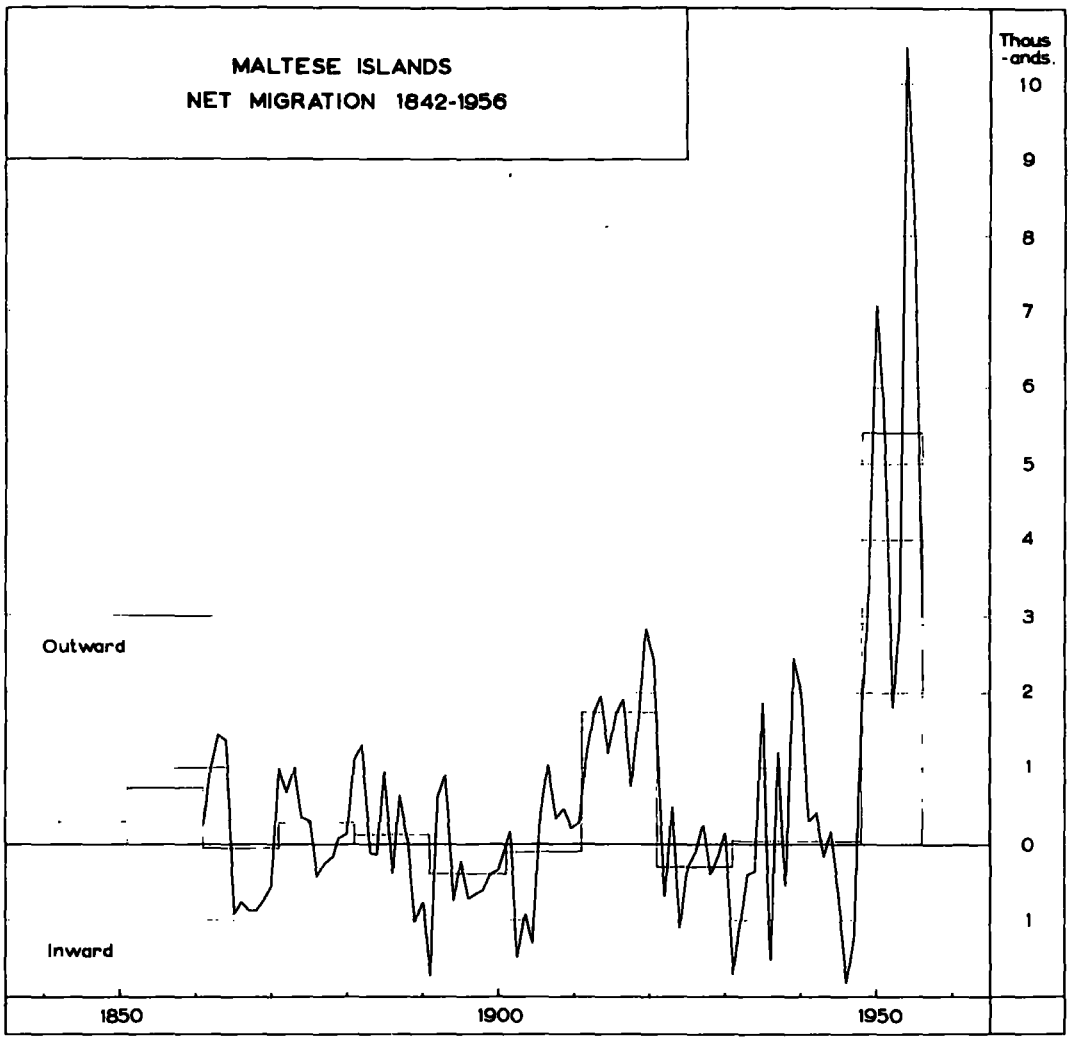
Intercensal Migration 1842-1956.

Table 20.

Period	Natural Increases	Net Increases	Net Migration	
1842-51	11,310[1].	8,620	-2690	Maltese
51-61	17,470[2].	10,060	-7410	"
61-71	7,860[3].	8,490	630	"
71-81	11,030[4].	8,180	-2850	"
81-91	16,490	15,260	-1230	Civil Pop.
91-01	15,830	19,710	3880	" "
1901-11	26,030	27,080	1050	" " incl. Garrison.
11-21	17,300	-110	-17410	" "
21-31	25,280	28,260	2980	" "
31-48	65,140	64,370	-770	" "
48-56[5].	53,480	10,250	-43230	" "

Sources: 1-4. Price. 5.estimate. Census '48 to 31st Dec. '56.

Figure 36.


MALTESE ISLANDS
NET MIGRATION 1842-1956
Thous
-ands.
10
9
8
7
6
5
4
3
2
1
0
1
Outward
Inward
1850
1900
1950

The graph (Fig. 36) covering the last one hundred years shows intercensal net migrations and annual variations in the scale of movement, as indicated by the passports issued, and Customs and Ports Department records. The latter are adjusted for each decade to make the sum of the annual totals comparable with the intercensal net totals shown in the table above.

In the nineteenth century the principal factor controlling emigration was economic. Periods of poverty and misery at home sometimes drove the Maltese from the Islands, whilst at other times they were attracted by boom conditions elsewhere in the Mediterranean. During the Crimean War not even prosperity at home could counteract the cotton and building boom in Egypt, and emigration rose to record heights. But the end of the Egyptian boom coincided with depression in Barbary and resulted in returns to Malta, which together more than compensated for the outward movement of the late fifties and early sixties. In the early 1870's recovery in Barbary coincided with recession in Malta and there was a rise in the number of emigrants, but the rate fell away again from 1875-80, reflecting bankrupt conditions in Egypt, (32). Conditions overseas therefore played an important part in determining the volume of emigration at any given moment.

The outstanding feature of the nineteenth century movement, however, had been the persistence of attempts to organise emigration. The first series of such attempts ended with the failure of

the Guiana and Grenada experiments of 1838-41, in plantation settlement. Subsequently, plans to settle colonies in Cyprus, Australia and the Americas collapsed and various other opportunities of building stable settlements overseas all failed in their turn. If these had been successful large numbers could have been absorbed overseas even before the turn of the century, but whereas the possibilities of migration beyond the shores of the Mediterranean were anticipated by Dingli and others, in fact, over ninety per cent of nineteenth century migrants move no further than the coasts of North Africa and the Levant (33).

The restricted scope of movement and the choice of the Mediterranean seaboard for settlement was influenced by three main non-economic reasons: "the belief that America and Australasia were the permanent homes of strange and deadly diseases; the belief that it was necessary to settle in a country near enough to Malta to enable easy and frequent return to the beloved homeland, and the belief that similarity of language and custom marked out North Africa as the divinely appointed region for Maltese settlement abroad" (34).

The annexation of Tunis by the French in 1881 was an indication that the Maltese would no longer find North Africa an open field, and the competition in business and commerce from the French and Italians became severe. Moreover the standard of living in Malta from the 1860's onwards had been higher than in

most other parts of the Mediterranean, and better than they could expect if they emigrated. Also the eighties saw the beginning of new possibilities of employment at home with the introduction of a number of schemes of large-scale public expenditure. A heavy expenditure on the drainage of the island supplemented work begun in the Three Cities by the Royal Engineers in 1878 and a comprehensive scheme by Binnie and Deacon was begun in 1883. In the same year the improvement in the water supply was tackled. Government spending also extended to the dockyard and the building of barracks, and culminated in the improvement of the harbour by the building of a new breakwater in 1903-06.

The combined impetus of these schemes created new employment opportunities and from the latter part of the eighties until 1905 there was an inward movement of labour. All thoughts of emigration were abandoned, and in 1905 the labour shortage was so acute that three hundred men were imported from Sicily, Italy and Spain, to work on the breakwater and dockyard.

When the Admiralty work was completed in 1906, the artificial prosperity - based upon imperial expenditure - declined: since 1902, the naval and military garrisons had also been reduced, and unemployment hit the islands to such an extent that the Royal Commission was imported in 1911 to investigate the financial and economic position. They recommended emigration as an immediate remedy for the Island's problems, but in the meantime the French

and Italian control of the North African mainland had been reinforced, and consequently serious attention had to be paid to the possibility of movement further afield.

Since 1907 there had been some exploratory movement to the United States and Australia, and in the years leading to the Great War this gathered force, but as yet was subsidiary to the traditional outlets. It was sufficient, however, to make those remaining in Malta realise there was a promise of economic prosperity beyond the Mediterranean, on a scale that could never be achieved at home. During the War Maltese labour was eagerly accepted in France, but the overall scale of migration was limited. When the war ended redundancy in Malta created a new unemployment problem and the outward movement assumed record proportions.

In 1920, for the first time, more than half of the migrants moved beyond the Mediterranean, most of them going to the United States, but this Maltese movement was only part of a flood from the whole of southern Europe, and in 1921 the Quota Law was imposed to control the enormous flow of migrants into the States. Comparatively, Malta suffered for this restriction more than most countries, and in 1922 she was allotted only 14 places. Subsequently, there were gradual relaxations but none were sufficient to allow the resumption of movement on the previous scale. In the latter twenties the first signs of international slump and

depression were felt, and in the early thirties the reaction was typified by large-scale returns to Malta. The inclusion of a somewhat unpredictable British element has probably exaggerated the fluctuations of movement in the thirties, and it seems that the outward movement in 1939-40 must represent the return of the British population to the United Kingdom at the beginning of the War. After the war their return is shown by a similar inward movement.

Unlike the period after the Armistice of 1918 a comparative post-war prosperity with good opportunities for employment, through the reconstruction programme, postponed the prospect of an immediate mass exodus in 1945. The Census of 1948 revealed, however, that within ten years 30,000 boys would attain the age of nineteen (35) whilst there was little chance of a parallel increase in employment opportunities over the same period. The only way of facing the problem was to encourage emigration on a scale previously unknown.

In 1948, a Goodwill Mission visited Canada, the United States and Australia, making contacts and attempting to obtain financial assistance for migrants. The most important result was the implementation of an Australian Passage Assistance Agreement as from the 1st January 1949, and with the help of this sponsorship the outward movement rose to over 3,000 in 1949. In 1950 it was more than twice the level of the 1920 period, and after a lull in

1952-3 it rose to nearly 11,000 in 1954. Recently it became the policy of the Maltese Government to discourage such a level of migration and the movement has declined, although this has partly resulted from the restrictions of the receiving countries. Whether it can revive to the scale of 1954 will depend upon political attitudes within Malta to almost as great an extent as upon external conditions.

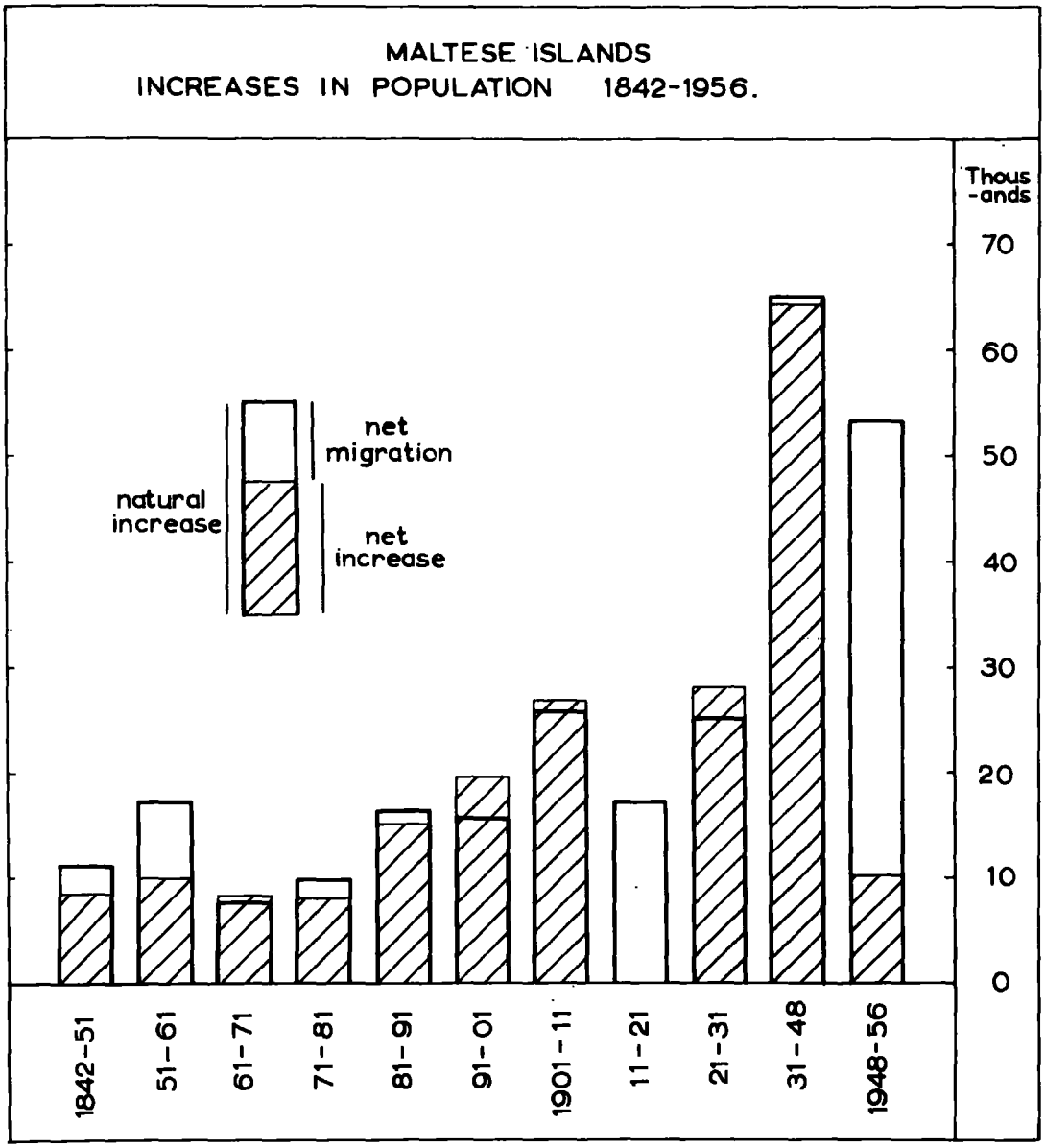
Net Increase 1842-1956.

a. 1842-1956.	(i) Natural increase of population	267,220
	(ii) Migration	-67,050
	(iii) Net increase	200,170

b. Population	113,864	in 1842
	200,000	1905
	300,000	1947
	? 400,000	1968-1972

The population grew by 86,000 in a little over 60 years from the first Census to 1905. In the next 42 years it grew by 100,000, but since 1947 the increase has been checked by large-scale emigration, and it has grown by only another 16,000. The potential rate of increase has, however, been revealed by the trends of the last twenty years, and if migration were discounted, the rate of natural increase of the period 1948-56 would bring the population to 400,000 by 1968, or if the natural increase of 1931-48 operated, it would take four years longer, and an increase

Figure 37.


MALTESE ISLANDS
INCREASES IN POPULATION 1842-1956.
Thous-ands
70
60
50
40
30
20
10
0
net migration
natural increase
net increase
1842-51
51-61
61-71
71-81
81-91
91-01
1901-11
11-21
21-31
31-48
1948-56

of 100,000 would be achieved in twenty-four years.

In the last hundred years, over 60,000 migrants (net) have left the islands, but 43,000 of these have gone since 1948 (see Fig. 37) and in comparison with the recent scale of movements, the net effect of all the previous migrations, except that after the Great War, is almost negligible.

Maltese Islands

Table 21.

Average annual rates[1.] of increase of population (per thousand)

Period	Natural Increase	Migration	Net Increase
1842-51	11.3	-2.7	8.6
51-61	13.7	-5.8	7.9
61-71	6.3	0.5	6.8
71-81	8.0	-2.0	6.0
81-91	11.0	-0.8	10.2
91-01	9.6	2.3	11.9
1901-11	13.9	0.6	14.5
11-21	8.2	-8.2	
21-31	11.8	1.4	13.2
31-48	15.8	-0.2	15.6
48-56	20.5	-16.6	3.9

1. rates are calculated against the population at the beginning of each period.

The place which migration has assumed as a remedy for population pressure should need no further emphasis. The rate of natural increase since 1948 has been higher than ever before, and to counteract it, migration has been at twice the rate of the Great War decade, and three times the rate of movement in 1851-61, which is the next in importance. Whether it can be relied on as a permanently available safety-valve is a matter of doubt and may be a dangerous assumption to make.

PART FOUR. Vital Statistics and Public Health

General

There are three aspects of the growth of the Maltese population through natural increase which repay particular attention. Firstly, it is necessary to determine the significance of the declining death rates, and the precise way in which this decline has been brought about. This may be done by studying the health conditions of the Islands, and especially medical practices. Secondly, the recent fall in the birth rate has already been discussed in general terms, but here the trends of the last fifteen years are considered in detail, and an attempt is made to assess the likely course of future rates. Lastly, the distributional pattern of natural increases can be analysed by districts and localities to show the changing population pressures during the last sixty years. The variations between localities broadly reflect the progress in the field of public health over the period, and more recently, the influence of a large expatriate British population upon the growth of population.

Chapter Eleven. The Decline of Mortality.

In the nineteenth century the death rate was subject to great fluctuations. On many occasions it rose above 30 per thousand, and only once in the century did it fall below 20. In contrast, since 1953, the rate has always been below 10 per thousand. The improvement, which follows the trends of most other European countries, has been achieved by the joint practice of preventive and remedial medicine. The foundations were laid by the introduction of a public water supply and the sewerage of the islands. These developments date from the nineteenth century. During the last fifty years medical practice in remedial medicine improved immeasurably but no real impression was made until the intensive practice of preventive medicine was adopted. In the last fifteen years, ante-natal, maternity, child-welfare and school clinics have been set up, and campaigns have been directed towards the education of the adult public. These were the factors which reduced the infant mortality of the islands, and when this fell, the crude death rate quickly assumed the proportions more characteristic of the remainder of Europe.

Comparatively, the progress in the control of disease is much less spectacular, and the public have reacted less readily to appeals to attend for inoculations and vaccinations against the endemic diseases. There is still a stigma in the public imagination attached to tuberculosis which has led to the concealment

of illness. Typhoid fever is still common in the islands and although anti-typhoid injections are available they are unpopular. On the other hand, undulant fever is coming under control through the restriction of sales of unpasteurised milk. This disease which is caused by a bacillus (Brucella melitensis) found in goats' milk may disappear in the near future if current work on the production of vaccine is successful.

Health in the Nineteenth Century, and the Sewerage of the Islands.

It was through the progressive sewerage of the island that the control of the death rate began. The early results of these public works were not spectacular but they did ensure the restriction of plagues and epidemics. When cholera and bubonic plague were brought into twentieth-century Malta, the death rates were restricted to fewer than a hundred on each occasion. In the nineteenth century very different circumstances had operated, and it was only after a cholera epidemic in 1865, in which 2,600 people died, that much interest began to be taken in the health of the population.

An important report on Sanitary conditions in Malta and Gozo, at the time of the Cholera epidemic of 1865, was published by Dr. Sutherland, a medical officer then serving in Malta (36). This gives an accurate, and at times harsh, picture of conditions in the middle of the century. When the epidemic subsided, it was expected that the death rate would decline, but in fact it

continued to fluctuate at a higher level than anticipated, and was the cause of much discussion and eventually action in the following decade. In these years for the first time records of mortality began to be collected systematically and were analysed carefully. In 1874, the level of mortality was such that a Commission was called to enquiry into the causes of the recent increases (37). Its report was published in the same year. The Commission assembled statistics of mortality analysed by month and by localities, extending back to 1863, and as a result of their recommendations the Government decided to maintain a permanent record of mortality, and the first annual report was published in 1874. The series was maintained until 1897, when it was expanded and incorporated in a comprehensive report of the "Health Conditions of the Maltese Islands", also published annually, which included statements of births, deaths, marriages, health and sanitary conditions. In such a form the reports of the Public Health Department, and Medical and Health Department have been maintained up to the present time.

To appreciate the early reports it should be remembered that mid-nineteenth century Malta was not in a mood to consider suggestions for reducing mortality. The most pressing problem was the high rate of births which was such that even though the level of mortality was high, the population was still increasing at the rate of 7 or 8 per thousand each year. In such a small

island, the threat of overpopulation was a constant fear dominating the thoughts of the people. Forecasts of impending Malthusian gloom were mixed with sermons upon the improvidence of early marriage - "the cause of all social misery in Malta" (38), and efforts were being directed towards reducing the birth rate by the introduction of propaganda against early marriage, but they had no more success in the sixties and seventies than in the early part of the century (39).

Evidently, any attempt to speak in terms of reducing mortality could meet with little sympathy when such steps could only serve to accentuate the already serious problems of overpopulation. Consequently the standards of sanitation and hygiene declined until they eventually reached an intolerable level and the need for action finally became inescapable. This mechanism was, however, prolonged, and it was ten years after the cholera epidemic that the first attempt was made to improve the sewerage. Thirty years later the sewer-drainage of the Islands still did not extend beyond Valletta, Floriana, and the Three Cities.

The lack of action could not be blamed entirely on the quiescence of the medical authorities. In his report, Sutherland summarised the chief causes of unhealthiness in the villages as:- "(i) the absence of sanitary supervision over the yards and houses; the accumulation of filth in close proximity to the living rooms; (ii) the peculiar structure of courts and houses

whereby air polluted by exhalations from the above-named sources form the atmosphere in which people live, and especially in which they sleep; (iii) unwholesome methods of storing water and drawing it for use. Deficiency of water and consequent filthy habits of many inhabitants of villages; (iv) absence of all drainage arrangements." Sutherland's inspections during the epidemics were chiefly confined to actual houses in which there had been deaths from cholera. Of these he said, "I have no hesitation in stating that I have very seldom met with conditions so obviously injurious to health, and so likely to determine outbreaks of epidemic disease as those presented by many of these houses." (40).

In contrast to the villages, the towns of the Harbour area possessed a system of sewerage created by the Knights, and also a piped water supply, but here the trouble was that the conduits were in close proximity to each other, and pollution was common. The worst feature of the dwellings was the ordure room. In city houses it lay in the basement or at the foot of the stairs and was used for collecting and keeping the domestic dung until it was taken away by the police. These dung rooms were also common to the villages but as the contents were generally applied to the fields, the accumulated filth was less than in the towns.

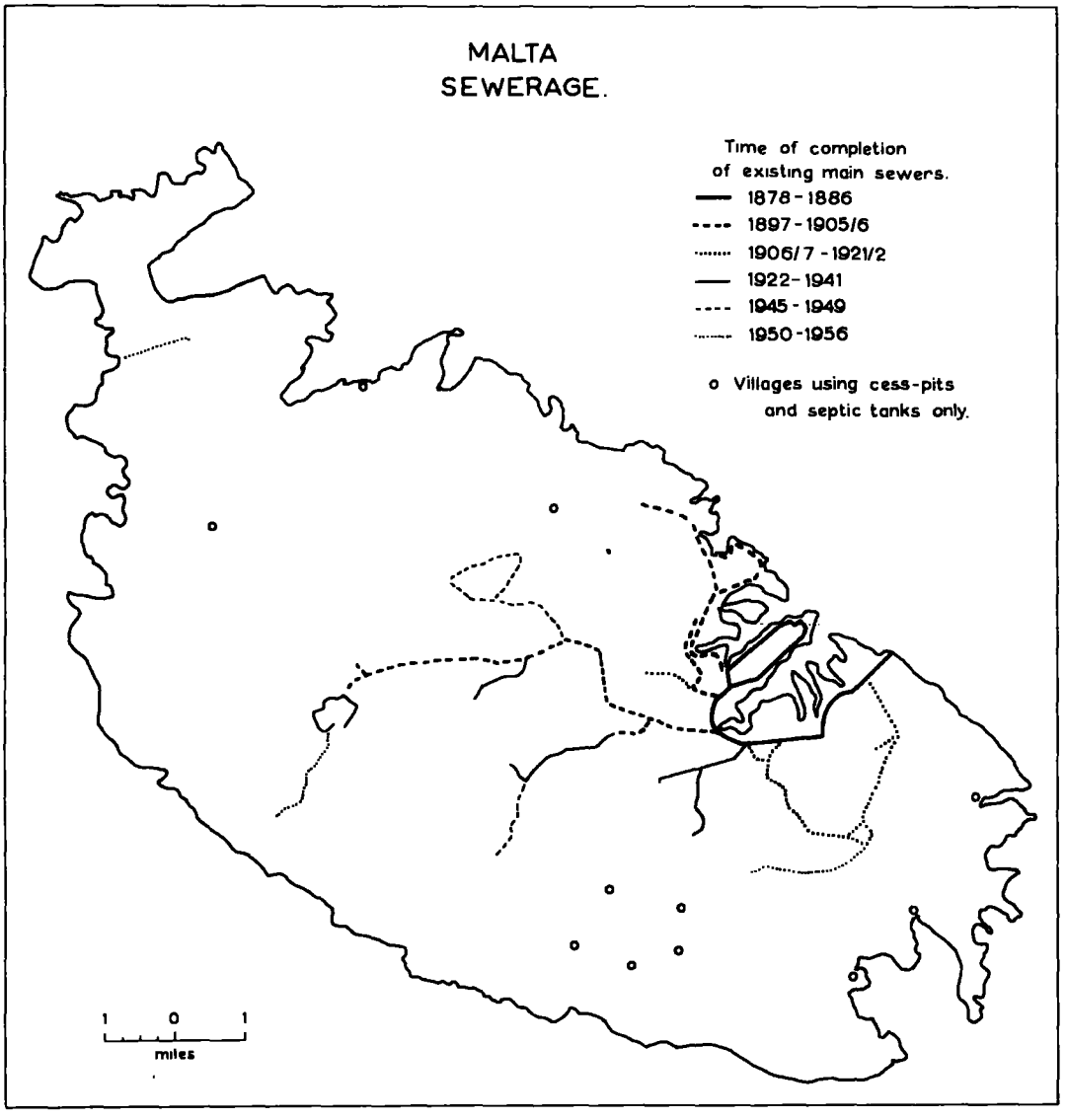
The Commission of 1874 was at pains to emphasise the high rate of child mortality. In that year, of just over 4,000 deaths, more than 2,000 were of children under 5 years old. The blame

for the high mortality was placed primarily on the climate, for the incidence of infant deaths always rose in the hot summer months. The second factor blamed was poverty. A complaint that the purchasing power of money was being reduced and emigration was depriving the country of breadwinners, was followed by a description of overcrowding - "a natural fruit of a redundant population" (41). There was in fact a dual and irreconcilable problem, on the one hand the island was overcrowded, and the natural remedy was emigration, but this was depriving Malta of her best men, and leaving behind families dependent on the irregular remittances of the absent migrants. Today, nearly a hundred years after the first mention of this problem, it is still no nearer a solution.

In the field of child-care and public health, the Commission of 1874 felt that there was more chance of progress. They noted the grim fact that among a large section of the population "solid food is given to the children before teething, and often results in death from convulsions", and "the habitually neglected state of the children of labouring classes provided an opportunity for the sisterhoods to form kindergartens." Here at least, an attempt at the education of the public would improve the situation.

The Medical Officer in the Three Cities, recalled dramatically the need for improvements in the sewerage: "so highly

Figure 38.


MALTA
SEWERAGE.
Time of completion
of existing main sewers.
1878-1886
1897-1905/6
1906/7-1921/2
1922-1941
1945-1949
1950-1956
o Villages using cess-pits
and septic tanks only.
1 0 1
miles

charged is the atmosphere of the houses in the lower parts of Cospicua, with sewer emanations, that all silver articles on surfaces painted with white lead become at once blackened by the hydrosulphide of ammonia which is one of the most tangible of their gaseous products." (42). With the support of the first locality-details of mortality Dr. Ghio, the Chief Police Physician, said "in Senglea the streets are straight and cross at right angles, the drainage is effective and the town is noted for its cleanliness. There the death rate is low. In contrast, in the narrow and tortuous streets of Vittoriosa, foul gases emanate from the sewers, and with Cospicua, sanitarily the worst area, it has one of the highest death rates." (43).

The early attention was focussed on the Garrison towns, where the Services' personnel were stationed and the health of the civil population was of direct consequence to the military authorities. In 1878, the Royal Engineers put a plan into operation to remedy the situation. They constructed a new system of drainage and flushing for Valletta, Floriana, and the Three Cities, with a common outfall at Weid Ghammieq. By 1886, the last of this work was completed in Valletta (see Fig. 38), and almost half of the costs had been provided by the Military. But no further progress was made until the nineties, and once again the conditions almost assured crisis proportions before a response was forthcoming from the Government.

In the first report of the Public Health Department, the dangers which had arisen from unrestricted suburban growth in undrained areas were stressed by Dr. Pisani, the Chief Government Medical Officer who said: "I wish most strongly to impress the source of danger which Sliema and Hamrun are becoming to the whole island, and the absolute necessity of early undertaking the drainage of these rapidly growing towns so as to save them before it is too late, from some bad catastrophe which would be likely to follow should God forbid, a serious epidemic visit the islands." Actually, Chadwick, who ten years previously had pioneered a comprehensive scheme for public water supply, in 1894 submitted a plan for the sewerage of Sliema and the suburban area (44). A modified version of his scheme was begun in 1897, but this was only after argument over the expenditure which would be involved.

The fundamental problem was the lack of capital. Three-sevenths of the expenditure on the 1878 project had been provided by the military authorities, and again in 1897 the plans for the extension of drainage were restricted to that area in which the work could be subsidised by Imperial expenditure. In 1896, the Government voted a sum of money for the extension northwards as far as St. Julians and the Pembroke Barracks, the construction of a main sewer inland to Rabat and the Mtarfa Barracks through Qormi which had previously drained directly into Grand Harbour,

and the linkage of Pawla and Zabbar to the main system (Fig. 38). The military subsidy towards this amounted to about a quarter of the total cost excluding Pawla and Tarxien.

In 1909, a sea-water flushing scheme (45) serving the whole of the island, was recommended by Binnie and Deacon and approved by the Maltese Government irrespective of whether it would be supported by a military subsidy. Unfortunately the proposals were made when the island was suffering from a depression. When the Royal Commission of 1912 were investigating the economic situation and expenditure in the Islands, they considered the plans too elaborate and recommended that they should be modified, which they considered possible without prejudice to the health of the population (46). This veto on large-scale expenditure held back progress, and only epidemic cholera in Zejtun in 1911 allowed the comparatively rapid completion of the extension to that village. Hamrun and Birkirkara, however, had been the scene of work for several years, and slowly the sanitation was improved. In the following years progress in the extension of drainage was spasmodic and works were undertaken as and when capital became available.

Apart from the large expenditure of public funds, the question of sewerage raised political storms because of the demands it made from landlords who had to finance the household connections. Eventually the value of the service was recognised,

and there was a popular desire for the extension of sewers to every village, but this did not begin until the mid-thirties. In 1936, the judgment of the Chief Government Medical Officer was "no scheme of sanitary reform ever met with greater opposition than the establishment of the modern sewer system in Malta" (47), but by that time the opposition had been almost overcome, and the rate of progress in the extension of the main system was not fast enough to cope with the demand. During the financial year 1920/21 the number of house drains connected with the public sewer was 63, in 1926 it was 300, in 1936 700, and in 1939 over 1,000. The extension of the main sewer to Zebbug was completed in 1941, and soon after the end of the war Siggiewi, Mosta and Naxxar were reached. In 1955, about 270,000 or over 90% of the Maltese population was sewered (48). Of the remainder most lived in the south-east of the island, and today Zurrieq is the largest remaining village without sewerage.

In these unsewered areas much is still to be done. Nearly all the dispersed farmhouses have no drains, and so slops, foul and waste-water are thrown over the fields or buried. In the villages the present policy is to insist that each house or tenement should have a cesspool. "This installation, however, is not meant to receive the waste-water from the sink, bath and kitchen" with the result of "frequent overflow on the public thoroughfares with much nuisance and inconvenience" (49). In 1954, a new

service helped to relieve this problem, and now the cesspools in villages unprovided with sewerage are emptied free of charge by pneumatic means. Incorporated with recent plans for the sewerage of these remaining villages have been proposals for sewage-purification schemes, in which the effluent would be used for irrigation of agricultural land (50). A pilot scheme is being constructed at Mellieha, and the drainage of that village was completed in 1956, but the high cost of the complete project seems to be prohibitive, and its implementation in the present form at least seems unlikely.

The earliest consequence of the sewerage of the island was not an immediate reduction of infant deaths, but the control of epidemic disease. Before 1900, the death rate had soared above 30 per thousand on many occasions as cholera or plague hit the islands; during this century it has exceeded 30 only in 1942. In 1911, when cholera struck, fewer than a hundred people died: the cholera of 1837 had caused over 4,000 deaths in a population only half the size. The bubonic plague of 1813 accounted for the loss of 4,600 lives, but in 1917 when plague was again brought in to the islands, this time by rats from the Levant, strict precautions restricted the number of deaths to 3. In an outbreak of plague in 1936/37 12 people died, and in 1945/46, 22 died from plague, but in each case the incidence of disease was not allowed to spread beyond the immediate harbour area in which

the carrier-rats had landed. By the very nature of her position, and depending on trade and commerce, Malta will always be liable to the introduction of plague, cholera and smallpox, but through the use of rigorous preventive measures an epidemic can now be kept under control.

Infant Mortality.

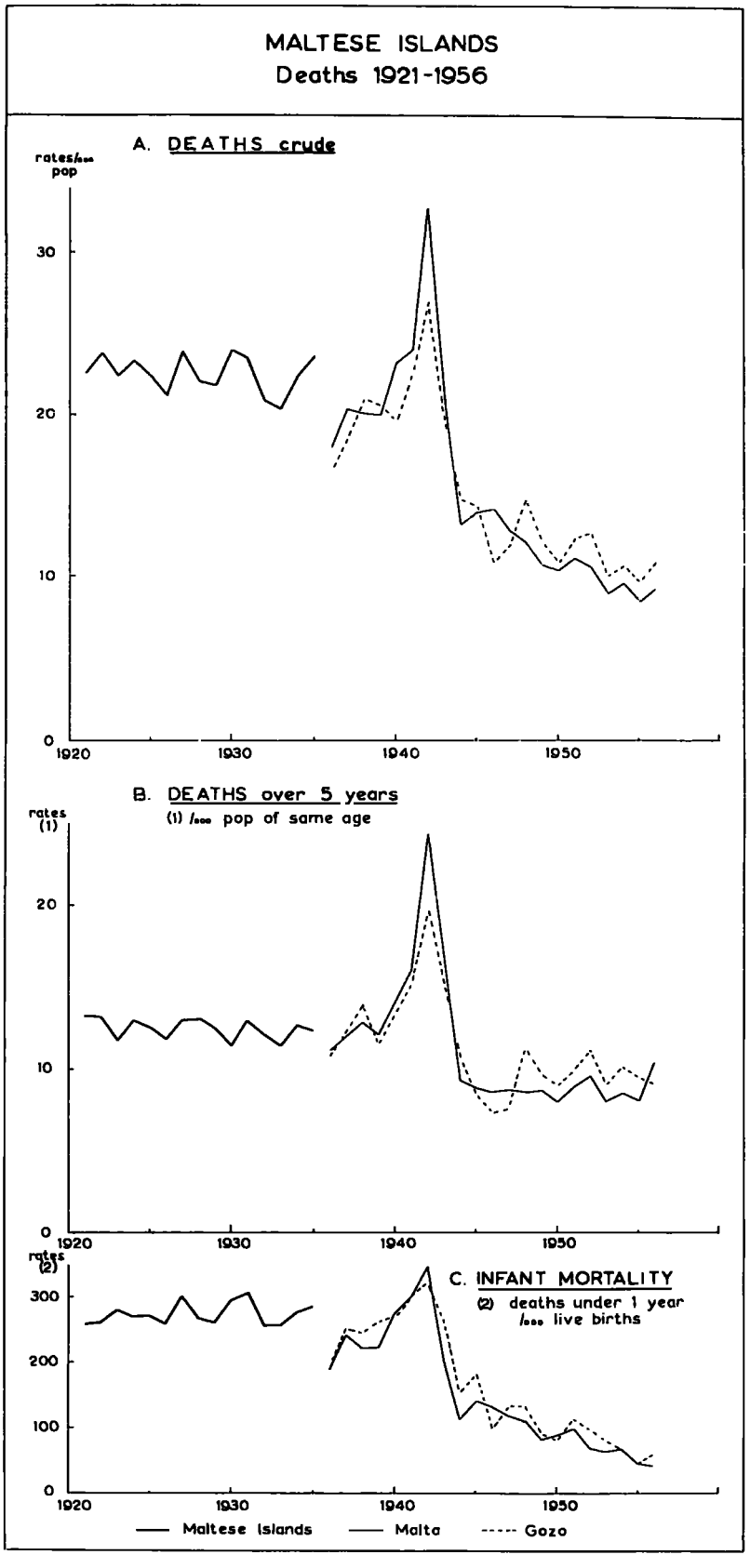
In the last forty years, and especially during the last fifteen, the most important adjustment in Maltese values has been the new status given to human life, for only recently has the inevitability of a high rate of infant deaths been rejected. A philosophy of fatalism is being replaced by one of hope, but there is the warning that even this will be disillusioned if it is not accompanied by parallel economic progress. The change of attitude is one of the indirect benefits of the last war during which there was a revolutionary upheaval of the rural population (51). The Government's mechanisms for propaganda were used to introduce new standards of hygiene and child-care and the medical services were organised and attentive to the public need on a scale never before known, but at that time enforced by necessity.

In 1923, Dr. Critien, the Chief Government Medical Officer, drew attention to the traditional attitude of the majority of the population. "Over-attention to personal health is not one of the failings of the poorer classes; unfortunately they err in the opposite direction and must be brought round gradually to set a

higher value on their health, taught how to protect it, helped to regain it not only when illness is well established, but in the matter of small local ailments as well, which though not a menace to life, only permanently impair one of its functions". (52). Even in 1956, the logic of efforts to preserve human life was still being doubted. A common attitude voiced was "why bother about loss of lives - what matters if fewer babies survive their first 24 hours, or their first month, when the problem that faces Malta today is one of a high birth rate, and overpopulation." (53) These opinions have been constantly voiced in the light of an economic situation that has never guaranteed a bright future for the islands, and along with a lack of opportunity in Malta it is understandable that a high rate of infant mortality was a topic which could not naturally provoke any desire for reform, or adjustment of the "status quo", by the public. In fact, it took the catastrophe of war to bring any improvements.

The actual problems which needed to be tackled were deeply-rooted and very well described in an article on the predicament of the infant in the home which was published as recently as 1956 (54). Although the following criticism is applicable to many families today, it reflects even more strongly the general situation before the war. The environment was first of all unsatisfactory: the bulk of families were overcrowded and lived under most unhygienic conditions, the intelligence of the average mother

Figure 39.


MALTESE ISLANDS
Deaths 1921-1956
A. DEATHS crude
rates/‰ pop
30
20
10
0
1920
1930
1940
1950
B. DEATHS over 5 years
(1) /‰ pop of same age
rates (1)
20
10
0
1920
1930
1940
1950
rates (2)
C. INFANT MORTALITY
(2) deaths under 1 year /‰ live births
300
200
100
0
1920
1930
1940
1950
Maltese Islands
Malta
Gozo

was poor, and their most frequent mistake was the early and indiscriminate use of farinaceous foods, overclothing, and underfeeding whilst the teats on bottles were invariably dirty. Moreover the system by which the grandmother (who may have lost over half her children through ill-care) as the factotum of the household still exists, and must be gradually changed before the situation is really satisfactory. It is only through the family unit, therefore, that conditions could be improved.

The earliest movements were made in the 1920's when a voluntary health organisation, the Mothers and Infants Health Association was formed, and received a small subsidy from the Government. They established four clinics in the Harbour area but their influence was not proportional to the importance attached to them. At the same time, the district nursing service was also established on a small scale but this was the limit of the movement. To achieve real improvements the basic requirement was the education of the rising generation and the systematic teaching of the rules of health to the adult population. This was recognised by the C.G.M.O. in 1936, and there was a fall in the infant mortality rate in that year. The next year, however, it rose again and by 1939 was back to the average level for the previous 20 years (Fig. 39c).

The way the death rate did eventually fall could not have been anticipated, and could never have been effected as rapidly

in any but wartime conditions. The situation was anomalous. Overcrowding and poverty had earlier been blamed for the high infant mortality, but in 1943 and 1944 when housing conditions were worse than any ever experienced in peacetime, and a high proportion of the population was living in cellars, both the death rate and the infant mortality rate began to fall to record low levels. The machinery for public information called for by wartime conditions was probably the most important factor. It was used by most Government Departments including the Medical and Health Department, and played a vital part in public education and in the raising of standards of hygiene. Furthermore there had been invaluable contacts with the medical services of the British and American Armed Forces. Rigorous steps had to be taken to ensure that the incidence of disease was restricted, and the nursing services moved among the population teaching and helping them. There was also among the rural community conscription, for the defence of the islands, that brought them into contact with a way of life and standard of living of which their isolation had formerly kept them absolutely ignorant.

Soon after the war was over, the Malta Memorial District Nursing Association was formed, and this has become the nucleus of an expanding professional body in nursing. A burst of reconstruction also followed the cessation of hostilities and the social services were extended rapidly. A Child Health Officer

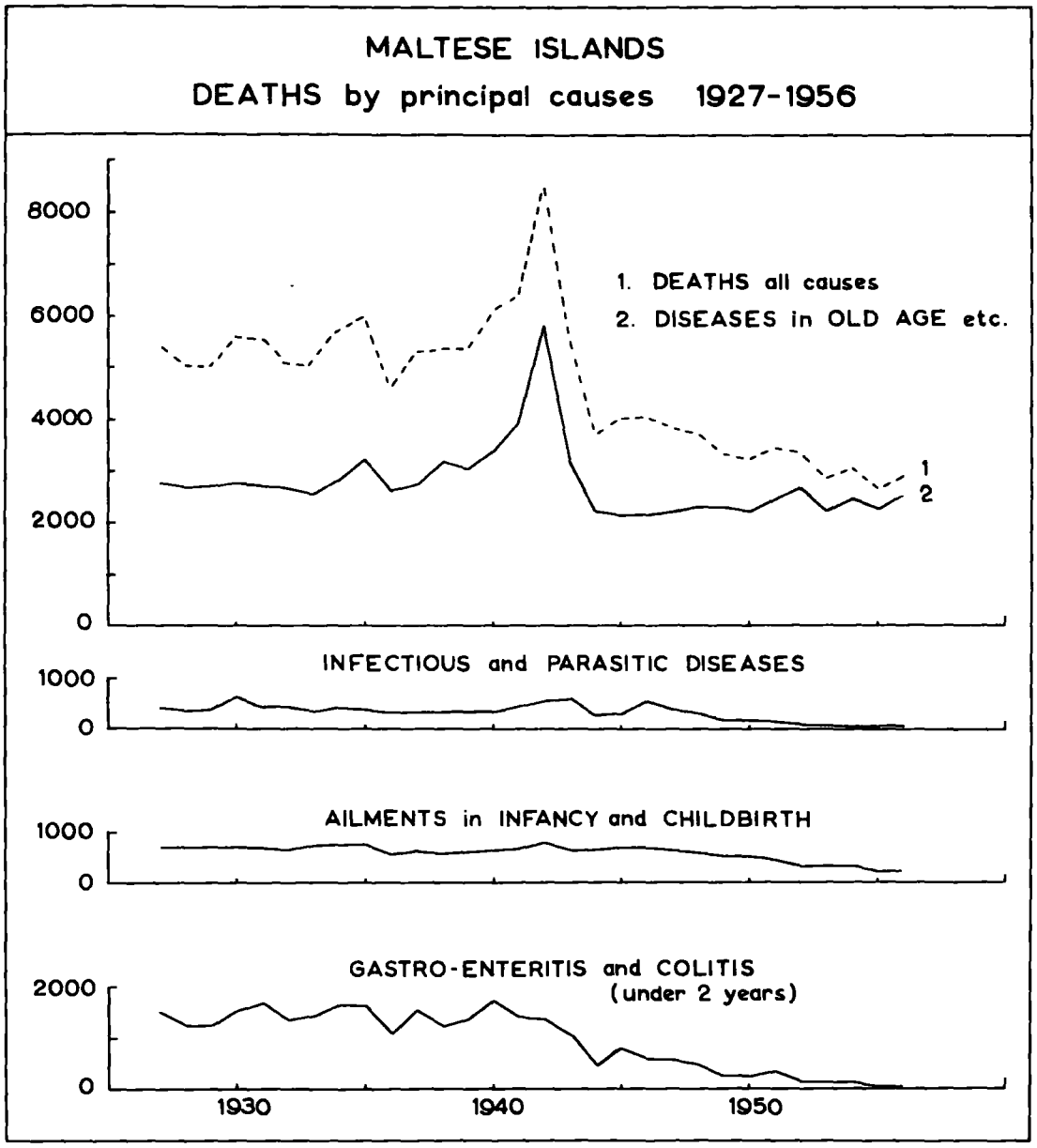
was appointed in 1945 and five clinics were opened in Government dispensaries; health visitors maintained the same intensity of contacts with the people, as were established in the war, and they formed links between the clinics, hospitals and the homes. In the following year there were 21 Child Health Clinics in the islands, at which the attendant mothers were being taught the elements of child-care and especially the importance of hygiene and some of the principles of dietetics.

In 1953 the Save the Children Fund, a United Nations organisation, set up eight ante-natal clinics in the main villages. They were immediately well attended and the work done there proved to be of such value that the Government took over these clinics in 1956, incorporating them with the Child Health Service. These services are being currently co-ordinated with the school clinics and dental services to form an effective unit in the field of preventive medicine. It was the opinion of the Medical Services Commission which reviewed medical practice in Malta in 1956, that "with the further development of the child health services there is a good reason to hope that the infant mortality rate could be reduced below 30 per thousand" (55). In 1956 it was 41 per thousand, leaving the memory of a rate of 350 per thousand in 1942 far behind.

The Control of Disease.

In the 1920's there were between 5 and 6,000 deaths each year

Figure 40.

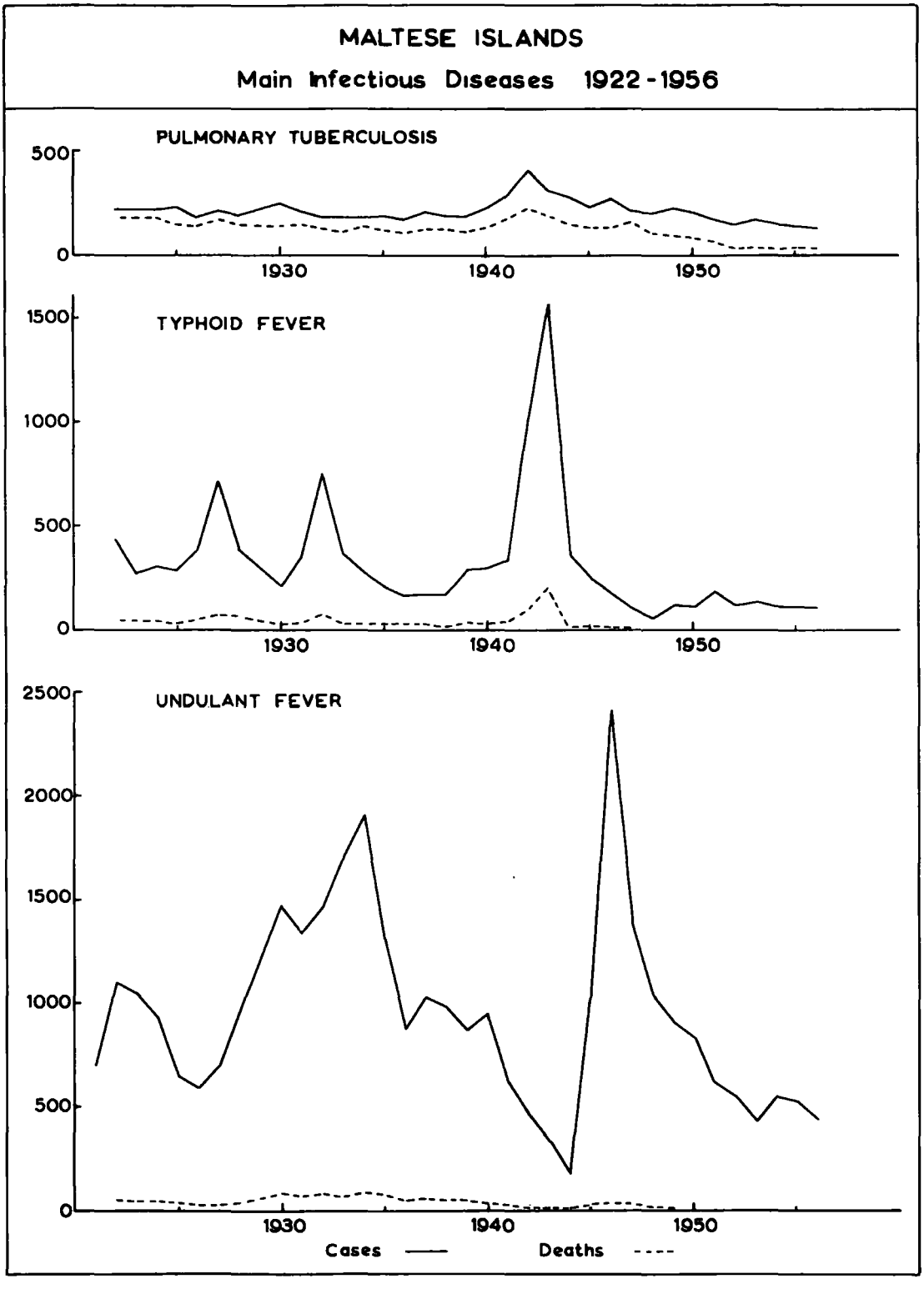

MALTESE ISLANDS
DEATHS by principal causes 1927-1956
8000
6000
4000
2000
0
1. DEATHS all causes
2. DISEASES in OLD AGE etc.
1
2
INFECTIOUS and PARASITIC DISEASES
1000
0
AILMENTS in INFANCY and CHILDBIRTH
1000
0
GASTRO-ENTERITIS and COLITIS
(under 2 years)
2000
0
1930
1940
1950

in a population of about 225,000; in the 1950's the population was over 300,000 and the deaths amounted to fewer than 3,000 annually. During these years the numbers of deaths from the ailments of old age declined slightly (Fig. 40), and the fall in the death rate was almost wholly attributable to the restriction of deaths among children most of whom had been dying previously from gastro-enteritis and colitis. Of secondary importance, but nevertheless very significant, is the control of disease (Fig. 41). Whereas the case incidence of typhoid, which is endemic, is high, mortality from the disease is now almost unknown. Active research and the pasteurisation of milk have reduced the number of cases of undulant fever, and the introduction of drugs has successfully controlled the high mortality rate from tuberculosis. Because these diseases have had a debilitating effect on the population even when they have not actually caused deaths, the achievement of restriction of the number of cases is important.

Tuberculosis.

The incidence of tuberculosis was high in the First World War and was interpreted as reflecting a diminished physical resistance and straitened circumstances due to war conditions. The fatality rate from the disease was very high: over 80% of the new cases each year died. In the thirties, slightly improved conditions and a spate in the house-building programme was reflected in a fall in the incidence of tuberculosis. In 1941, as the

Figure 41.


MALTESE ISLANDS
Main Infectious Diseases 1922-1956
PULMONARY TUBERCULOSIS
500
0
1930
1940
1950
TYPHOID FEVER
1500
1000
500
0
1930
1940
1950
UNDULANT FEVER
2500
2000
1500
1000
500
0
1930
1940
1950
Cases
Deaths

strain of war grew, the discomfort and overcrowding inflicted on the population became even more severe and in 1942 it was accompanied by an increase of tuberculosis which reached a climax in the latter year. It has been described as a class disease, a disease of the poor, based essentially on adverse housing and economic conditions (56), and for that reason there has been a great deal of effort directed towards the reduction of its effect since passing the wartime peak of incidence.

In 1950, the International Tuberculosis Campaign reached Malta and the mass B.C.G. vaccination of the population began, nearly 40,000 people being immunized (57). By 1955 the reported case incidence was half the 1946 level, and the decline in deaths which coincided with the introduction of Streptomycin and allied drugs since 1949, has been successfully maintained. In 1956 deaths amounted to 20% of notified cases - a reduction of 60% from the 1922 level. This represents a mortality rate from tuberculosis of 13 per 100,000 population, which compares with 14.6 in England and Wales in 1955, and 6.3 in Denmark. Doubt, however, has been expressed about whether the reported case incidence is a true reflection of the amount of tuberculosis which exists in Malta (58). The disease is still considered with fear, persons suffering from it are regarded with prejudice and a natural consequence of this is concealment (59). With the introduction of mass radiography in the near future, there may be a

better indication of the true extent of the disease and more cases caught in their early stages.

Typhoid Fever.

In common with most other Mediterranean countries typhoid is endemic in Malta. The seasonal incidence is marked and usually restricted to the summer months. It is not related to the quality of the piped water supply but is transmitted "through food, fingers and flies", and especially by contaminated fruit and vegetables (60). The cyclical peaks in the incidence of cases have been at irregular intervals. In 1927 the increased prevalence was common also to the countries of south-east Europe. There is no single explanation of the increase in 1932, but in 1942 and 1943, epidemic prevalence followed the irrigation of fields with crude sewage. At first this occurred accidently when some of the sewers were destroyed by bombing, but later the practice was permitted by the Government in view of the necessity to grow more vegetables. The result was that dysentery increased, and the control of it was only achieved by compulsory inoculation. This began in 1943.

By 1953, it was being feared that the immunity through the 1943 inoculations was weakening, but the general improvements in the sewerage of the islands, and higher standard of cleanliness have kept the rates below the previous level. Although free immunization has been available since 1953, it has not met with

much public response, and propaganda is needed to demonstrate that the inconvenience is amply rewarded by the protection offered

Undulant Fever.

Undulant fever is an unpleasant disease because of its debilitating after-effects and the possibilities of its recurrences in the patient even after extended lapses. Pioneer work in the identification of the disease was done by Bruce in 1885. He discovered the bacillus in the spleen of the patients, and in 1905 Zammit observed that it was freely excreted in the milk of goats. The remedy, pointed out then, lay in the boiling of milk, and it is through the pasteurisation of milk that the control of the disease is being achieved today. The protection of cattle and goats from brucellosis by vaccination is being investigated and the complete eradication of undulant fever may soon be possible.

The value of using pasteurised milk as a protection against fever was stated by Zammit and Debono in 1929 (61) and proposals of methods of large-scale milk pasteurisation were discussed in 1932 and 1934. An Undulant Fever Research Station was set up at Ghammieri in 1935, and Dr. J. B. Polding investigated the possibilities of immunizing goats by vaccination. Unfortunately he caught the disease himself, but after a year of convalescence, returned for a further two years of research. However by 1939, he had achieved no positive solution. The prevention of the sale and consumption of contaminated milk was more successful. A milk

pasteurising plant was erected, and the first pasteurised milk was distributed in 1938. Such a step, however, did not achieve immediate popularity for the conservative attitude of the population brought up on fresh goats' milk was difficult to overcome: "while in most countries the past century has seen the growth of a system of delivery of milk in containers, in Malta the entire milk supply has been delivered by the goat herself." (an observation by the newly appointed Manager of the Milk Marketing Department (62)).

The sale of pasteurised milk was first introduced in Valletta, Floriana and Sliema, and these were made into "closed areas" within which the sale of raw milk became illegal. The fall in the incidence of fever was immediate but the zone was extended no further before the war. During the war, most of the goats were slaughtered to provide meat, and tinned milk only was consumed. The decline of undulant fever was such that the number of cases reached a record low level, but when the breeding of goats was taken up again in 1945, the old problem was revived, and by 1946 the incidence was the highest ever recorded. Since then, the production of pasteurised milk has been increased, and amid considerable controversy the cow has replaced the goat as the main milk producer (63). Steadily, more areas have been "closed", and in February 1958 the whole of Malta was finally declared "closed". In 1957, of 250 recorded cases of fever, one third were in Gozo

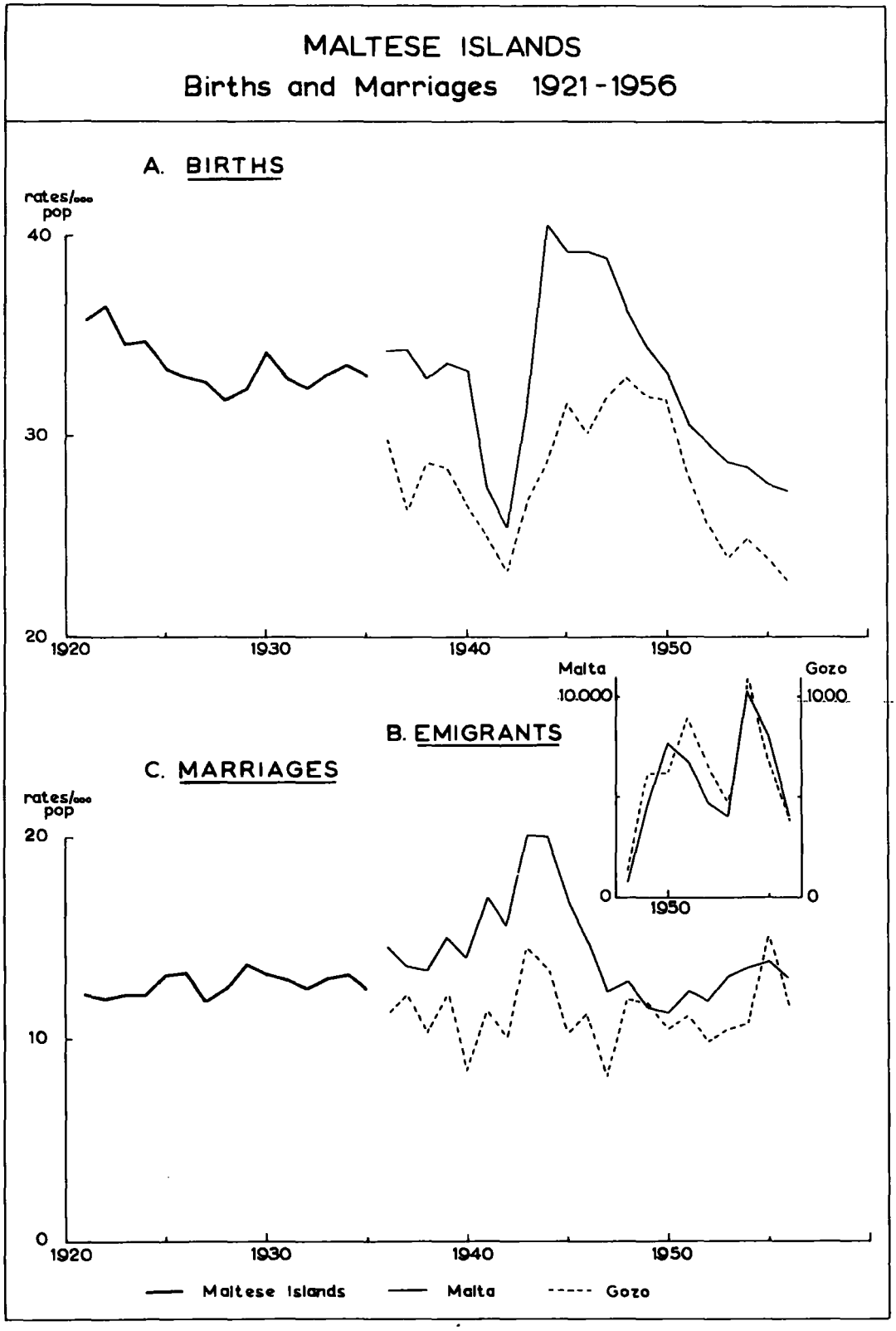
but this number should be reduced rapidly following the opening of a milk pasteurisation plant in Gozo in 1958. It is anticipated that the smaller island will soon be "closed", after which the incidence of the disease should be insignificant (64).

Undulant fever is still being studied in its implications in animal husbandry and the eventual desire is to achieve the complete eradication of the disease. At present it is estimated that about 20% of the goats are infected with brucellosis, but there are hopeful prospects that a protective animal vaccine will become available (65). If this happens, a supply of safe milk will be ensured.

In the future, unless there is a rapid change in the age-structure of the population, the low death rate in Malta can be maintained at the present level. The population is young and infant mortality need no longer be feared, but there is much yet to be done to improve the medical services. A number of recommendations have been made by the Medical Services Commission which visited the Islands in the latter part of 1956 (66). The first was the implementation of an overall plan to be framed for the extension of the services of preventive medicine. There should be a closer co-ordination of the ante-natal, maternity, child health and welfare, and school medical and dental services. An expansion of the district nursing services is needed, as are better facilities for the training of midwives and health

visitors. There is need for the further organisation of mother-craft teaching and hygiene. Strengthening in the field of specialisation, and improvements in hospital amenities and organisation are also recommended. Malta has achieved much, but she is still only midway in her modernisation.

Figure 42.


MALTESE ISLANDS
Births and Marriages 1921-1956
A. BIRTHS
rates/ooo pop
40
30
20
1920
1930
1940
1950
Malta
Gozo
10.000
1000
0
0
1950
B. EMIGRANTS
C. MARRIAGES
rates/ooo pop
20
10
0
1920
1930
1940
1950
Maltese Islands
Malta
Gozo

Chapter Twelve. The Falling Birth Rate.

In the long-term analysis there tends to be a correlation between the marriage rates and birth rates. But, in the last fifteen years since the height of the last war, a variety of abnormal factors have destroyed the fundamental pattern. Deviation from it arose as wartime marriages were celebrated but not consummated. Even in the "siege-years" the marriage rate was higher than in the thirties, but harsh conditions separated the newly wed couples and destroyed normal family life. As the siege was lifted towards the end of 1942, the marriage rate rose to a record height, and in 1943 the rate of births was re-established at almost the prewar level. In 1944 it was the highest for forty years. For four years, and in common with the rest of Europe recovering from the war, the high level of births was maintained, but after 1947 the rate began to fall (see Fig. 42).

At first the decline of the birth rate merely reflected an adjustment to normal peacetime conditions, but by 1951 it had fallen below the prewar level, and it was still decreasing in 1956 Moreover, in those nine years the birth rate has borne no relation to the trend of the marriage rate which has stabilised near the prewar level and has even risen since 1952. These inconsistencies can find their explanation in the pattern of emigration which began on a large scale in 1948. The process of emigration has taken over 40,000 people from the islands since 1948, and between

1954 and 1956 one-third of the total were married men and women. Furthermore between 75 and 80% of the migrants were under 30 years of age. These facts alone are sufficient to account for the declining birth rate, and they also explain the anomaly of a high marriage rate. In the face of the prospect of migration a great number of young men marry before emigrating, and when they have settled abroad, are joined by their wives. Many others return to Malta for brides once prosperity in the new home has been assured. In all these cases marriages are still being registered in Malta, although the progeny of these marriages are being brought up elsewhere. Precise measurements of the extent of these trends are not available, and much valuable information could be obtained if the Department of Emigration were to make a study of the date of marriage of migrants.

At present there is a danger that the decline of the Maltese birth rate should be ascribed to the increasing practice of family limitation. A common Maltese appraisal of the current situation is that "the love for large families has flickered away, and our birth rate has been on a steady decrease" (67). Within this statement are implications of "outside influences that are affecting the unity, spirit and welfare of the Maltese family" (68), but on the other hand Monsignor Gonzi, Archbishop of Malta, has again confirmed the view that although Malta has "lost a great deal of its pristine religiousness and morality" the island has

not declined spiritually to the extent of other countries (69).

The influence of religion upon human fertility is a perennial subject of discussion, and an evolutionary pattern of attitudes is apparent. Whereas in the early stages doctrines are related to the expansion of a nation, and so with the promotion of human fertility, as civilisation advances this aim tends to be superseded by concern for the welfare of the individual. The logical consequence is that "the number of children in a family should be selflessly determined in the light of such conditions as the mother's health, the well-being of the children themselves, and the interests of the community". This opinion was presented at the World Population Conference in 1954 by Father de Lestapis.S.J. (70). In his view the planning of families is compatible with the maintenance of spiritual values, but he adds the warning that "unless self-mastery is at the same time taught and practised, the attainment of mastery over nature will degrade and dehumanize"

A common assumption is that a decline in religious interest is conducive to the limitation of family size. But, changed socia attitudes rather than a decline in religious loyalties are believed to be more closely associated with the decline in family size (71), and it is important to be aware of these changing attitudes if the mechanism of a declining birth rate is to be interpreted correctly. The decline of the birth rate was in evidence in France in the eighteenth century and at various times

since then it has occurred in all the other countries of Europe and overseas countries of predominantly European stock. In the nineteenth century one of the numerous theories to account for the decline was that fertility declines by a natural law as the level of living rises. The main exponent of this theory was Spencer (72), but in recent years there has been almost universal agreement that the major part, if not all of the decline in family size, has been brought about by the practice of family limitation, whilst the actual fertility of the population remains substantially unimpaired (73). The declines in European birth-rates have therefore reflected the attitudes of society to the planning of families, and it must be noted that included in the nations with declining birth rates are many Catholic countries.

The insularity of Malta has preserved a form of Catholicism which is much stricter in its application there than in other nominally Catholic countries, and in many ways Catholicism in Malta is unique, differing in many of its attitudes from English, and at times even Italian Catholic opinion. Orthodox European Catholicism accepts the desirability of the planning of families, with the view that it is "no part of Catholic doctrine that parents have unlimited numbers of children, and it is not unreasonable to desire a small rather than a large family, but to achieve this a sacrifice must be made" (74). Pope Pius XII, living in a country with a background of poverty and a growing

population, in an encyclical letter to midwives in 1951, spoke of his awareness of the problem of unwanted children. He condemned irresponsible parenthood, and commented upon the need for the limitation of families by the use of the 'safe-period'. Again he said it is "a mistake and a departure from the way of moral truth to exalt too highly the generative function even in its right moral setting of married life" (75).

The contrast of attitude in Malta is striking. Despite the extent of overcrowding and the inadequacy of the Island's facilities to provide for the economic welfare of its people, the glories of the large family are still stressed and recently Archbishop Gonzi reminded young engaged couples that although large families entailed much sacrifice on the part of the parents, couples should be prepared for a life of sacrifice and not one of amusement (76). An article in "Kana" (77), by its founder in Malta, Father Charles G. Vella says: "One of Malta's glories is her large families. The love of children in Malta is very strong and is remarked upon by strangers who come to our country. It is this love and the high ideal of Christian marriage that give us the many large families that adorn Malta .... . Therefore you, mother of a large family, have courage and strength for divine providence will never desert you." On the other hand, tending to mitigate against the production of large families are the urban contacts with non-Maltese and non-Catholic opinions and attitudes

towards family limitation, and the increasing proportion of married women in employment outside the home. The latter trend is meeting with great opposition and the Women Employees' Association has called for strenuous efforts to prevent married women, or widows with family burdens, from seeking employment (78). The effectiveness of the former contact is but limited because the sale of contraceptives is illegal in Malta.

As long as these attitudes and controls are operative in the Maltese Islands, all the conditions for a revival of the birth rate are present. This will happen when and if the level of emigration falls any further and if it does happen the rate could be expected to recover rapidly to something over 30 per thousand, and the natural increase to grow by at least 2,000 per year. The implications of such a situation should need no further comment.

The non-Maltese contribution to the birth rate.

As a footnote to the current trends in the birth rate, it is worth drawing attention to the large proportion of births to United Kingdom civilians resident in Malta (Appendix E, table Most of these people form the families of United Kingdom servicemen stationed in the Islands, and because they are not part of the permanent population (those children born in the Islands leave with their parents when a term of duty ends) they do not contribute to the overall increase of numbers. They do, however, inflate the birth rate in some degree. Statistics separating them from the remainder of the population have only been available

since 1953, but in that year 10%, and in 1956 13% of all births in Malta were to British people. Also, the unusually high birth rates in localities like Gzira, St. Julians and Birzebbuga, were due to the large proportion of British people living there.

In Table 22 below, it has been attempted to make a more accurate estimate of the true Maltese birth rate by excluding all those localities where more than 20% of the births in 1955 and 1956 were to British people. This removes 75% of all the British births, by extracting a group of localities which includes 30% of the population of Malta. In the remaining part of the island the proportion of British births is insignificant, and the calculated rate is probably more representative of the real Maltese level of births.

The revised birth rate (B), in Table 22 is lower than the average for the whole island and also shows a greater decline since 1952. Within the 'British' area the rate has remained relatively steady at about 30 per thousand, and in 1956 it was 4 per thousand above the average for the rest of the island. This figure does, however, conceal great variations (the birth rate in Sliema in 1956 was 24.5, while in Birzebbuga it was 42.7) and the only inference that must be drawn is that in each of these areas, whether the rate is high or low, it is inflated by the inclusion of British births.

Table 22.

Locality		1952		1953		1954		1955		1956	
		Pop.	Births	Pop.	Births	Pop.	Births	Pop.	Births	Pop.	Births
Birzebbuga		5335	238	4802	225	5250	202	5041	174	5087	195
Gzira		8441	263	8905	257	9228	301	9012	303	8989	348
Kalkara		2351	70	2222	79	2152	94	2079	69	2080	66
LuQa		5216	151	5191	128	4103	138	4033	135	4018	130
Msida Pieta		9115	306	9818	270	9083	306	8901	270	9038	302
Pawla/Tarxien		20083	592	19758	567	20408	593	20006	585	20027	530
St. Julians		6094	238	6358	262	6700	251	6532	254	6592	246
Senglea		3146	159	4089	170	4293	190	4375	172	4532	168
Sliema		25503	631	24099	592	24160	590	24074	578	23921	559
Balzan		2270	59	2395	59	2393	71	2382	61	2397	65
Total	A	87554	2707	87637	2589	87770	2736	86435	2601	86681	2609
MALTA excl. above localities	B	199012	5794	201350	5713	203732	5551	200316	5298	199918	5185
ALL MALTA	C	286566	8501	288987	8302	291502	8287	286751	7899	286599	7794
Birth Rates	A	31.0		29.6		31.2		30.2		30.1	
	B	29.1		28.4		27.3		26.4		25.9	
	C	29.7		28.7		28.4		27.6		27.2	

Chapter Thirteen. Internal Variations in Natural Increase.

From a phase during which there had been a low rate of natural increase of population with high birth and death rates, the Maltese Islands have now entered a second phase in the demographic cycle, in which there are moderate birth rates and low death rates. This transition has been accomplished slowly, and the most spectacular rise in the natural increase has been confined to the last ten years. The changes are traced below by a comparison of three periods. 1891-1901 was a period of rising prosperity before any control of mortality had been achieved. During 1921-31 the effects of the first major waves of emigration were felt, and the death rate was beginning to fall, and in 1952-55, emigration reached its peak coinciding with the reduction by half of the death rate.

The statistics for the Maltese Islands, as a whole, conceal a pattern of considerable diversity.

Table 23.

	1891-1901			1921-31			1952-55		
	B	D	N.I.	B	D	N.I.	B	D	N.I.
Malta	37.0	28.1	8.9	34.0	22.9	11.1	28.6	9.3	19.3
Gozo	36.8	26.3	10.5	29.6	19.7	9.9	24.6	10.7	13.9

(for Maltese rates by localities, see Appendix E, table 14.)

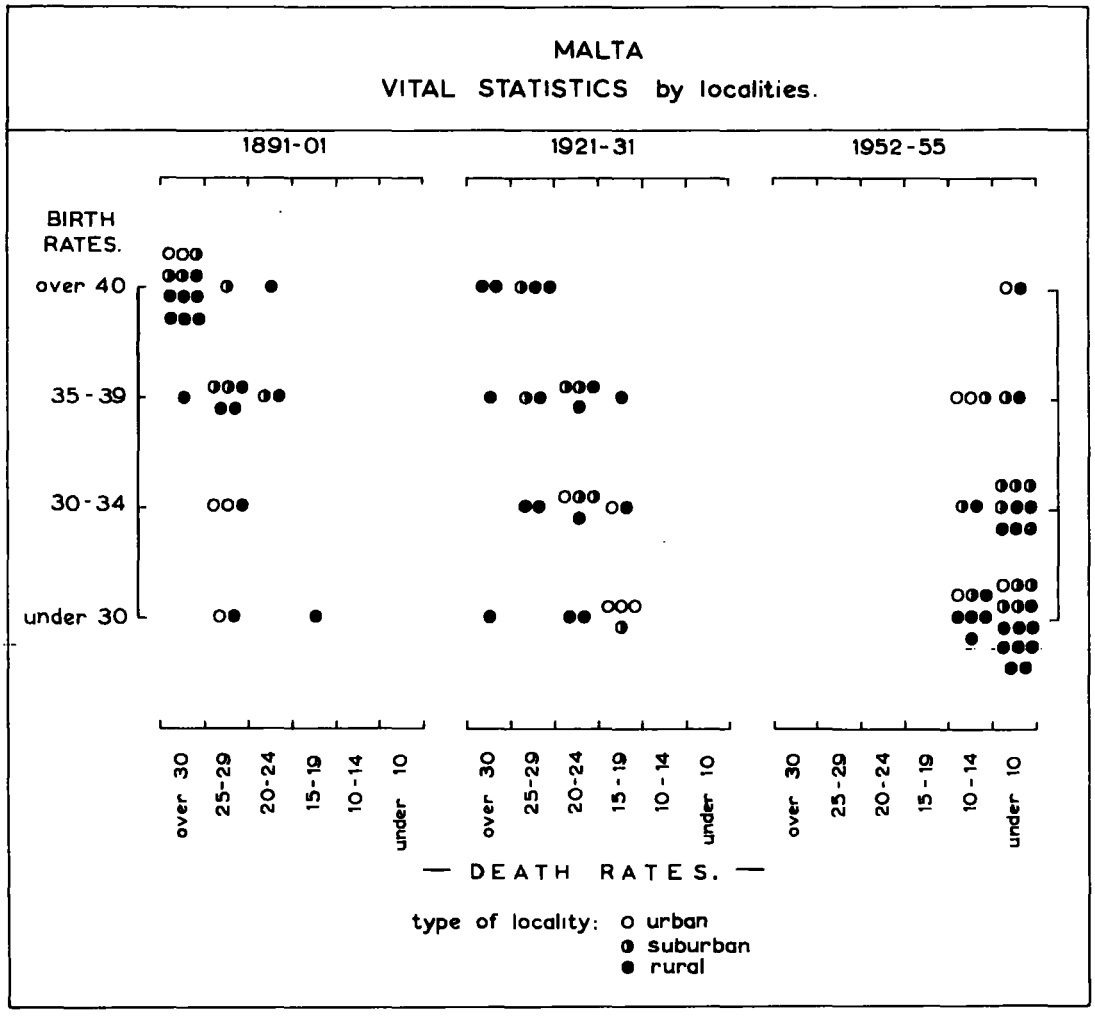
In both islands the birth rates were similar in the 1890's but Gozo had a rather lower death rate (the product of a healthy

normal environment), and the natural increase was higher in the smaller island. By the 1920's the death rate had fallen in both islands, but as there had not been a comparable decline in the Maltese birth rate, the natural increase rose slightly. Gozo had been more affected than Malta by the migration after the First World War and this was reflected by a much lower birth rate. With fewer births, the number of infant deaths fell, and this in turn brought a fall in the Gozitan death rate of greater proportions than that in Malta. By the 1950's the effects of emigration were felt in Malta also, and they reduced the birth rate to the level produced in Gozo thirty years earlier. The medical revolution had reached both islands by this time, and the natural increase in Malta was double that at the turn of the century.

The contrasts between Malta and Gozo illustrate some important points. First, in the nineteenth century it was healthier to live in the country than in the badly-drained Harbour area, and Gozo was freer from disease than Malta. In the present century this situation changed. Improvements in sewerage, sanitation and education were first felt in the Harbour area, and during the decade of the 1920's the urban and suburban death rates fell faster than those of rural areas. By the 1950's, however, a uniformly low death rate had been achieved throughout the Islands.

The Gozitan anticipation, in the twenties, of the recent Maltese declining birth rate is remarkable. In Malta only a hand-

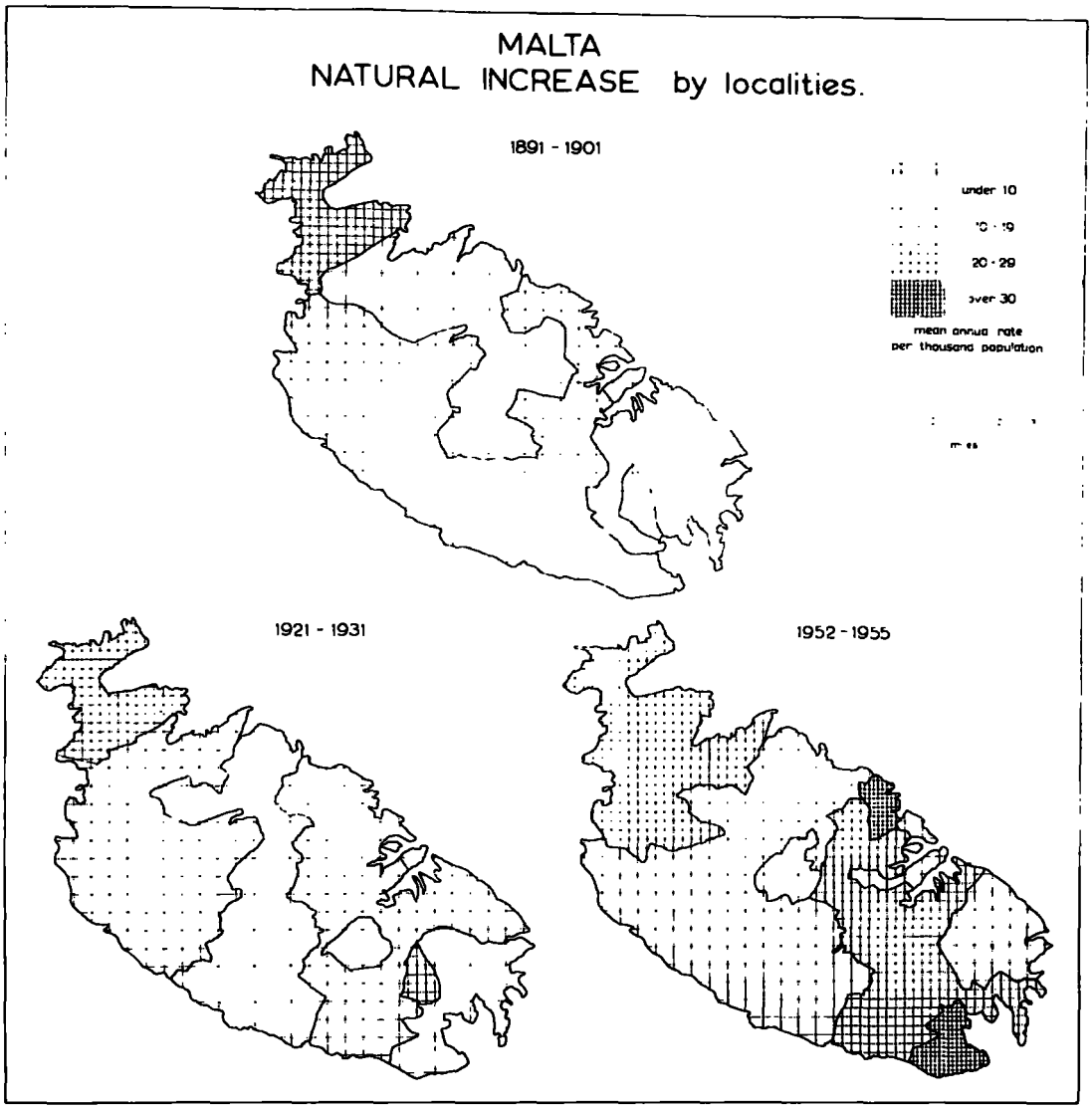
Figure 43.


MALTA
VITAL STATISTICS by localities.
1891-01
1921-31
1952-55
BIRTH RATES.
over 40
35-39
30-34
under 30
over 30
25-29
20-24
15-19
10-14
under 10
— DEATH RATES. —
type of locality: o urban
suburban
rural

ful of localities had birth rates below 30 per thousand at that time, and three of them were urban localities of unstable populations (see Fg. 23) which had shared the lowest birth rates even in the 90's. The diagram showing the relative decline of birth and death rates in these three periods (Fig. 43) illustrates the fact that whereas by the 1950's the decline in mortality had reached all parts, there was still a considerable dispersion among birth rates, nearly half being over 30 per thousand (seven of these, however, were localities with a large British population).

Distributional contrasts and variations in natural increase are important (Fig. 44). In Malta the highest rates of natural increase have occurred in the areas of greatest net inward internal movement. In the late nineteenth century agricultural expansion was being encouraged, and in the north of the island new land grants were made on long leases. Much of this land was near Mellieha and the distribution of it was instrumental in the growth of that village. The expansion of St. Paul's and Mgarr was also related to the new agricultural 'pioneer' movement in the north of the island. All this was land which in previous centuries had remained virtually uncultivated as it was exposed and liable to invasion. As the young people were the first to move in to these areas birth rates were characteristically higher in them, and the natural increase greater.

Figure 44.


MALTA
NATURAL INCREASE by localities.
1891 - 1901
1921 - 1931
1952 - 1955
under 10
10 - 19
20 - 29
over 30
mean annual rate
per thousand population

The other major zone towards which there has been an inward movement is the suburban area. In the earliest period considered above, it was the northern section of suburban Malta which was growing most and had the higher natural increase. It was the first to benefit from sanitary improvements, but by the 1920's with further progress there was a considerable measure of uniformity in the suburban group, and this was, moreover, maintained in the recent period.

The urban area, traditionally a zone of outward movement, had an unbalanced population and a low natural increase. Valletta and Floriana have shared this characteristic for over a hundred years, and in the last few years the trend has been extended to the most urban parts of the suburban fringe, namely, Sliema and Hamrun. These are the two areas from which most of the post-war emigrants have originated. But, on the other hand, in the same period the rebuilding and rehabitation of the Three Cities have revived the natural increase there, so that they no longer share the Vallettan trend of low increase.

Lying between the agricultural north-west and the expanding Harbour area is the core of the island. This stretches from Naxxar in the north, to Siggiewi in the south and is the part of Malta which has changed least. The natural increases in these localities has been consistently low, and what inward movement there has been from rural to suburban areas must be presumed to

derive mainly from these parts. The smallest villages, and the most secluded, like Attard and Lija, have shared the lowest natural increase. In the extreme east of the island, Zabbar and Sejtun also have a comparatively low rate of increase. In the early period this was the result of high death rates in these parts, but in the 1950's it was the birth rates which were below the average.

The remaining area which has not been discussed is the Zurrieq group of villages. The birth rate in them has always been high, and when the control of mortality became effective in the last ten years, they stood out among the other rural areas by reason of their high rate of natural increase. The scale of emigration has never been very high from these villages, and in 1952-55 the birth rate in Zurrieq was 34 per thousand, a figure which could soon be equalled in many other villages if emigration declined further.

A few other centres have higher birth rates than Zurrieq, in the 1950's, but most of those which do, have rates which are inflated by the British element. The only two localities with a natural increase greater than 30 per thousand, St. Julians and Birzebbuga, are of this type.