



1974

World Population Year

THE POPULATION OF ISRAEL

C.I.C.R.E.D. Series

THE POPULATION OF ISRAEL / Roberto Bachi

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FOREWORD

The preparation of this Monograph is primarily due to the initiative of the Committee for International Coordination of National Research in Demography under the presidency of M. Jean Bourgeois-Pichat. One of the tasks undertaken by the C.I.C.R.E.D. for fostering demographic knowledge and research in connection with the World Population Year (1974) has been to issue a series of Monographs on the population of many countries.

This initiative of issuing a Monograph on the Population of Israel has been supported by the Demographic Center of the Prime Minister's Office in Israel and by the Institute of Contemporary Jewry of the Hebrew University of Jerusalem.

The Demographic Center sees as one of its objectives to enlarge and spread knowledge on population problems in Israel. The Institute of Contemporary Jewry has been active for many years in carrying out comparative research on the Jewish population in the Diaspora and in Israel.

The Monograph is therefore issued at the same time in two identical editions: one for the C.I.C.R.E.D. Series and one for the series of Population Studies of the Institute of Contemporary Jewry. Both are published in conjunction with the Demographic Center.

Chapters 8–18 of this Monograph deal with the main topics suggested by the C.I.C.R.E.D. for the analysis of demographic characteristics and trends. These chapters respectively discuss: migratory movements, nuptiality, fertility, mortality, population structure and labor force, population distribution, future developments and their implications. They refer to demographic characteristics and trends in the State of Israel (established in 1948) compared with those of Palestine under the British Mandate, insofar as the limited quantity of statistics for Mandatory Palestine permits. With regard to each topic, some information on the available statistics and literature is given, followed by an analysis of the main data, discussion of findings, as well as a short resumé.

However all this is limited only to the very brief "statistical era" started about 1919. The shortness of this era stands in sharp contrast with the length of time (exceeding 3,000 years) for which the history of the Land of Israel has been reconstructed and for which scattered fragments of direct or indirect evidence on its population are available or might be obtained.

Despite the vagueness of many of these fragments, it is conceivable that a systematic analysis by a team of scholars of many disciplines (such as demography, general social and economic history, archaeology, Biblical and Islamic studies, historical geography, etc.) might yield a more or less acceptable outline of the demographic evolution of the country for many periods between the ancient era and our times. For the time being, this is only a dream. However, such a dream has encouraged us to make a modest attempt to add to the analysis of modern demographic characteristics some historical perspective.

This Monograph starts therefore with a few chapters (1–3) in which some of the estimates or “guesstimates” proposed by different authors for the Biblical period, the beginning of the Christian era, the Byzantine period, the late Middle Ages and the Ottoman period, are assembled together. It would have been impossible to enter here into any discussion of how to interpret these estimates, to reduce the contradictions between them and to evaluate their very wide ranges of possible error. However, the population levels suggested in the literature are so different between the different periods mentioned above, that even without undertaking any critical research, some broad conclusions seem to emerge on general population trends which may have prevailed at various ages.

Some further general conclusions on other demographic aspects such as the religious-ethnic composition of the population, its urban-rural and geographical distribution in the periods of the ancient, medieval and Ottoman eras, are given in Chapters 2–4.

Changes which occurred in these demographic aspects and general population levels during the British Mandate and after the establishment of the State of Israel are respectively described in Chapters 5 and 6, thus bridging the general historical part and the more analytical part given in Chapters 8–18.

Chapter 7 gives some information on the demographic characteristics of the Jewish Diaspora. This is needed in order to understand the characteristics of modern Jewish immigration from the Diaspora to the Land of Israel, which has formed the majority of the population of this country.

Sources of data utilized in this Monograph and their limitations are discussed in Appendices 1–9 and 11. Appendices 1–5 have been prepared also with the aim of giving a general overview of sources for the demographic history of the country, while Appendices 6 and 7 describe sources for modern demographical analysis. Appendix 10 explains a graphical method largely utilized in the Monograph which has the advantage over common diagrams of sparing one dimension and compressing much of information into a comparatively small space. Understanding this graphical method may require a brief exercise, and the reader is advised to read Appendix 10 before perusing the graphs.

I am heavily indebted to many colleagues for the kind help extended to me in the preparation of this Monograph. First of all, I would like to mention Prof. Uziel Oskar Schmelz and Dr. Sergio Della Pergola of the Institute of Contemporary Jewry, the Hebrew University of Jerusalem, Dr. Moshe Sicron, Government Statistician of Israel, and Dr. Ephraim Ahiram who prepared the first drafts of some chapters of this Monograph (which had previously been planned as a co-operative enterprise), and kindly agreed to their incorporation into the changed, more unitary, framework of the Monograph adopted later.

A number of historians, archaeologists, demographers, economists and geographers have had the patience to read relevant parts of the manuscript of this Monograph and to offer the help of their critical remarks. I take the liberty of listing them (in alphabetical order) with the warmest thanks: Prof. David Amiran, Prof. Eliahu Ashtor, Prof. Yehoshua ben Arie, Dr. Magen Broshi, Dr. Amnon Cohen, Prof. Calvin Goldscheider, Prof. Ephraim Kleiman, Prof. Judah Matras, Prof. Helmut Muhsam, Prof. Dov Nir, Prof. Yehoshua Prawer, and Dr. Yoram Zafrir.

The mention of their names does not in any way imply responsibility for possible errors or misjudgments which may be found in this Monograph: this responsibility rests solely with me.

The help of the staff of the Institute of Contemporary Jewry is gratefully acknowledged, and in particular that given by Mrs. Dorit Tal in preparing part of the tables and that of Mr. Paul Glikson who patiently revised the draft.

Thanks are given to the Memorial Foundation for Jewish Culture, supporting the demographic research undertaken by the Institute of Contemporary Jewry.

The efforts made by the Scientific Translations International Ltd. for printing the Monograph are also gratefully acknowledged.

Last but not least, I wish to express my gratitude to the Chairman of the Demographic Center, Mrs. Zena Harman and to its Director Mr. Shimon Yair. The unfailing support by the Center has been essential for publishing this Monograph.

However this does not imply any responsibility of the Center for the views expressed in this Monograph.

The publication of this Monograph had been planned for a much earlier issue. Unexpected difficulties emerged during the period of preparation and have caused undesirable delay. However this has enabled us to utilize in the Monograph the main results of the 1972 Population Census of Israel.

Roberto Bachi

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CHAPTER 1

THE LAND OF ISRAEL SOURCES FOR ITS DEMOGRAPHIC HISTORY

1.1 AVAILABLE SOURCES AND DIFFICULTIES IN INTERPRETATION

Historians, Biblical critics and archeologists have succeeded in reconstructing at least in broad terms the main events that occurred in this country since the third millenium B.C.E., and in obtaining a fairly detailed knowledge of its political history and, to some extent, of its social, cultural and economic evolution during the last three thousand years.

In sharp contrast with this achievement, the demographic history of the Land of Israel in the period preceding the "statistical era" (which started less than sixty years ago), is almost completely nebulous.

This is not due to a complete lack of demographic information nor to a lack of interest in population history. On the contrary: out of the enormous amount of literary, historical and other sources available, a not inconsiderable number of small scattered fragments of information can be derived, dealing directly or indirectly with population and which are frequently expressed in numbers. Appendix 1 gives some examples of potential demographic sources, such as: Biblical and other censuses; household lists compiled by Ottoman authorities; epigraphic and documentary material found in this and in neighboring countries; population estimates referred to by early historians or by travellers who visited the Holy Land throughout the centuries, etc.

The trouble with at least part of these sources is that they are sometimes difficult to interpret, of a dubious nature, impressionistic, biased or contradictory. In dealing with these sources, it is unwise to accept them uncritically, but also to reject them out of hand.

An additional difficulty in studying available information and making comparisons of demographic estimates derives from the fact that in the course of time the country underwent many changes in its name, identity, and political and administrative borders.¹

¹ E.g., it may be noted that the Hebrew Bible identifies the land as follows: in periods preceding Israelite conquest, as the *Land of Canaan* or by the names of populations living on it, such as the *Land of the Amorites*; after the conquest, as the *Land of Israel*, the *Land of the Children of Israel*, the *Land of the Hebrews*, or simply *the Land*. After the split of the monarchy, the northern kingdom was designated *Israel* and the southern *Judah*. This

However, the above difficulties do not seem insurmountable. The following developments¹ give some basis for a cautious optimism as to the possibility of reconstructing at least some aspects of the Land of Israel's demographic history.

- 1) In recent decades a number of scholars have attempted to examine critically and constructively the available sources and to elucidate them by painstaking and ingenious methods.
- 2) New vistas have been opened by the possibility of enlarging, checking or improving demographic estimates on the basis of extensive archaeological and survey findings, which may enable us to list the number and size of towns and the number of villages in selected periods and areas.
- 3) Studies in economic and geographic history have begun to yield evidence on changes in the extent of cultivated areas and in the agricultural methods used, on the extent of soil erosion, on the volume of food production and the possibility of transporting it from place to place, on the water supply available to certain areas and towns, on the extent of manufacturing, communication and trade, etc. All this information can help us to evaluate population sizes in certain areas and periods and to check critically population estimates, which have been suggested on the basis of historical or literary records.
- 4) An enormous quantity of geographical and historical knowledge has been accumulated which allows us to follow up changes in political and administrative boundaries for over 3,000 years.² This in turn may help us to overcome difficulties in making the historical and demographic comparisons mentioned above.

However a systematic and cooperative effort by demographers, general and economic historians, archaeologists, Biblical and Islamic scholars, geographers and other researchers conversant with available sources and the many relevant languages and cultures is needed, in order to consolidate and check all estimates proposed for the various periods, to understand the reasons for apparent or real contradictions between them and to reduce these contradictions, to build accep-

Footnote continued from previous page:

last name, under various spellings (*Yehud, Jouda, Joudaia, Judaea*, etc.) was later used to designate the autonomous Jewish region under Persian domain and then by the Greeks and the Romans for describing a much wider area. Later the Romans changed the name of the country to *Palaestina*. This name (*Filastin*) was still used at the beginning of Arab domination to designate a province, but afterwards it was not officially used. However, it continued to appear in Christian literature and was revived in order to designate that part of the land west of Jordan which came under the British Mandate (1922–1948). In Hebrew literature the name *Land of Israel* was almost always employed. In 1948 the name *Israel* was chosen by the state established over a part of former *Palestine* (see Section 5.6). In this Monograph we use: *Israel* for designating the *State of Israel* in its 1949 borders; *Palestine* or *Mandatory Palestine* for indicating the territory under the British Mandate (1922–1948) or an equivalent territory in preceding periods; and the *Land of Israel* or *the Land* or *country* as a general designation.

¹ These developments are shown by works quoted in Appendices 1–3.

² Among other collections of historical and geographic maps, see: *Atlas of Israel*. Jerusalem, Survey of Israel (Ministry of Labour) and Amsterdam, Elsevier Publishing Company, 1970. Parts IX–XI.

table chronological series of estimates on population size, structure and geographical distribution, and to interpret demographic, social and economic factors associated with changes in population size, composition and distribution over time.

1.2 ESTIMATES OF POPULATION SIZE AND COMPOSITION FROM BIBLICAL TIMES TO MODERN TIMES

The desired *magnum opus* alluded to at the end of Section 1.1 has not yet been realized, and it would be entirely outside the scope of this Monograph to try to achieve such a study. We have therefore limited ourselves to the following:

- 1) Some estimates quoted in the literature for various pre-modern periods together with some additional estimates prepared by us have been tabulated and briefly elucidated in Appendices 2–4.¹
- 2) Out of this material, some estimates which seem more indicative of possible orders of magnitude or of population trends in pre-modern times have been selected, and compared with data for modern times. Accordingly Table 1.1 was compiled, indicating population size and composition by religions² at various points of time in the course of some 30 centuries.
- 3) Table 1.2 shows the proportion of urban population from 1533–39 to 1975,³ while Tables 1.3 and 1.4 respectively indicate the proportion of each religion in the urban and rural populations.
- 4) In order to help the reader to compare general demographic characteristics at different periods, a few synoptic graphs are added: Graph 1.1 represents possible orders of population magnitude during various pre-modern epochs and estimates for modern times as given by Table 1.1 and indicates possible trends in various periods.⁴ The two panels of Graph 1.2 respectively indicate

¹Some estimates presented are provisional. It is hoped they will be revised in a more detailed Hebrew version of this Monograph.

²In Tables 1.1–1.4 we have followed a classification by religions, according to which estimates can be made over a long span of time, viz. Jews, Moslems and Christians. Other religions are included in the total; since 1919 this latter category was formed mainly by the Druzes, formerly undistinguished from the Moslems. Some estimates for the small Samaritan community are given in Table 3.1 (see also Section 14.1).

The classification by religious groups has traditionally been used in this country, as it has some bearing on personal and family status. This classification does not necessarily imply an adherence to religious norms. Attempts to introduce a classification by "national" groups (such as: Arabs, Jews, others) have been made in modern times, but no consistent set of statistics is available.

³For the ancient era some estimates are given in Appendix 2E.

⁴For 10th–8th century B.C.E. and first century C.E., part of the range of estimates quoted in the literature are indicated. For the period between the late Middle Ages until 1975 a line is given which connects the available estimates. Guesses or very uncertain estimates are indicated by the symbol O; segments connecting these values are broken. Better estimates or reliable statistical data are given by X and connected by unbroken segments.

TABLE 1.1

**ESTIMATES OF THE POPULATION AND ITS COMPOSITION BY RELIGIONS IN A TERRITORY
ROUGHLY CORRESPONDING TO THAT OF PALESTINE UNDER BRITISH MANDATE (10th century B.C.E. to 1975 C.E.)**

Period	Total Population	of whom		See Appendix
		Jews	Others	
B.C.E. Around 960 (King David's census)	A) Scholars' estimates Varying from denial of validity of census figures, to population estimates of 750,000/1,800,000 +	majority	(minorities of other religions)	2A
9th and 8th century	1,000,000/1,350,000 +. Acc. to some scholars these are overestimates	majority	(minorities of other religions)	2A
C.E. 1st century (Before Roman Wars)	21 out of 24 estimates quoted in Appendix 2B exceed 1,000,000. Median: about 2,500,000	majority	(5 estimates suggest 500,000 Non-Jewish population)	2B
5th century	Possible 16% higher than in 1st century CE	Jews minority	Christians majority	2D
End of 12th century	B) Rough guesses somewhat higher than in the 14th century	Jews minority	Christians minority	3A
14th century			Moslems majority	3A
a) preceding	225,000	minority	minority	3A
b) following	150,000	minority	minority	3A
1515	140,000 -- 150,000	minority	minority	3A

Years	Population				Percentages in the population			See Appendix
	Total (incl. others)	Jews	Christians	Moslems	Jews	Christians	Moslems	
1533-39	C) <u>Estimates</u> 156,800	5,400	5,900	145,300	3.4	3.8	92.7	38
1553-54	205,000	7,200	9,200	188,400	3.5	4.5	91.9	38
1690-91	(232,000)	2,000	11,200	(218,600)	0.9	4.8	94.2	38
1800	275,000	6,700	21,800	246,300	2.4	7.9	89.6	4
around 1890	532,060	42,900	57,400	431,600	8.1	10.8	81.1	4
1914	689,300	94,000	70,000	525,150	13.6	10.1	76.2	4
1922 census ¹	D) Data based on censuses and vital and migratory statistics							
1931 census ¹	752,048	83,790	71,464	589,177	11.1	9.5	78.3	6
31.12.1947 ¹	1,033,314	174,606	88,907	759,700	16.9	8.6	73.5	6
September, 1967	1,970,400	630,000	143,300	1,180,500	32.0	7.3	59.9	6
31.12.1975	3,716,135	2,373,885	102,004	1,204,095	63.9	2.7	32.4	6
	4,568,400	2,959,400	116,200	1,446,800	64.8	2.5	31.7	6
Out of the former territory of Palestine:								
I) Israel								
15.5.1948	805,600	649,600	33,200 ²	108,700 ²	80.6	4.1	13.5	7
31.12.1951	1,577,800	1,404,400	39,000	118,900	89.0	2.5	7.5	7
22.5.1961 census	2,179,491	1,932,357	50,543	170,830	88.7	2.3	7.8	7
September, 1967 ³	2,761,237	2,373,885	70,327	284,161	86.0	2.5	10.3	7
31.12.1975 ³	3,493,200	2,959,400	80,200	411,400	84.7	2.3	11.8	7
II) Judea, Samaria, and Gaza								
September, 1967	954,898	---	31,677	919,934	---	3.3	96.3	8
31.12.1975	1,075,200	---	36,000	1,035,400	---	3.3	96.3	8

¹Incl. nomads, excluding British Forces. The data for 1922 are the official ones. A revised estimate is proposed in Appendices 6.6 and 6.7 B.

²Rough estimate for the population over the territory of Israel, according to Rhodes Armistice (1949)

³Including East Jerusalem and in 1975 Israelis resident in administered territories.

urban-rural and religious composition at various dates. Percentages are represented by Graphical Rational Patterns proportional to them¹.

TABLE 1.2

PROPORTION URBAN PER 100 OF EACH RELIGION (1536-1972)¹

Year	No. towns	All religions	Moslems	Christians	Jews
1533-39	6	24.2	21.3	40.4	81.7
1553-54	6	22.4	19.2	38.8	82.0
1800	6	15.5	13.2	19.0	88.8
1800	12	20.6	15.7	52.3	98.5
1840	12	19.6	15.4	39.5	97.5
1860	12	21.3	16.4	36.3	99.1
1880	12	25.9	19.1	42.8	99.3
1890	12	33.0	23.2	60.8	93.9
1900	12	35.8	24.6	67.0	91.0
1914	13	39.2	26.7	68.5	87.1
1922 2, 3	13	34.9	23.2	63.0	81.7
1922 2, 3	23	40.4	28.5	75.4	81.9
1931 2, 3	23	40.0	27.1	75.8	73.6
1931 2, 3	29	43.4	29.3	77.3	83.2
1946 2	29	48.5	30.5	80.0	73.6 4
1967 Israel	77	82.2	40.2	69.6	88.6
Judea and Samaria	10	29.1	27.1	65.2	-----
Gaza	5	79.4	79.3	92.1	-----
TOTAL	92	73.4	45.5	68.8	88.6
1972 Israel	99	85.3	54.2	70.8	90.4

¹For lists of towns included in the various periods, see: Tables 3.1, 4.1 and 5.7 .

²Excl. Nomads.

³Incl. British Forces

⁴Revised *de facto* estimate by the Government of Palestine.

¹This graphical method is explained in Appendix 10. In Graph 1.2, a small square of area *a* represents 1%, a large square of area 10*a* represents 10%. A percentage (10*t* + *u*) is represented by *t* large squares and *u* small squares. For instance, 39% urban in 1914 is represented by 3 big squares and 9 small squares. In some cases in which percentages are unknown, *M* indicates "majority" and *m* "minority".

TABLE 1.3

**PROPORTION OF EACH RELIGION WITHIN THE URBAN
POPULATION (1536–1967)¹**

	No. towns considered	Moslems	Christians	Jews	Total (incl. Others)
Around 1533–39	6	81.6	6.3	11.5	100.0
Around 1553–54	6	78.8	7.7	12.9	100.0
1800	12	68.0	20.1	11.6	100.0
1840	12	69.4	18.9	11.5	100.0
1860	12	66.4	17.1	16.4	100.0
1890	12	57.1	19.9	22.9	100.0
1914	12	51.9	17.8	30.3	100.0
1922	23	52.6	20.8	26.0	100.0
1931	29	48.3	16.8	34.5	100.0
1946	29	36.8	13.0	50.1	100.0
1967	92	20.0	2.6	77.1	100.0

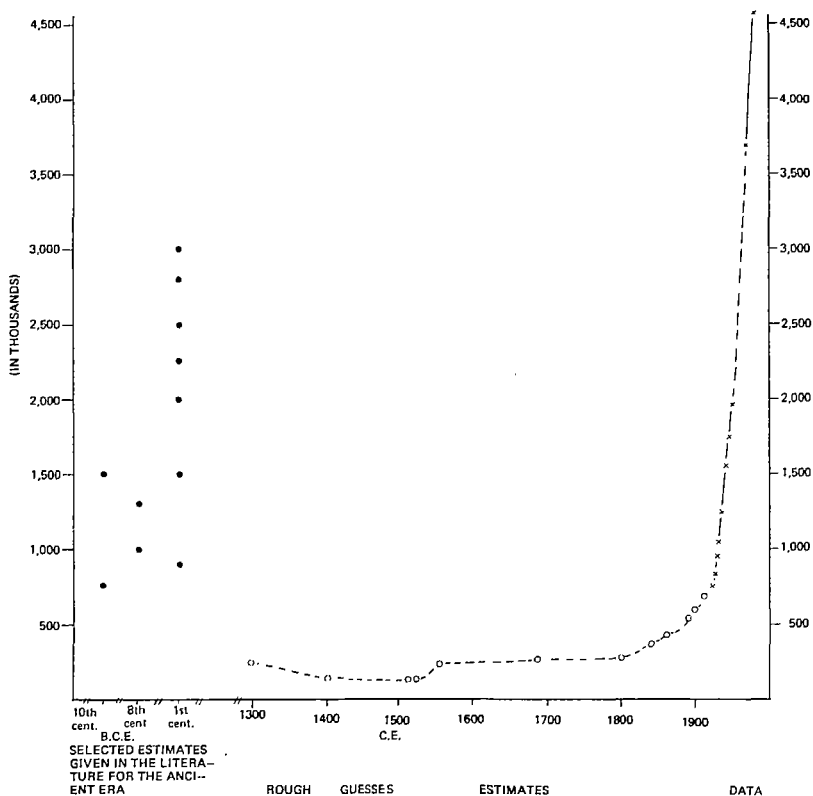
¹ See footnotes to Table 1.2

TABLE 1.4

**PROPORTION OF EACH RELIGION WITHIN THE RURAL
POPULATION (1536–1967)**

	Moslems	Christians	Jews	Total (incl. Others)
1533–39	96.2	3.0	0.8	100.0
1553–54	95.7	3.5	0.8	100.0
1800	95.2	4.7	0.0	100.0
1890	92.9	6.3	0.8	100.0
1914	91.9	5.3	2.9	100.0
1922	89.4	4.6	3.9	100.0
1931	89.3	3.8	5.3	100.0
1946	78.7	3.1	16.9	100.0
1967	66.2	3.2	27.5	100.0

- 5) On the basis of the above tables, the material discussed in the appendices and additional information, some remarks on demographic trends in pre-modern times are made in Chapter 2 (for ancient times) and in Chapter 3 (for the period between the Arab conquest and the beginning of the 19th century). Demographic trends in the transition period between pre-modern and modern times are discussed in Chapter 4. Several demographic trends during the Mandatory period and after the establishment of Israel are commented upon respectively, in Chapters 5 and 6. The determinants of these modern trends are analyzed in detail in Chapters 8–13.



Graph 1.1

Orders of magnitude of the population in a territory roughly corresponding to that of Palestine under British Mandate.

Many of the historical estimates published in the literature in the past 50 years have been made by referring at least in some vague way to the territory of Palestine (as defined by the British Mandate).¹ In order to facilitate comparison throughout the ages, we have found it expedient to adopt the method — whenever possible — of referring to Mandatory Palestine. In particular, these are the borders adopted for making estimates in the Middle Ages, the Ottoman period and the modern period.

1.3 GEOGRAPHIC AND CLIMATIC CHARACTERISTICS OF THE COUNTRY

Past demographic trends can be better appreciated if some of the basic geographic and climatic characteristics of the country under survey are taken in consideration

For the reasons explained in Section 1.2, Chapters 1–5 which deal with past historical trends generally refer to Palestine under British Mandate; we shall therefore give a short description of this framework. In the part of this Monograph dealing with recent years, Israel is generally referred to. The territory of Israel will be outlined in Section 5.6.

The country is situated along the Mediterranean sea coast, at the crossroads of the Asian and African continents.

Graph 1.3 shows that the boundaries of Palestine under the British Mandate were formed: (1) to the west, by the Mediterranean Sea; (2) to the southwest by the straight demarcation line (fixed in 1906) running from Rafiah on the Mediterranean Sea to the Gulf of Aqaba on the Red Sea; (3) to the east by an almost straight line which is partly along the long depression (under sea level) up to the junction of the Jordan River with the Yarmuk River; (4) to the north by the boundary (defined in the Anglo-French convention of 1920 and rectified in 1922–23) running a little over the 33° parallel to the Mediterranean Sea.

The total area of Palestine was estimated at 27,024 sq. kms., of which 704 sq. kms. of inland water comprise the three lakes formed by the Jordan River (Lake Huleh, Lake Tiberias and the Dead Sea, half of which was within Palestinian borders). Apart from the Jordan no other important rivers exist. The Dead Sea is a wide internal lake with waters rich in potash and bromine. This is the most important mineral resource of the country, except for some metallic minerals of economic value and some oil.































The climate is midway between the Mediterranean and the desert type. The summer is hot, but made bearable in large parts of the country by westerly winds from the Mediterranean. The transitory seasons are characterized by occasionally dry and very hot weather, often combined with easterly desiccating winds. Rainfall occurs almost exclusively between October and April, but it is mainly concentrated between December and February.

¹In many cases it is not clear whether the estimates found in the literature are also supposed to include the southern part of the country (the Negev). For several periods this source of uncertainty is not important, as the Negev only had a very small nomadic population. This, however, is not true for all periods.

Graph 1.2

Period	Percentage of population				Urban per 100 of each religion			
	Jews	Chris- tians	Moslems		Jews	Chris- tians	Moslems	Total population
1) Territory roughly corresponding to Mandatory Palestine								
10th cent. BCE	M							
8th cent. BCE	M							
1st cent. CE	M							
5th cent. CE	m	M						
9th cent. CE	m	m	M					
1533–39								
1553–54								
1800								
1890								
1914								
1922								
1931								
1947								
1967								
1975								

Graph 1.2 (continued)

Period	Percentage of population				Urban per 100 of each religion			
	Jews	Chris- tians	Moslems		Jews	Chris- tians	Moslems	Total population
2) Israel								
1948								
1951								
1961								
1967								
1975								

Percentages of population by religions
and percentages urban

Data of Table 1.1

The amount of rainfall decreases from a yearly average of about 800 mm. in the north to under 50 mm. in the south and decreases with increasing distance from the Mediterranean Sea.

Air masses are intercepted by the backbone of the hills and mountains (regions 3,4: see below) leaving the Jordan Rift (region 6) as a rain shadow area.

Annual temperatures increase from an average of 16°C in the north to 23°C in the south, but the seasonal range over the country is from below freezing point to above 40°C, and the diurnal ranges cause average differences of some 10° on the coast (region 2) to 15° in the Negev (region 1). While the Mediterranean Sea has a moderating effect on coastal temperatures (region 2), this effect is blocked by the hill ranges (regions 3, 4), causing wider variations inland.

Despite its small size, the climatic, topographic and geological conditions of the country thus vary considerably. For deeper research purposes, a large number of natural regions can be distinguished.¹ However, here we shall use a division into six regions (see Graph 1.3), four of which (2, 3, 4, 5) are of major importance from the demographic viewpoint.

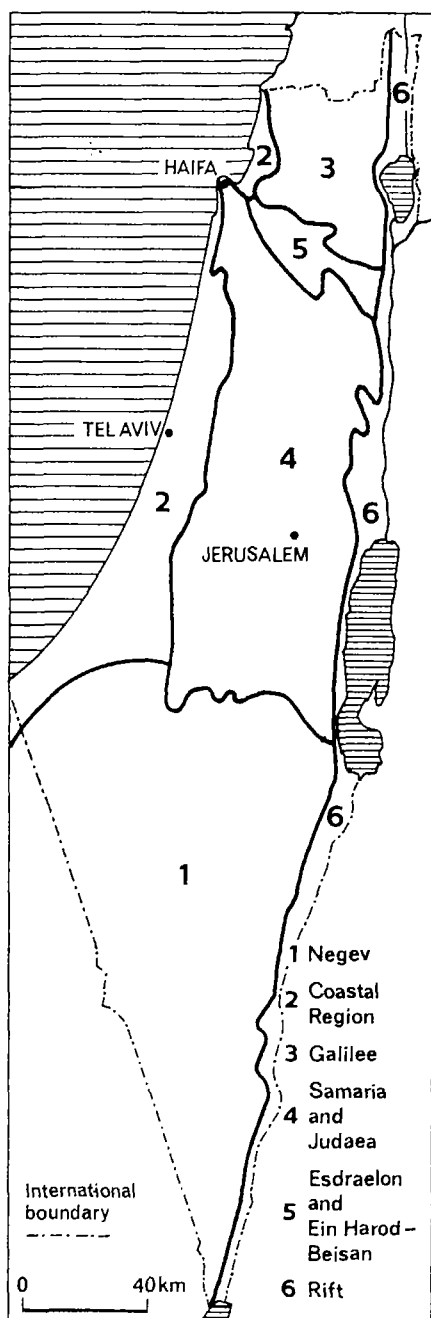
- 1) Firstly, we mark off from the rest of the country the southern part (the *Negev*), which covers an area of about 12,576 sq.kms. This area has an almost triangular shape, the three "sides" being respectively: the Arava depression from the southern border of the Dead Sea to Red Sea; the Sinai border; and a line running north of Beersheba from the Sinai border to the Dead Sea.

In this large area, rainfall is generally scarce; it decreases toward the south and from the hills to low lands. Part of this area is naturally barren, while part was cultivated in ancient times and has recently again begun being cultivated and/or inhabited.

Considering the area north of the Negev and running from the Mediterranean Sea eastward, three almost parallel strips can be distinguished which are marked respectively (2), (3) + (4) + (5), and (6) in Graph 1.3.

- 2) Along the Mediterranean Sea a *coastal region* is found, prevalently a plain with some gradual rising in levels from west to east. This area is warm and moist in summer, and mild in winter with plenty of rainfall. It also has rather ample subsurface water. In the southern and central part of the coastal region there has been considerable development of old dune ranges parallel to the coast. Dunes sometimes impede full drainage of water courses; in centuries preceding the 20th, this caused the formation of swamp areas. However, recently the coastal region has been widely developed: the southern coastal plain is the country's main grain-growing area due to the southerly heavy soil increase. The central coastal plain (the Sharon) has become one of the most important citrus growing areas of the country and includes the main commercial-industrial conurbation of Tel Aviv—Jaffa. The northern Haifa—

¹ Many divisions of the country into natural regions have been proposed in the literature, which need not be quoted here. In the State of Israel a division into 40 natural zones is currently employed, which is described in the following publication by the Israel Central Bureau of Statistics: *The division of the State of Israel into natural regions for statistical purposes*. Population and housing census 1972 series, No. 8, Jerusalem, 1976.



Graph 1.3
Boundaries and geographical regions of Palestine under Mandate

Acre plain is today well cultivated, with a rich surface water supply, and forms the hinterland of the country's main harbor area including the largest industrial area, Haifa Bay. South of this area a hilly region (the Carmel area) interrupts the prevalently plain-like nature of the coastal region, but is included in it owing to its extremely maritime climate.

- 3) 4) East of the coastal region a wide internal range of limestone hills of karst character is found, interspersed by alluvial basins of various sizes. Strong dissections and large differences in altitude are often found within small distances, with some hilly or mountainous peaks rising over 1000 meters. Most of this area is cooler and dryer in summer, and cold in winter with plenty of rainfall.

Broadly speaking, within this hilly range we can distinguish 3) the *Galilee*, in the northern part of the country; and 4) the hills of *Samaria* (in the center of the country) and *Judaea* (more to the south).

These two regions (3, 4) are divided by

- 5) a region including the *plains of Esdraelon* (a large intramontane plain, with deep alluvial soil) and *Ein Harod-Beisan* (a funnel shaped alluvial plain descending below sea level).
- 6) Along the eastern border of regions (1), (3), (4) and (5) there is a very narrow strip of territory (the *Rift*) including, from north to south, the western part of the Jordan Valley, the depression below sea level along the western coast of the Dead Sea and the Arava (the southernmost part of the Rift Valley, between the Dead Sea and the Red Sea). This region is prevalently hot and dry without tempering west winds in summer, moderate in temperature and humidity in winter, and generally lacking in rainfall.

CHAPTER 2

SOME REMARKS ON DEMOGRAPHIC TRENDS IN ANCIENT TIMES

2.1 POPULATION FROM PRE-HISTORIC TIMES TO THE ISRAELITE CONQUEST

Research into prehistoric times shows that the earliest beginnings of man in the area which later became the Land of Israel can be traced to the Pleistocene period, perhaps over a million years ago. Excavations have unearthed remains of cultures which have developed from very earliest times to the 4th millennium B.C.E. The position of the Land as the meeting point of the Asian and African continents, and its great variety of physiogeographic features, which gave rise to many different forms of human adaptation to the changing environment, may explain its importance in prehistory.¹

Archaeological research shows that already in the early Bronze age (third millennium B.C.E.) many important cities² had been established. Archaeological, Biblical, Egyptian and other sources indicate a large number of cities and other inhabited places in the Land of Canaan during the second millennium B.C.E., both in the Age of the Patriarchs and shortly before and after the Israelite conquest (about the 13th century B.C.E.).³ All this may suggest considerable demographic development in early periods, but we are unable to give population estimates for those periods.

2.2 THE FIRST POPULATION PEAK IN THE PERIOD OF THE JEWISH KINGDOMS

A considerable number of population estimates have been proposed in the literature for various time points of the Biblical period, ranging between the 14th century and the 5th century B.C.E. A few of them are quoted in Table A.1 in Appendix 2A. They have been selected, as suggested by three well known scholars, who have tried to reconstruct the demographic evolution over a long period of time. The opinions of these scholars differ widely in regard to the

¹See M. Stekells, "Prehistoric Sites". In *Atlas of Israel*, op. cit., 1X/2. See attached maps and bibliography.

²On the meaning of "city" in that period, see Appendix 2E.

³Y. Aharoni, "The Land of Israel from the Patriarchs to David". In *Atlas of Israel*, op. cit., 1X/3 and attached maps.

order of population magnitude, which can be inferred from the figures of David's census as quoted by the Bible.¹ However, apart from that, some agreement is found in regard to broad directions of population trends.

A considerable population expansion is thought to have occurred in the period following David's census, during the rather peaceful and prosperous reign of King Solomon (965–928 B.C.E.). In regard to later periods, in which the Jewish kingdoms were divided, fluctuations in population levels are suggested in the literature, which cannot be discussed here. For the 9th and 8th centuries B.C.E., the estimates suggested by the authors quoted in Appendix 2A are rather close to each other, and indicate orders of magnitude included between 1,000,000 and over 1,350,000.²

2.3 POPULATION FALL DUE TO THE ASSYRIAN AND BABYLONIAN WARS

The Assyrian wars, culminating in the destruction of Samaria (720 B.C.E.), and the Babylonian war, culminating in the destruction of Jerusalem (586 B.C.E.), seem to have determined — besides direct war losses and widespread ravages — the following additional demographic effects:

- 1) Deportation of a considerable part of the Israelite population to Assyria. The descendants of the deportees were probably largely assimilated into other populations, or else later made some demographic contribution to the Babylonian Diaspora.
- 2) Settlement in Samaria of residents of other nations defeated by the Assyrians. With the lengthy process of assimilation of these elements into the remaining Israelite population, a distinct national religious group was formed (the Samaritans), a few descendants of which still live in the same area today.
- 3) Deportations of the Kingdom of Judah's small population were carried out before by the Assyrians and afterwards by the Babylonians. For Judah's Jewish population it seems possible to follow at least vaguely the phases of its dwindling size. Estimates quoted in Appendix 2A suggest that it was probably still about 250,000–350,000 inhabitants before the Assyrian deportations (before 701 B.C.E.), it was reduced to some 125,000–150,000 after these deportations, while some 50,000 were later deported to Babylonia. Therefore, probably only a rather small Jewish population remained in the country after the Babylonian wars.
- 4) Foreign elements (such as Edomites, Nabateans, etc.) penetrated into the country, which otherwise had remained largely depopulated.
- 5) The Judean deportees in Babylon and their descendants retained their religious-national identity. The first sizeable Diaspora community (see Section 7.2), was thus established, and lasted in the same area for over 2,500 years.

¹For the problems connected with the interpretation of David's census, see Appendices 1 and 2. There are also authors who deny any credibility to Biblical figures of this census.

²This agreement does not necessarily imply that this was actually the population size. Other scholars find these estimates too high.

2.4 POPULATION RECOVERY BETWEEN THE RETURN FROM BABYLON AND THE BEGINNING OF ROMAN RULE (THE SIXTH CENTURY B.C.E. TO THE FIRST CENTURY C.E.)

Out of the Babylonian community various return waves of immigrants came in the sixth and fifth centuries B.C.E. They established — over a small area of some 3,000 sq.kms. around Jerusalem — and autonomous Jewish province (Yehud), under the Persian rule. The population of this province may have been some 20,000 strong around 520 B.C.E. and after the second return under Ezra it might have grown to some 60-70,000 (Table A.1 in Appendix 2).

Probably the returnees absorbed remnants of the local Jewish population, and it is likely that later the population increased considerably. However, the period under survey is one of the least documented in the history of the Land of Israel.

During the period following the conquest by Alexander the Great (332 B.C.E.) the country was successively incorporated into the Ptolemies' and Seleucids' states; some Greek settlements were established and a Hellenization movement developed.

After the Maccabean revolt (166–160 B.C.E.) a new Jewish state was established. During about two centuries of Hasmonean and Herodian kings the state expanded greatly in territory and the population increased substantially. This was particularly true of the Jewish population, which increased in size also through the conversion to Judaism of Idumeans and other peoples.

An indirect indication of the growth of the population in this period is given by the estimates available for Jerusalem; even the conservative evaluations by Broshi show a rapid increase during the first century B.C.E. and the first century C.E. (see Appendix 5).

For the beginning of the first century C.E., a great number of estimates is available (see examples in Table A.3 in Appendix 2B) based on a variety of sources (archaeological surveys and literary evidence, numbers of inhabited places, evaluations of population size at different localities, economic analysis of densities, etc.).

At first glance the variety of estimates is bewildering. However, upon careful examination it is seen that there are good reasons for attaching less credibility to some of the very high and perhaps also to some of the very low estimates. Excluding extreme values, it is found that 17 out of the 24 estimates listed in Table A.3 fall between 1.5–3.5 million, while 12 range between 2 and 3 million. The variability could perhaps be reduced even more were it possible to distinguish between the geographical frames used by various authors.¹

Formally, we may take the median of the 24 estimates listed (about 2.5 million) as a rough indicator of "intermediate" or "middle" scholarly opinion quoted in the existing literature on the possible order of magnitude of

¹The Roman province of Judaea (later Syria Palestina) did not coincide with British Mandate Palestine, as it included territories on the East Bank of the Jordan and did not include Nabatean territories in the south. Probably some authors vaguely had in mind the Roman framework, while some of those who wrote after 1920 had modern Palestine in mind.

the population shortly after the beginning of the Christian era. Whether such a population size can be considered compatible with the small size of the country and the economic and technological conditions prevalent in the 1st century C.E. remains an open question, over which opinions of students differ and which cannot be discussed here.¹

However, even if according to some scholars the actual population size did not reach the median indicated above, there is general consensus on the fact that a very considerable population size was reached before the Roman Judean wars. It appears to be agreed too that Jews constituted the majority of this population. For Non-Jews, various scholars indicate an estimate of 500,000. If applied to the "median" estimate for total population, this would imply a Jewish population of some 2,000,000.

2.5. POPULATION DECREASE DUE TO THE ROMAN JUDEAN WARS (66–135 C.E.)

In regard to the consequences of both the wars of 66-70 C.E. and 132-135 C.E., detailed figures have been transmitted by ancient historians, such as a) Josephus Flavius, b) Tacitus and c) Dio Cassius. If taken at their face values² they would imply extremely high rates of loss (a: 64% deaths and 7% enslaved; b: 30% deaths out of the total Jewish population in the siege of Jerusalem; c: over 40% deaths). While these rates may be considered extremely exaggerated, they still testify that the wars were responsible for a very substantial and direct demographic loss. Further demographic losses were due to war ravages and subsequent extensive Jewish emigration.

The cumulative decrease of population due to both wars was particularly strong among the Jews and in the area of Judea. The area around Jerusalem was resettled by a Non-Jewish population. Only in the Galilee did a considerable Jewish population remain.

2.6 THE THIRD POPULATION PEAK IN THE BYZANTINE PERIOD

It is likely that in the centuries which followed the Roman-Judean wars, there was a considerable population recovery — though with some upward and downward fluctuations — which brought it to a new peak around the fifth century

¹Some scholars deny this possibility, while others stress the likely demographic effects connected with the considerable economic development of the country in both the Roman and Byzantine periods. There is little doubt in regard to this development, as compared with the preceding and subsequent periods. A wide documentation is in fact available which testifies to both agricultural and urban growth. Agriculture was intensive and utilized wide land areas. Large use of dams, cisterns, aqueducts and irrigation canals facilitated the exploitation of water resources. Even some parts of the Negev were cultivated (mainly by the Nabateans) through a skillful utilization of meagre rain resources and perhaps of dew. In the hilly regions rainfall is rather heavy in the winter months; loose earth is therefore easily washed down from the slopes. In ancient times, systematic construction of terraces and wide forests prevented soil loss. For a bibliography on these problems, see A. Reifenberg, *"The Struggle between the Desert and the Sown"*, Jerusalem, Publishing Department of the Jewish Agency, 1955; E. Ashtor, *A Social and Economic History of the Near East in the Middle Ages*, London, Collins, 1976, passim and especially pp.338-339; A. Byatt, "Josephus and Population Numbers in First Century Palestine", *Palestine Exploration Quarterly*, 1973, pp. 51-60.

²See Appendix 2C.

C.E. This peak may have been even higher than that of pre-war first century: an estimate quoted in Appendix 2D suggests a ratio of 116:100 for the population around the fifth century to that in the first century¹. This would imply that toward the end of Byzantine rule the population of Palestine reached the highest size ever attained before modern times.²

This development seems to accord with the fact that during the late Roman and Byzantine periods peace prevailed, agriculture was intensively developed and extended to southern areas and a considerable urban development occurred. The Negev served also for eastern trade, and some part of it was cultivated. The considerable flow of capital from the Imperial treasury and from abroad in the Byzantine period contributed to the relative prosperity of the country.

In this period, a significant change in the religious composition of the country took place. We have indicated in the preceding section that the Jewish population had decreased due to war and emigration. In later stages it probably underwent some recovery. However, two additional factors may have contributed in the long run to its further decline:

- 1) While it is known that phases of immigration alternated with phases of emigration, it is likely that in times of religious persecution by Christians, Jewish emigration became stronger.
- 2) Conversions to Christianity.

By the fifth century C.E. a large majority of the population of Palestine had become Christian, probably under the combined effects of the following factors: a) Christianity had become the state religion; b) Large sections of the Non-Jewish and Jewish population of the country were converted to it; c) There was considerable immigration of Christian elements from the Byzantine and Roman empires to the Holy Land. However, at the end of the Byzantine period there were still substantial Jewish and Samaritan minorities in the country.

2.7 GENERAL DEMOGRAPHIC CHARACTERISTICS OF ANCIENT TIMES

For the era covered by Sections 2.2—2.6 some general demographic characteristics may be summarized as follows:

- 1) In certain periods of this era (such as in the 10th—8th centuries B.C.E., in the Hellenistic-Roman periods and during Byzantine domination) considerable expansion of the population appears to have occurred.

In a very tentative way, it may be suggested that population peaks occurred a) between Solomon's time and the Assyrian wars; b) in the first century C.E. prior to the Roman-Judean wars; and c) around the fifth century C.E.

¹ If applied to the "median" estimate of about 2,500,000 for the 1st century, this would imply a population of 2,900,000 in the fifth century. There is no need to stress the purely speculative nature of this calculation.

² A heavy epidemic occurred in 542 C.E. which may have determined a population decrease after that peak.

The orders of magnitude of population reached during peak periods are a matter for uncertain and complex speculation: the values of a) around 1,000,000; b) "median" estimate 2,500,000; c) 2,900,000 — which were quoted respectively for the three peak periods — are certainly open to much criticism. However, even if they are considered as exaggerated, they suggest orders of magnitude completely different from those appearing in the late Middle Ages and in the Ottoman period (see Graph 1.1 and Chapter 3).

- 2) Between the periods of expansion there were periods probably characterized by strong and sometimes abrupt declines due to wars, deportations, emigration, etc. However, it appears that after these calamities there was considerable demographic resilience.
- 3) The majority of the population of the country was Jewish in various periods of the ancient era. However, toward the end the majority became Christian, while substantial Jewish and Samaritan minorities persisted in the country.
- 4) In certain parts of this period (as indicated by Appendix 2E and Graph 1.2) the population was considerably urbanized. In the Roman and Byzantine periods, the towns appear to have constituted a very important element in the demographic and economic life of the country.

CHAPTER 3

SOME REMARKS ON DEMOGRAPHIC TRENDS FROM THE ARAB CONQUEST TO THE 19TH CENTURY

3.1

SOURCES OF INFORMATION

Apart from the period of Crusaders' kingdoms [1099 to 1189 (the fall of Jerusalem), or to 1291 (the fall of Acre)] — the territory of the former Roman province of Palestine became during this era part of the Moslem empire and its successor states which dominated it from distant capitals¹. This territory was divided between different districts and locally its identity became obliterated. In addition, the disappearance of population records which apparently were collected in some Arab states² makes it extremely difficult to follow the demographic evolution for the first part of the surveyed era; only indirect or conjectural evidence is available for this period³.

However, for later parts of this era some rough quantitative population evaluations for Palestine can be obtained, while for the 16th century and some other periods, population estimates based on Ottoman households records are available (see Appendix 3).

3.2

FROM THE PERSIAN WARS TO THE DISINTEGRATION OF THE ABBASID CALIPHATE

The closing decades (611–640) of the Byzantine period were marked by the very destructive⁴ Persian-Byzantine wars, and later (636–640) by the Arab conquest which was followed by the emigration from the country of Byzantine elements⁵ and by the settlement of Arab tribes⁶. The probable impact of all these events was a considerable decline in the number of inhabitants.

¹Omayyad Caliphs ruled from Damascus (661–750); Abbasid Caliphs from Baghdad (750–878); Tulunids-Ikshidids (878–970); Fatimids (970–1099); Ayyubids (1187–1250); and Mameluks (1260–1516) from Cairo; and Ottoman Sultans from Istanbul (1517–1917).

²See B. Lewis, "Studies in Ottoman Archives", *Bulletin of the School of Asian and African Studies*, London, 1954, XVI, 3, pp. 469–470.

³We have mainly utilized the information on socio-economic and demographic trends for the entire Syrian region given by E. Ashtor, *A social and economic history of the Near East in the Middle Ages*, London, Collins 1976.

⁴See, for instance, James Parkes, *A History of Palestine from 135 A.D. to Modern Times*, New York, Oxford University Press, 1949, p. 82.

⁵Ashtor, *op. cit.*, p. 13

⁶Ashtor, *op. cit.*, p. 13.

On the basis of information available for the entire Syrian region, it may be supposed that under the *Omayyads* (661–750), the population remained more or less stationary¹; epidemics and wars raging in this period may have prevented any considerable demographic recovery. In the first period of the *Abbasids'* Caliphate there may have been some demographic growth².

3.3

THE PERIOD OF STRONG DEPOPULATION (9TH TO 15TH CENTURIES)

Another period of population decrease took place in the Syrian region during the disintegration of the Caliphate and following the growth of military feudalism in the 9th and 10th centuries³. Some population recovery may have occurred in the Syrian region⁴ during the first period of the Fatimid rule (started in 970) until the middle of the 11th century; however, it is not known whether this also occurred in Palestine, where Fatimid rule was weak.

It is known that in the second half of the 11th century famine, droughts, epidemics, earthquakes and the raids of Turkish and Arab tribes took a heavy toll of the population. These calamities, together with other factors (see Section 3.5) were responsible for further depopulation under the Seldjuk Turks⁵.

The Crusaders' conquest had contrasting demographic effects⁶; on one hand it is known that (a) devastating massacres of the Moslem population, and an even larger destruction of the Jewish population were perpetrated; and (b) a mass exodus from places devastated by war, and emigration of the local population to Moslem countries took place⁷.

On the other hand (c) a certain number of Crusaders remained in the country, and later also immigration from Europe of people of all conditions — from pilgrims to merchants and knights — took place. (d) This Frankish population intermarried to a large extent with local women and their offspring contributed to the population growth. (e) The Crusader society was basically urban. Towns, and more especially coastal towns and ports through which traffic with Europe was served, were developed. The constant flow of money from Europe contributed to the economic prosperity of the country.

¹Ashtor, *op. cit.*, pp. 91–92.

²Ashtor, *op. cit.*, pp. 90, 92.

³See Ashtor, pp. 168–173.

⁴See Ashtor, pp. 191–208.

⁵See Ashtor, pp. 217–220 and J. Prawer, "Etude de quelques problèmes agraires et sociaux d'une seigneurie croisée au XIII siècle", *Byzantion* XXII, 1952, pp. 5–61 and 143–170.

⁶On the socio-economic and demographic conditions under Crusader rule see: J. Prawer, *The Latin Kingdom of Jerusalem*, London, Weidenfeld and Nicolson, p. 335; J. Prawer, *Etude de quelques problèmes agraires*, etc., *op. cit.*; J. Prawer, "Colonisation activities in the Kingdom of Jerusalem", *Revue Belge de Philologie et d'Histoire*, 1951, vol. XXIX, No. 4, pp. 1063–1118.

⁷On both points (a) and (b), see J. Prawer, *Etude*, *op. cit.*, p. 168.

Although no records are available, it is conceivable that in the long run (c), (d) and (e) may have brought some recovery and offset the effects of (a) and (b). However, the impressive amount of documentation collected by Prawer shows that the basic trait of Palestinian demography at that time was the extremely low rural density. This caused an acute shortage of agricultural manpower and compelled the Crusaders themselves to establish rural settlements¹. It may be noted that after the Crusader rule came to an end, a great number of Europeans left the country.

For the period around 1200 it is possible to obtain a rough estimate on the size of the population of Palestine (see Appendix 3A). It appears that the population was greatly reduced in comparison to the end of the ancient era, although it may still have been a little higher than in the Mameluke period (see below).

In the first period of rule by Bahrite Mamelukes (1291–1348), there was probably some increase in population throughout the entire Syrian region². However, there were also two distinctive forces which worked in the opposite direction: (a) Mongol raids which caused a mass flight from the country³, and (b) Mameluke rulers destroyed the once flourishing coastal towns in the fear that they could serve as bases for new Crusades.

A very rough estimate for this period suggests a population of 225,000 (see Appendix 3A).

A strong new population decline occurred after 1348–49. During this period the population was decimated by the Black Death and a series of other pestilential outbreaks⁴ that followed. It may be roughly estimated that in the 14th century the population of Palestine decreased from some 225,000 before the Black Death to 150,000. It remained also afterwards at a very low level; around 1515 it may still have been no greater than 140,000–150,000 (see Appendix 3A).

3.4 SHORT RECOVERY AND SUBSEQUENT STAGNATION IN THE OTTOMAN PERIOD

According to Bernard Lewis "the Ottoman conquest opened a new era of prosperity in the history of Palestine. The removal of the wasteful and oppressive rule of the late Mamelukes and the inclusion of the country in a great, stable and well governed Empire, brought security and opportunity... The towns grew rapidly, villages became larger and more numerous, and there was an extensive development of agriculture, industry and trade. The two last were certainly helped to no small extent by the influx of Spanish and other Western Jews"⁵.

¹See previous footnotes and especially the articles *Etudes de quelques problèmes*, etc. and *Colonisation activities*, etc.

²See Ashtor, pp. 288, 292.

³See Ashtor, op. cit., pp. 290–291. During this period Jerusalem apparently reached its lowest population point (some 2,000; see Appendix 5A).

⁴Ashtor, op. cit., pp. 301–304.

⁵See B. Lewis, "Studies in Ottoman archives", *Bulletin of the School of Asian and African Studies*, 1954, XVI, 3, p. 487.

TABLE 3.1

**ESTIMATES OF POPULATION BY
RELIGION AND RURAL-URBAN SECTORS¹ (1536-1800)**

1533-39					
	All religions	Moslems (incl. Druzes)	Christians	Jews	Samaritans
Urban ¹	37,985	31,000	2,385	4,380	220
Rural	118,835	114,340	3,515	980	---
Total	156,820	145,340	5,900	5,360	220
1553-54					
Urban ¹	45,975	36,245	3,555	5,915	260
Rural	159,060	152,160	5,605	1,295	---
Total	205,035	188,405	9,160	7,210	260
1690-91 (rough order of magnitude)					
Total	232,000	218,630	11,200	2,000	170
Around 1800 (very rough estimate)					
Urban ¹	42,650	32,400	4,150	5,950	150
Rural	232,350	213,950	17,650	750	---
Total	275,000	246,350	21,800	6,700	150

¹For sources of these data, see Appendix 3B. The towns forming the urban sector are Gaza, Hebron, Jerusalem, Nablus, Ramle and Safed. In Table 1.1 the estimates for 1533-39 and 1553-54 have been rounded, to stress that they are only approximations.

Evaluations of the population based on household lists are available for this period (see Table 3.1 and Appendix 3B) and they suggest a very remarkable increase in all population groups (Moslems, Christians and Jews; urban and rural).

However, the period of growth was short-lived; with the decline of central Ottoman authority and the increasing corruption of local government, security and economic prosperity waned.

Rough estimates suggested for 1690–91 and 1800 (Table 3.1 and Appendices 3.B.5 and 4.A.1) indicate that later periods were marked by general demographic stagnation (cf. the evaluation of urban population in 1553 and 1800).

3.5 GENERAL DEMOGRAPHIC CHARACTERISTICS OF THE ERA BETWEEN THE ARAB CONQUEST AND THE 19TH CENTURY

From Table 1.1, Graph 1.1 and the comments made in preceding sections, we may infer that the era under survey was marked by some general demographic characteristics differing from those of the ancient and modern times, as explained below.

1) Low population level and lack of demographic resilience

While in the ancient era population redeveloped following catastrophic events, no such recovery was found in most Moslem periods. After strong depopulation processes which drastically reduced the number of inhabitants in the country, the population probably oscillated for over 600 years around a level which fell between a minimum of about 140,000 and a maximum of less than 300,000. It may therefore have been reduced to some 5–10% as compared with its maximal assumed size in the Byzantine period.

The low demographic level and long stagnation of the Moslem era are in even stronger contrast to the dynamic population growth of the modern era during which the population multiplied itself over 7 times within 56 years (1919–1975) and in 1975 reached a level of 4,568,000, which is respectively 15 and 33 times as large as the supposed limits of 140,000–300,000 in the six centuries between 1200 and 1800.

It may be added that trends in Palestine during the Middle Ages and up to the 19th century markedly differed from those found during the same periods in Europe¹; in particular, the extremely strong decrease, followed by stagnation, which prevailed in Palestine between the thirteenth century and the beginning of the nineteenth, stood in strong contrast to the slow but continuous population increase in Europe during this period (apart from the 14th century). On the other hand, developments in Palestine appear to have been rather similar to those which occurred during the same period in neighboring Mid-Eastern countries². Therefore, to explain those developments, factors more or less common to the entire Mid-Eastern region can be adduced (see Sections 3.6 and 3.7).

¹E.g., cf. *La population de l'Italie*, C.I.C.R.E.D. Series of World Population Year (1974), pp.9–14.

²For depopulation processes in Iraq, Syria and Egypt and its causes, see E.Ashtor, *op. cit.*, and attached bibliography.

2) Religious composition of the population

In the centuries following the Arab conquest, a process of Islamization took place; nevertheless, the majority may have remained Christian until about the 9th century¹. Since then, until the 20th century, the majority was Moslem (although during the Crusader period the proportion of Christians probably increased).

Despite early Christian and later Moslem predominance, the population of Palestine persistently included throughout the ages various religious minorities: Jews, Samaritans, and later Christians of many denominations, and Druzes. The study of the survival and demographic characteristics of these groups over the period of general demographic decline, and despite political, social and economic difficulties, is quite fascinating, but cannot be attempted within the scope of this Monograph.

3) Proportion of urban population

In comparison with populations in ancient and modern times, proportions of urban population were low in the surveyed era (see Appendix 2E and Tables 1.2 and 1.3).

However, even in this era considerable changes did occur. During Crusader rule the population was largely urbanized and also included some comparatively large urban agglomerations². There was a decline in the proportion of urban population during the Mameluke period. In this and also in the Ottoman period, urban localities were few in number and generally included only a few thousand inhabitants. There was nothing in Palestine to compare to the huge urban agglomerations, such as Cairo, Damascus or Baghdad. Even Jerusalem, which was regarded throughout the ages as a religious center, probably remained for large intervals of this era a city with less than 10,000 inhabitants (see Appendix 5). Ramle, founded in 715–717 by the Omayyad Caliphs, became a flourishing commercial center, remained an important town for three centuries³, but later declined. At the beginning of the Ottoman period, besides Jerusalem and Ramle, only four other places could be recognized as urban centers⁴.

The proportion of the population that was urban probably tended to decline during the first three centuries of Ottoman rule (see Tables 1.2 and 1.3). The proportion of urban among the Moslems (who constituted the majority of the population in the country) decreased from about 21% around 1536 to about 13% by 1800. The Moslem population thus had a very pronounced rural character and also included a considerable proportion of nomads. However, the sizeable agglomerations of Jewish and Christian minorities in Jerusalem and other centers of religious importance made the urban proportion relative to the total population of Palestine in 1800 somewhat larger (15-21%) than that for Moslems.

¹See J. Parkes, *A History of Palestine*, op. cit., p. 92.

²See the literature quoted in Section 3.3 and Appendix 3A.

³See Ashtor, op. cit., p. 91.

⁴It should be noted that in the Ottoman period acknowledgement of locality as a town was given mainly by taking into consideration whether it gave administrative or judiciary services. Therefore some towns may have had smaller populations than some large villages.

A) Socio-economic factors

As the population in this era was largely rural, attention should be devoted mainly to changes that occurred in agricultural conditions as compared to ancient times. These were probably not due to cyclical climatic transformations, as was once suggested¹, but seem to be mainly due to man-induced factors. The very low absolute size of the rural population in the Middle Ages and in the Ottoman period as compared to that prevailing in ancient times can be gauged from the following facts: (a) a considerable proportion of ancient villages was abandoned²; (b) the average population of the villages was very low; and (c) the area actually utilized for agricultural purposes was greatly reduced. It appears that wide areas of the plains and the Negev (marked 1, 2 and 5 in Graph 1.3) were progressively abandoned by the rural population, which tended to concentrate increasingly in internal regions (3 and 4). However, even in these regions rural density declined in comparison to Roman-Byzantine times³.

These developments were probably due to or connected with concurrent factors including: (a) progressive neglect of ancient traditions of intensive cultivation, and of the wide network of canals, dams and other irrigation devices, of wide-spread terracing in hilly and mountainous regions, and of the road system; (b) later destruction of coastal towns which also entailed the decline of the surrounding agricultural population; (c) growth of malaria-spreading swamps, and the increased formation of dunes, due to silting of brooks and wind erosion, especially along stretches of the Mediterranean coast and in the internal plains (regions 2, 5 in Graph 1.3); (d) progressive neglect of the northern Negev (region 1), where the desert gradually encroached on the cultivated areas; (e) the presence of Bedouin tribes in the northern Negev and other regions brought a regression of wide areas from the rather advanced agricultural levels of ancient times and a return to a primitive pastoral economy⁴. Overgrazing of goats and camels had a devastating effect on natural vegetation. Moreover, internal feuding among Bedouin tribes and their frequent attacks on *fellaheen*, travellers, pilgrims and even urban centers endangered internal security and lines of communication and commerce; (f) soil erosion and land waste due to factors men-

¹E. Huntington (*Civilization and Climate*, New Haven, 1914) suggested alternate periods of aridity and moisture during historical times; the decline of agriculture in Levant countries from ancient to modern times might therefore be explained by a progressive drying out of the region. However, further research has refuted this thesis. See the literature quoted in A. Reifenberg, *The struggle between the desert and the sown*, Jerusalem, Publishing Department of the Jewish Agency, 1955, pp. 22–24. For a recent revival of the climatic theory see the literature quoted by Ashtor (op. cit., p. 51).

²Detailed literature and data on the large numbers of abandoned settlements found in surveys performed in various parts of Palestine are quoted by Ashtor, op. cit., pp. 53–58, 60. See also: D.H.K. Amiran. The patterns of settlement in Palestine. *Israel Exploration Journal*, Vol. 3, 1953; W. Hütteroth. The patterns of settlement in Palestine in the sixteenth century, in *Studies on Palestine during the Ottoman Period*, Ed. M. Maoz, Jerusalem, The Magnes Press, The Hebrew University, 1975, pp. 3–10.

³The processes described here were not linear; in the course of the long period surveyed there were many fluctuations (see for instance the beginning of Section 3.4).

⁴See Ashtor, op. cit., pp. 17, 158–159.

tioned under (a) and to the destruction of forests; (g) heavy taxation prevailing for long periods of the surveyed era. Agricultural taxation was mainly levied by military chieftains, feudal lords or local strongmen and notables who bought inherited or otherwise acquired tax-farming rights. Over-taxation, severity of penalties for non-payment, arbitrariness in exaction, and usurious interest rates on debts put a permanent burden on the poor peasantry.

The degree of industrial, commercial and urban development varied in different periods. In some phases of general economic prosperity in the empires of which Palestine was a part, this had some impact on the urban life of Palestine². However, during most of the period under survey, Palestinian towns were too far away from the largest developing centers of the various empires and from the main traffic routes, and their manufactures (such as dyeing, weaving, etc.) declined. They became local centers of rather neglected and distant provinces. Only in times of direct contact with Europe (the Crusaders' period and at the end of the 19th century) there were signs of considerable urban revival.

B) Demographic factors

As no statistical data on population movements are available for this era we can only propose some hypotheses about the demographic channels through which the general factors mentioned above and a few additional factors may have influenced population size.

Population decline can probably be largely explained by high mortality in both calamitous and normal times. The toll exacted by various pestilential and epidemic diseases was very high. The literature (summarized by Ashtor³ for the Arab period) mentions a great number of years full of epidemics and ravages, especially during the Black Death period. These were followed in the Near East by many outbreaks of epidemics in the 14th and 15th centuries which caused widespread depopulation. In addition, other natural and man-made calamities, such as earthquakes, wars and massacres by invading armies, droughts and famines are mentioned in the literature as being the cause of population decline⁴. There is nothing exceptional here or different from other sad human histories; what appears peculiar and in sharp contrast with the ancient era, is the lack of demographic recovery after these events.

It may be assumed, too, that in "normal" times as well mortality was high, due to an almost complete absence of medical care, in addition to ignorance and malnutrition. Malnutrition is extensively discussed by Ashtor, who quotes (passim) an impressive documentation showing the low nutritional conditions among the poor strata of the population which constituted the majority of Near Eastern societies, in contrast to the numerically small upper classes or military castes which frequently enjoyed good economic conditions.

¹See Ashtor, op. cit., pp. 38–39, 66–67, 137–139, 158, 214–215. See also for many of the factors quoted in the text: M. Sharon, *Notes and studies on the history of the Holyland under Islamic rule*. Jerusalem, Yad Izhak Ben Zvi, 1976.

²On industrial developments in Palestine, see Ashtor, op. cit., pp. 97–98, 243, etc.

³See, for instance, Ashtor op.cit., pp. 87, 91, 219, 221, 238–239, 277–279, 301–305.

⁴See also Sections 3.2 and 3.3.

For a much later period (the late 18th century), a rough indication of the very high mortality prevailing among Palestine Bedouins is given in the recent research by H. Muhsam and B. Arnsburg¹, based on age-distribution of about 200 Bedouin skeletons found in a semi-desert area of southern Israel. Having examined this material, the authors suggest that the life expectation was about 27 for males and 22 for females (because of very high maternal mortality).

There are no data on the demographic effects of marriage and birth patterns. In later periods, Moslem populations are generally found to have very high marriage rates, a young marriage age, and high fertility². This is also true for the Moslem population of Palestine under the British Mandate. However, it does not necessarily imply that this was also true for the Moslem population of Palestine in the surveyed era. Assuming that the tendency to universal and early marriage also characterized that period and that there was no extensive use of birth control, we still have to take into consideration other factors limiting fertility, such as poor general health conditions, and specific factors such as high maternal mortality, malaria, malnutrition, etc.

Migrations pulled in various directions. Mass exodus in fear of invading armies is mentioned, for instance, in relation to the Arab and Mongol conquests. However, some limited demographic gains were due to the settlement of the conquerors.

Internal migrations for economic reasons may have been of some size in certain periods. Sometimes they had the character of a movement within the region. However, there were probably also long-distance internal migrations within empires. Although no data are available it can be assumed that people tended to move from less developed provinces to more developed regions and to the large regional or imperial capital cities. In certain periods this was probably a factor of population loss in Palestine. Demographic losses may have also been due, in certain periods, to military conscriptions.

¹*An estimate of the mortality of Bedouins in the late 18th century.* Paper in preparation for publication (Jerusalem, 1977).

²See for instance, *Muslim attitudes toward family planning*. New York, The Population Council, 1972.

CHAPTER 4

DEMOGRAPHIC EVOLUTION DURING THE 19TH CENTURY AND UP TO THE FIRST WORLD WAR; THE END OF STAGNATION; WAR RECESSION

4.1 SOURCES OF INFORMATION FOR THIS ERA

For this period various rough evaluations of the urban population have been prepared on the basis of a rather large number of estimates by towns (albeit often inaccurate and contradictory) made available by contemporary Western visitors, occasionally on the strength of information supplied by Ottoman authorities. With regard to total population size, only very rough estimates are available for the beginning of the 19th century, while for the last decades of the period under survey, some official evaluations and lists of households or of adults by localities are available. A considerable amount of information is available on the Jewish population (For all these sources, see Appendix 4).

4.2 THE END OF DEMOGRAPHIC STAGNATION

Table 4.1 gives a very rough estimate of population¹ by religion and urban or rural sector at the beginning of the 19th century, as compared to somewhat better estimates for around 1890 and 1914.

Despite uncertainties in the estimates presented in Table 4.1, the following general conclusions can be drawn:

- 1) The period of demographic stagnation which had lasted well over six centuries came to an end during the first part of the 19th century.

By perusing the more detailed data available for the urban population, as well as other sources, it is suggested that demographic growth was still very limited in the first decades of the century (1800–1840) but later on there was a considerable increase. Acceleration of growth may have been particularly strong between 1870 and 1890.

- 2) For Moslems and Christians, growth was larger in the urban than in the rural sector. The extremely small Jewish rural sector increased proportionately more than the urban one in the closing decades of the period.
- 3) Growth was proportionately much larger for the Jewish population than for other population groups, and was larger for the Christians than for the Moslems.

TABLE 4.1

**ESTIMATES OF THE POPULATION BY
RELIGION AND URBAN-RURAL SECTOR (1800—1914)**

<u>Around 1800 (very rough estimate)</u>					
	All religions	Moslems (incl. Druzes)	Christians	Jews	Sama- ritans
Urban ¹	56,750	38,600	11,400	6,600	150
Rural	218,250	207,750	10,400	100	---
Total	275,000	246,350	21,800	6,700	150

<u>Around 1890 (Estimate)</u>					
Urban ¹	175,660	100,300	34,900	40,300	160
Rural	356,400	331,300	22,500	2,600	---
Total	532,060	431,600	57,400	42,900	160

<u>Around 1914 (Total: official estimate)</u>					
Urban ¹	270,100	140,050	48,000	81,900	150
Rural	419,200	385,100	22,000	12,100	---
Total	689,300	525,150	70,000	94,000	150

¹Six towns quoted in Table 3.1 with the addition of another six (Acre, Bethlehem, Haifa, Jaffa, Nazareth and Tiberias).

- 4) On the whole, on the eve of the First World War the population was about two and a half times as large as at the beginning of the 19th century.
- 5) Around 1914 it was still predominantly rural (61%) and had a Moslem majority (76%), but both characteristics were much less pronounced than at the beginning of the 19th century (79% rural, 90% Moslem).

To gain an understanding of the possible factors underlying this transformation, we shall examine some socio-economic changes that occurred in the country during the period under survey, and in particular the beginning of the modernization process (Section 4.3), and the development of urbanization (Section 4.4). Then we shall briefly analyze some specific demographic factors which may have been in operation (Section 4.5).

4.3 THE SLOW BEGINNINGS OF MODERNIZATION

Until the end of the 18th century the provinces of the Ottoman empire corresponding to Palestine had very little direct contact with Europe. The Napoleonic wars and later the Egyptian rule (1832—40) brought in their wake the first contacts, and in the course of time the country regained some small measure of in-

ternational position as the Holy Land. Contacts with Europe were considerably strengthened through many channels; Catholic, Orthodox and Protestant clergy and missionaries intensified their educational, medical and charitable activities, which were to a large extent centered in Jerusalem. European powers opened consulates in Jerusalem and assumed protection over different minorities and population groups. Pilgrimages, some tourism and trade developed with improved communications (around 1830: the first steam boats; 1837: Austrian and French postal services, later replaced by the Turkish service; 1865: the beginning of telegraph services in a number of towns; 1868: the first road adapted for wheeled carriages — between Jerusalem and Jaffa — followed by the Jerusalem-Nablus road; 1890–92: the Jaffa-Jerusalem railway, later connected to the Hadjaz railway).

There were also some improvements in district administration and in internal security. Modest attempts were made to establish public schools (following a law enacted in 1869).

In the last decades of this period Jewish immigration of a "modern" character (see Sections 8.1 and 8.4) started having a considerable impact on the transformation of the country.

4.4 SOME CHARACTERISTICS OF URBANIZATION

It has already been mentioned (Section 3.5.3) that during the period of stagnation, "towns" were generally few in number and small in size. They started to increase in size after 1840 (see Table 4.2).

TABLE 4.2

TOWNS OF PALESTINE BY NUMBER OF INHABITANTS (1800–1910)

Year Around:	Under 10,000	10,000— 19,999	20,000— 29,999	30,000— 49,999	50,000— 99,999	Total		
Number of towns by size								
1800	12	—	—	—	—	12		
1840	9	3	—	—	—	12		
1860	10	2	—	—	—	12		
1880	6	5	—	1	—	12		
1890	5	4	2	1	—	12		
1900	5	4	1	1	1	12		
1910	5	3	1	2	1	12		
Proportion of urban population living in each size of towns							Average population of a town	
1800	100	—	—	—	—	100	4,729	
1840	50	50	—	—	—	100	5,833	
1860	62.6	37.4	—	—	—	100	7,956	
1880	25.4	49.8	—	24.8	—	100	10,404	
1890	20.4	30.9	24.8	23.9	—	100	14,632	
1900	16.7	30.5	12.6	14.2	26.0	100	17,603	
1910	13.8	21.4	8.3	28.8	27.6	100	21,130	

The increase was particularly strong in Jerusalem which, because of Jewish immigration and the developments mentioned in Section 4.3, gained a prominent position. Other centers of religious interest for Jews and Christians also increased, but at a much slower pace (see Table 4.3).

TABLE 4.3
URBAN POPULATION BY TYPE OF TOWNS (1800–1910)

Year around:	Total urban population	of which: In non-coastal towns			In coastal towns ³	Percentage of Jews Christians in religious centers		Percentage of urban population in coastal towns
		Jerusalem	Other religious centers ¹	Other towns ²				
1800	56,750	8,750	13,750	14,500	19,750	28.9	31.8	34.8
1840	70,000	13,000	11,250	17,000	28,750	29.1	32.8	41.1
1860	88,270	18,000	16,750	20,000	33,520	36.7	26.1	38.0
1880	124,850	31,000	24,250	26,100	43,500	41.7	23.3	34.8
1890	175,660	42,000	32,910	38,850	61,900	45.4	30.0	35.3
1900	211,240	55,000	35,300	41,310	79,630	51.1	26.7	37.7
1910	253,560	70,000	39,870	46,150	97,540	52.4	24.4	38.5
Index No. for 1910 (1800: 100)	447	800	289	318	494			

¹Bethlehem, Nazareth, Safad, Tiberias

²Hebron, Nablus, Ramle

³Acre, Gaza, Haifa, Jaffa

A particular development, which took place toward the end of the period under survey, was the considerable growth of coastal towns (Table 4.3), especially Jaffa, Gaza and Haifa. This was due to the beginning of modernization and to renewed sea traffic, and was accompanied by some modest revival of agriculture on the coastal plain.

4.5

DEMOGRAPHIC FACTORS OF POPULATION DEVELOPMENT (1800–1914)

Assuming that the estimates of Table 4.1 are to some extent reliable, it may be inferred that between 1800 and 1914 the Moslem population had a yearly average increase of an order of magnitude of roughly 6–7 per thousand. This can be

compared to the very crude estimate of about 4 per thousand for the "less developed countries" of the world (in Asia, Africa and Latin America) between 1800 and 1910¹. It is possible that some part of the growth of the Moslem population was due to immigration².

However, it seems likely that the dominant determinant of this modest growth was the beginning of some natural increase. In a very speculative way, assuming a total fertility somewhat higher than 5 and an "Eastern" type of mortality³, the rate of increase found would imply a life expectation of around 30.5 years — still very low but somewhat higher than that which may have prevailed in previous centuries (see Section 3.6B). Possible causes for this small improvement are likely to be found in the apparent absence between 1840 and 1914 of major calamities (although various large-scale epidemic outbreaks did occur).

Higher rates of population growth among Christians may have been due mainly to a greater decrease in mortality. This might, in turn, be explained by the evolution mentioned in Section 4.3 which affected the Christian population to a larger extent than the Moslems. However, the Christians were affected by various migratory processes; on one hand, some immigration from Europe took place, again in connection with the developments described in Section 4.3. On the other hand, probably toward the end of the period under survey, a rather extensive emigration of Christians (mainly to Latin America) took place⁴, paralleling to some extent the Christian migration from Lebanon⁵. Moreover, there was probably some internal migration from villages to towns.

The very large increase of the Jewish population is explained mainly by the strengthening of immigration that occurred principally in the last part of the period under survey (see Sections 8.1 and 8.4). It may be assumed that before "modern" immigration, mortality was so high as to wipe out any natural increase and re-emigration was strong. However later, and more so in the "modern" sections of the Jewish population, the situation changed. There was still rather considerable re-emigration in this period, but it did not completely offset immigration (see Section 9.2). Due to the combined effect of the positive balances of natural and migratory increase, the Jewish population changed its basic characteristics in this period. Instead of a small minority in a precarious situation in a few towns, Jews became, on the eve of the First World War, the second largest population group. They numbered close to 100,000 and constituted the largest population section in Jerusalem; they laid foundations for the first Jewish modern town (Tel Aviv), formed a considerable demographic element in 4 other towns, and had established 47 rural settlements, as compared with five such settlements in 1882.

¹See: "The population debate: dimensions and perspectives", *Papers of the World Population Conference*, Bucharest 1974, Vol. I, p. 171, New York, United Nations 1975.

²For instance, it is known that some immigration from other parts of the empire occurred — spontaneously or organized by the Ottoman authorities. Thus Druzes, Kurds, Circassians, Bosniaks, etc. established a number of new settlements (see for instance, *Atlas of Israel*, op. cit., XI/1).

³A.J.Coale and J.P.Demeny, *Regional Model Life Tables*, Princeton University Press, 1966.

⁴A clear proof of this is found in the fact that the census of 1922 indicated 10,707 "Palestinian Christians abroad", of whom 8,517 were in Latin America.

⁵

See for instance, Y. Courbage et P. Fargues, *La situation démographique au Liban*, CICRED Series, Beyrouth 1974, pp. 39—40.

4.6

DEMOGRAPHIC RECESSION DUE TO THE FIRST WORLD WAR (1914–1918)

Demographic effects of the First World War can roughly be evaluated by comparing the following sets of evaluations:

a) Ottoman estimate 1914; b) estimate for the Jewish population at the end of 1918, based (i) on Jewish population censuses of 1916-18 (see Appendix 6.12); (ii) on an evaluation for the beginning of 1919 obtained from the census of 1922 and data on immigration in 1919-22; c) British estimate for March 1919 which presumably understates the number of Moslems and possibly somewhat overstates the number of Jews; d) extrapolated values for 1919 (not given here) obtained (i) from the 1914 estimate and various hypotheses on the expected increase in 1914-19 based on an assumption that there will be no war; (ii) from the 1922 census and various hypotheses on the increase during 1919-22.

Sets a)b)c) are given below. While a discussion of d) would be too long and complex, the following conclusions seem to be acceptable. The war had very destructive effects on the Jewish population, which presumably declined by some 40%, and on the Christian population which also declined considerably (although to a lesser extent than the Jews). The effects the war had on the Moslem population were by far less pronounced.

	Moslems	Christians	Jews	Total (incl. Others)
a) Population 1914 (Estimate)	525,000	70,000	94,000	689,000
b) Jewish population (end of 1918)			56,000	
c) Population estimate March, 1919	515,000	62,500	65,300	648,000

The decline was particularly strong in towns, where it affected all the population groups.

The census of 1931 revealed that the number of children born in 1914–18 and surviving in 1931, was much smaller in all population groups than that of children belonging to the preceding and following quinquennial cohorts.¹

Aged	Born between	Moslems	Jews	Christians
18–23	1909–13	57,354	17,356	9,759
13–18	1914–18	44,858	12,182	6,940
8–13	1919–23	73,220	16,048	9,143

¹ Calculation based on graduated distributions, *Census of Palestine 1931 Report* Vol. 1, pp. 149–154.

Despite absence of data with regard to natural and migratory movements, it is nevertheless possible to identify some causes of war losses:

- 1) In all population groups, the prolonged absence of mobilized men caused a decrease in births.
- 2) Mortality increased due to many factors, such as: a) epidemics, b) famine, and c) war destruction. Epidemics and famine had a more devastating effect on the urban population, particularly in certain localities¹.
- 3) Christian and Jewish population suffered from deportations by the Ottoman authorities. In some cases mass deportations were followed by voluntary departures².

In consequence of the above mentioned factors, the proportion of urban population declined considerably, and after the war it returned to approximately the 1890–1900 level (35%; see Table 1.2).

¹Information available for the Jewish Ashkenazi communities in the towns of Jerusalem and Safed suggest that in the first community the mortality was about 10% in 1916, 8% in 1917, and 6% in 1918, and that in the second community over half the initial population died during 1914–1918. The Moslem and Christian population of Safed was also reduced after the war to less than half its pre-war size. (see: *Enumeration of the Jews of Eretz Israel*, Jaffa, Palestine Zionist Office, 2 Vols, 1918–1919). Some statistics show that in various rural Jewish colonies, mortality increased considerably in 1916–18, but it did not reach the levels quoted above for towns.

²See the *Enumeration* quoted above, *passim*.

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CHAPTER 5

THE MANDATORY PERIOD. MODERNIZATION AND DEMOGRAPHIC GROWTH.

5.1 THE BRITISH MANDATE OVER PALESTINE

The immediate consequences of the First World War were a regression in both the general and economic conditions of Palestine and population decrease (Section 4.6). However the long run consequences worked in the opposite direction: a strong modernizing trend was set in motion and there were revolutionary changes in the population size and structure.

In this section some information on the Mandate itself is given, and in Section 5.3 modernization and socioeconomic developments are summarized. Demographic changes are examined in general in Section 5.2 and by regions and urban-rural sectors in Section 5.4. The end of the Mandate and the consequences of the 1948–49 war are reviewed in Sections 5.5 and 5.6.

Between October 1917 and September 1918 the British Army conquered Palestine from the Turks. The British first instituted a military government which was replaced in 1920 by a civil administration; then in 1922 the League of Nations gave to Great Britain the Mandate to administer Palestine and Transjordan. The territory of Palestine was delineated — with minor adjustments — from the former Sanjaks of Acre, Nablus and Jerusalem and was given the boundaries described in Section 1.3.

The Mandate endorsed the declaration made by the British Secretary of State for Foreign Affairs, A.J. Balfour in 1917, and recognized the historical connection between the Jewish people and Palestine and the reasons for reconstructing their National Home in that country. The Mandatory government was made responsible for placing the country under such political, administrative and economic conditions as would secure the establishment of a Jewish National Home (Article 1), and the Jewish Agency was recognized as a public body for advising and cooperating with the administration in matters affecting its establishment (Article 4). The administration was asked to facilitate Jewish immigration, while ensuring that the right and position of other sectors of the population were not prejudiced (Article 6).

The Ottoman domination which had lasted for about four centuries thus came to an end. The country regained a political identity, which had locally disappeared after the Crusaders' era; it shed the rule of a weak Eastern empire and entered the sphere of influence of a Western power. The new government was made internationally responsible for its development. While the Ottoman government had opposed Jewish immigration, the formation of a Jewish National

Home now became an official aim, and Jewish immigration one of the dominant features of the quick demographic evolution occurring in this period.

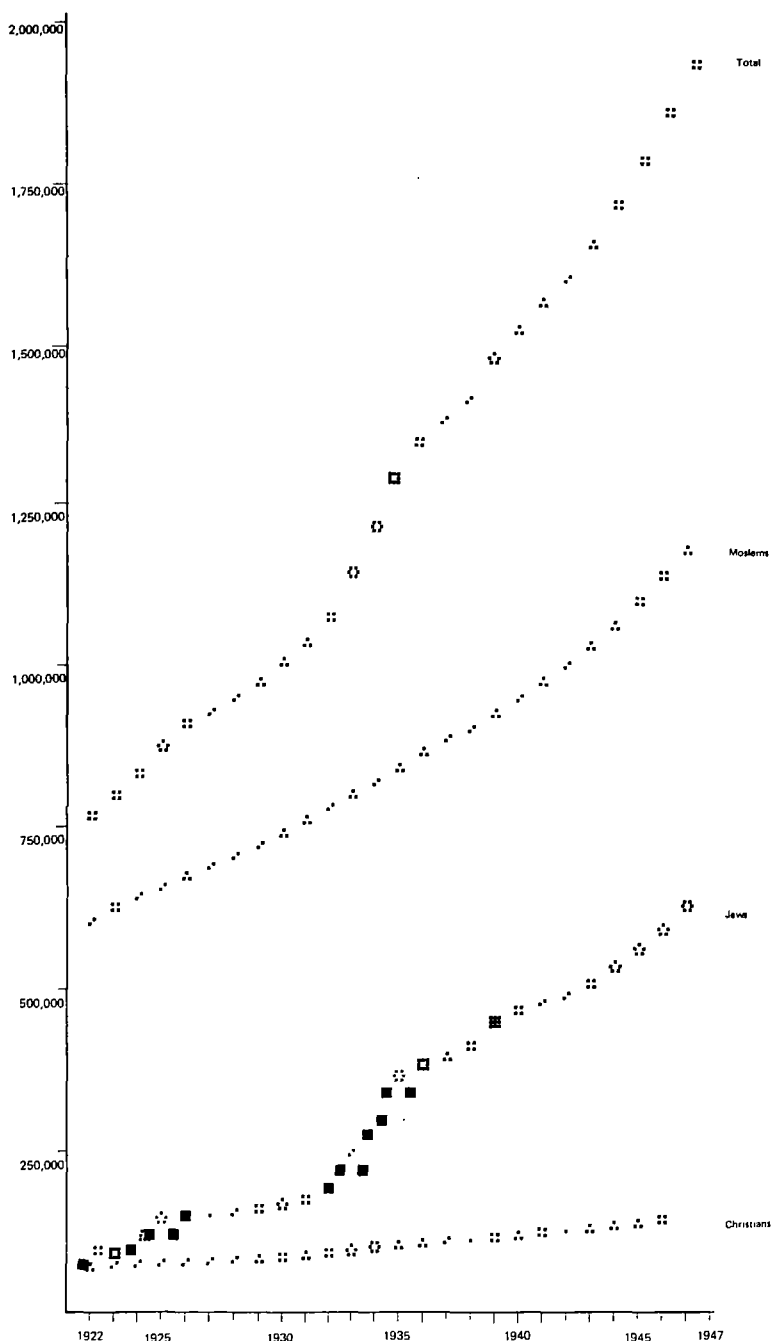
5.2 CHANGES IN THE SIZE AND ETHNIC-RELIGIOUS STRUCTURE OF THE POPULATION OF PALESTINE DURING THE MANDATORY PERIOD

One of the signs of the country's gradual modernization was the beginning of statistical data collection system (see Appendix 6): in 1922 a very sketchy population census was taken, followed in 1931 by a much better designed and more detailed one. Since 1919, data on migratory movements across frontiers have been collected, and in 1922 the systematic registration of vital statistics began. The resulting data contained many omissions and shortcomings (which are described in Appendix 6). Nevertheless these data, duly revised, permit us to reconstruct yearly estimates of the population of the country as a whole and of its main constituent groups, and to give an overview of prevailing demographic trends. Some population estimates are given in Table 1.1 for selected years. The yearly estimates between 1922 and 1947 are presented in detail in Graph 5.1. This graph has been constructed following a new method which permits simultaneous presentation of information usually given by an ordinary and a semi-logarithmic diagram, viz.:

- a) the size of population P_i of a given group at the end of each year i , is given by a point having its ordinate proportional to P_i and its abscissa located at i ;
- b) the absolute population change in the course of period i is indicated as in an ordinary diagram by $(P_i - P_{i-1})$
- c) the relative change in the course of i (as measured by the rate $100 \frac{(P_i - P_{i-1})}{(P_{i-1})}$) is shown by a symbol ("Graphical Rational Pattern") which is proportional to the rate represented. G.R.P. symbols are explained in Appendix 10.

A glance at Graph 5.1 and Table 1.1 enables us to grasp the following main developments:

- 1) During the period of British administration, which lasted about 30 years (1919–1948), the population of Palestine almost trebled itself, passing from some 676,000 at the beginning of 1919 to about 1,970,000 at the end of 1947.
- 2) The two major groups (Moslems and Jews) had in this period a similar absolute increase of population (of an order of magnitude of about 600,000).
- 3) However, in relative terms, this meant a much larger increase for the Jewish population, which multiplied itself more than eleven times, growing from about 56,000 at the beginning of 1919 to 650,000 in May 1948 (end of the Mandatory administration). Annual yearly rates of increase for this population were very high, mainly during 1919–1921, 1924–26, and 1932–36, which were periods of relatively very high immigration from abroad (Section 8.5).
- 4) Among the Moslems and Christians the yearly rates of growth were generally much lower than among the Jews and more uniform over the course of time (although generally increasing), since they depended primarily upon natural increase. However, the rates themselves are very high and tend to grow in



Graph 5.1

Population of Mandatory Palestine by religions (1922–1947)

Size at the end of each year and percentages of yearly growth

Data represented/see Appendices 6.7 and 6.8

the course of time. As we shall see later (Chapters 12–13), this can be explained mainly by the rapid decline in mortality rates, accompanied in the case of the Moslems by an increase in fertility rates. These developments are, in turn, to be related to the rapid socioeconomic development of the country during the Mandatory period.

Difference in the growth rates determined an important change in the ethnic-religious structure of the population, as shown by Table 1.1 and Graph 1.2. The proportion of the Moslems decreased from about 81% in 1919 to 60% in 1947 – while that of the Jews increased from 8% to 32%.

5.3 MODERNIZATION AND SOCIOECONOMIC DEVELOPMENTS DURING THE MANDATORY PERIOD

The demographic changes described in previous sections were part and parcel of wide, rapid, and often contrasting transformation processes, which occurred during the Mandatory period and affected to various degrees the different population sectors. Some of these processes will be briefly described below.

A) The economic and social development of the Jewish National Home

A very strong factor of dynamism and modernization was introduced by the Zionist movement's endeavors to build a National Home in the ancient homeland of the Jews, where they might feel free of the constraints and dangers of Diaspora life (See Chapter 7), develop their own culture, revive their language (Hebrew) and build an autonomous democratic society. The fulfillment of these objectives implied: ingathering of Jews from their countries of dispersion (Chapter 8); retraining them to be able to face the harsh realities of a still poor, backward and partly hostile environment; shifting them to occupations needed for the development of the country; building a Jewish economic structure more "normal" and self-contained (including all branches of production) than that typical of Diaspora Jews. Strong emphasis was thus put on establishing rural colonies and forming a rural sector. This entailed supplying a) land, b) water, and c) proper human resources.

a) The land in Jewish possession was extremely limited before modern immigration (25 sq. kms. in 1882¹). Before the First World War and during the Mandatory period the Jewish National Fund, other Jewish public institutions and private persons bought considerable tracts of land from the Arabs.²

¹ These and following figures are taken from the *Statistical Handbook of Jewish Palestine* by D. Gurevich and A. Zanker (Jerusalem, Department of Statistics of the Jewish Agency for Palestine, 1947).

² Official figures suggest that area owned by Jews was 650 sq. kms. at the end of the First World War and 1549 sq. kms. in 1946, of which 653 owned by the Jewish National Fund. A recent paper by Y. Porath (The Land Problem in Mandatory Palestine, *The Jerusalem Quarterly*, No. 1. Fall 1976, pp. 18–27) summarizes as follows some of the main characteristics of land acquisitions which had a considerable impact on the geographical distribution of the Jewish population. From 1880 up to the late 1930s purchases were made mainly in the coastal plains (region 2 of Graph 1.3), in the Esdraelon (5) and Jordan Valley (6) and to a lesser extent in the Galilee (3). Only during the 1940s large tracts of land were also purchased in the Negev (1) from Beduin sheikhs. This geographical pattern illustrates the buyers' desire to purchase in sparsely inhabited parts of the country, where the land was largely uncultivated, swampy, cheap and, most important, without tenants. Detailed research on the number of Arab peasant families remained landless due to Jewish land

Moreover, wide soil reclamation projects were carried out; near the end of Mandatory period it was calculated that the area recovered by the Jews through swamp drainage covered about 486 sq. kms. In 1945, 83% of the land in Jewish possession was rural.

b) Water was to a considerable degree obtained from underground sources. Modern methods of cultivation were introduced mainly on the basis of systematic agricultural research. Toward the end of the Mandatory period, Jewish agriculture was mainly based on plantations (such as citriculture) and mixed farming (dairy, poultry, vegetables, fodder and cereals). Afforestation was for the most part performed by the Jewish National Fund; by 1945 over 4 million trees had been planted by this Fund.

c) The number of rural Jewish settlements increased from 47 in 1914 to 326 in 1948¹, and their population grew from 12,000 to 110,631. The majority of those who settled in rural localities and turned to agricultural occupations were of European origin and urban background. Many changed their occupations or trained themselves for agriculture under the impact of the Zionist ideal to "return to the soil", or through socialist motivations. Many settlements were of communal or cooperative type. This probably rendered production more efficient, and helped to ensure security and ease the adaptation of new immigrants to rural life. According to the 1948 census, the Jewish rural population was divided as follows:²

	No. of settlements	Population
Communal settlements ("Kibbutzim") ³	177	54,208
Small holder settlements ("Moshavim", etc.) ⁴	104	30,142
Villages ("Moshavot") ⁵ and others	45	26,281
	326	110,631

Footnote continued from previous page:

purchases during seventy years is estimated by Porath to less than four thousand. For a detailed map of lands in Jewish possession, see *A Survey of Palestine* (Jerusalem, Government of Palestine, 1946), map 4.

¹ According to the census of population of November 1948, taken a few months after the end of the Mandatory period.

² See also R. Bachi, *Immigration to Israel*. Stencilled report to the Round Table on International Migration (International Economic Association, Kitzbühel, 1955), pp. 30-31. Partly reproduced in B. Thomas (ed.). *The economics of international migration*. London, Macmillan, 1958.

³ In kibbutzim a generally large farm — including various agricultural branches and sometimes accompanied by industrial or other economic enterprises — is run collectively by the members; earnings are pooled and a common household is kept.

⁴ In these settlements, farmers keep independent households, but have a cooperative organization for major cultivation, purchasing, services and marketing.

⁵ In the villages, private farmers work independently, but often participate in cooperative societies of various kinds.

In the course of time there was also a considerable industrial development¹, favored by the immigration of people largely of European origin with skills and capital and, during the Second World War, by the vast demand of supplies for the Allied armies. With the general modernization of the Jewish sector's economy, many branches of trade, transportation, banking, and business were established and developed.

All these developments were largely facilitated by the financial help given by Jews throughout the world and by imported capital partly brought in by the immigrants². Net capital stock multiplied itself by 15 times between 1922 and 1947³. This meant a doubling of capital stock per head of Jewish population in that period³.

The per capita yearly net domestic product (at constant 1936 prices) in the Jewish sector more than trebled itself between 1922 and 1947, which implied a yearly compounded rate of growth of 4.9 per cent. This was accompanied by a considerable improvement in the standard of living. This trend is confirmed by other statistical indicators, which cannot be discussed here⁴.

The Jewish population of Palestine developed political institutions for self-government and to a large extent took direct responsibility for its own services in fields such as health, education, welfare, etc.

While health services will be commented upon in Chapter 13, a few words should be added in regard to educational development, which had considerable impact on demographic trends. The development of a modern Hebrew school system had already begun by the end of the Ottoman period. During the Mandate the number of pupils in the Hebrew public elementary school system grew from 11,962 in 1922/23 to 80,273 in 1944-45. In addition, other nonpublic schools existed which in 1944-45 supplied education to 25,474 pupils. Although education was not compulsory, it is understood from data for 1944 that 97% of all Jewish children received some form of education⁵. Besides the development of elementary schools, there was considerable development of other types of schools (kindergartens, secondary, vocational, university). As a result of this and of the high educational standards of Jewish immigrants from Europe, the general educational level of the Jewish population of Palestine was comparatively high (see Table 5.1).

¹ The Jewish industrial establishments grew as follows:

	<u>1925</u>	<u>1943</u>
No. establishments	536	2,120
No. employed	4,894	45,049
Horsepower	5,733	167,532

See *Statistical Handbook of Jewish Palestine*, *op. cit.*

² Yearly estimates on Jewish capital import are given by R. Szereszewski, *Essays on the structure of the Jewish economy in Palestine and Israel*. Jerusalem. The Falk Institute for Economic Research in Israel, 1968. The parallelism between amount of capital imports and size of immigration is considerable.

³ Figures by Szereszewski, *op. cit.*

⁴ A. Nizan, *The standard of living in Palestine (Israel) during the last 20 years*. Jerusalem, Central Bureau of Statistics, 1952. Special Publication No. 7.

⁵ See: *A Survey of Palestine*. Jerusalem. Government of Palestine, Vol. 2, p. 638.

B) General development of the country and of the Arab sector.

B1) Some of the factors mentioned in Section 4.3 which had determined modest steps toward the modernization of Palestine, mainly in the urban sector and particularly among the Christian population, continued to operate also during the Mandatory period as well. In this period, however, government activity was by much more pronounced than in the Ottoman period; central and regional administrations were reorganized and rendered more efficient, and became more interested in the welfare of the local population.

The communications network was greatly enlarged. For instance: the road network increased from 425 kms in 1917 to 4,225 in 1945; the number of motor vehicles, increased from about 400 in 1922, to 16,578 in 1947. In 1933 a deep-water harbor was opened in Haifa and an international airport was later opened at Lydda. The activities of the postal telephonic and telegraphic services multiplied about 5–8 times between 1924 and 1946.

Special governmental departments were established to supervise and help to develop economic activities, such as the Departments of Agriculture and Fisheries, Forests, Land Settlement and Registration, Labor, Public Works and Cooperative Societies.

In the area of public services, some limited social welfare activities and wider activities in the fields of education and health should be mentioned. The government established a wide network of elementary schools, mainly utilized by the Arab population. However, despite the great progress achieved, the Moslem village population and particularly the females were far from receiving full elementary school coverage. Rough estimates¹ prepared for 1943 indicate that the percentage of Moslem children receiving some schooling, however brief, was as follows:

	Boys	Girls
In towns	85%	60%
In villages	60%	7%

By contrast an overwhelming majority of Christian children received some form of schooling.

The 1931 census taken in the middle of the Mandatory period illustrates the first signs of progress in the education of the young Moslem generation, together with the effects of past neglect. It also shows the wide gulf existing between the Jewish, Christian and Moslem populations and between males and females with respect to education and literacy (see Table 5.1, 5.2).

B2) Besides the main factors of modernization mentioned above, other factors also operated, which had their roots in the local Arab population and were, to some extent, similar to those which led during the same period to some development in other Middle East countries.

The factors mentioned in Section A) and B1) had an overwhelming influence on the development of the Jewish population; those mentioned under A), B1)

¹ *Statistical Abstract of Palestine, 1944–45*, p. 186.

and B2) had a very strong impact on the development of the Christian population and a considerable effect on the development of the Moslem population, especially in towns.

On the average, the economic situation of the Arab population of Palestine improved substantially¹ during the Mandatory period, despite enormous demographic growth, and was probably considerably better, on the average, than that of other countries in the Middle East.

TABLE 5.1
PROPORTION ILLITERATE PER 100 OF
EACH RELIGION, SEX AND AGE (1931)

Age	Moslems		Jews		Christians		Total (incl. "Others")		
	M	F	M	F	M	F	M	F	T
7-14	68.7	92.9	11.1	14.5	33.7	42.9	56.8	74.5	64.9
14-21	70.9	94.1	4.0	12.2	18.6	40.7	54.0	72.6	63.1
21 and over	78.1	98.2	6.0	24.7	29.4	62.7	58.0	79.9	69.1
Total 7 and over	74.9	96.7	6.6	21.3	28.5	55.9	57.2	77.9	67.4

TABLE 5.2
PERCENTAGE DISTRIBUTION OF PERSONS AGED 21 AND OVER
WHO HAVE ATTENDED SCHOOL, BY NUMBER OF YEARS AT SCHOOL (1931)

No. years at school	Moslems		Jews		Christians		Total (including "Others")		
	M	F	M	F	M	F	M	F	T
1-2	20.4	18.2	2.2	5.5	8.2	11.7	9.8	7.6	9.1
3-4	34.2	33.7	6.8	12.0	19.4	21.1	18.8	15.1	17.5
5-8	34.4	39.2	41.7	48.5	36.8	42.3	38.2	46.7	41.0
9-12	8.6	8.1	33.3	26.3	28.4	20.3	23.5	24.0	23.7
13 and over	2.4	0.8	16.0	7.7	7.2	4.6	9.7	6.6	8.7
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

¹ On some statistical indicators of this improvement, see: *A Survey of Palestine*, op. cit., Vol. 2, pp. 697-730.

5.4

THE GEOGRAPHICAL DISTRIBUTION OF THE
POPULATION DURING THE MANDATORY PERIOD.**A) Overview of the conditions in 1922 and changes in the regional distribution during the Mandatory period**

In order to obtain an overview of the general characteristics of the geographical distribution of the population and its changes during the Mandatory period, let us first consider (Table 5.3) the population distribution¹ over 3 broad regions: a) the southern region, largely desert (Negev: region 1 of Graph 1.3 and Section 1.3); b) the coastal plains (region 2); c) the internal part of the country (regions 3, 4, 5, 6 together, of which 3 and 4 are hilly).

TABLE 5.3
DISTRIBUTION OF POPULATION BY REGIONS (1922–1944)

Region	Approximate % of area	Percentage of total population			% change between 1922 and 1944	Approximate density per sq. km.	
		1922	1931	1944		1922	1944
a) Negev	47	6.5	4.9	3.5	+28.2	4	5
b) Coastal	15	33.3	38.2	48.9	+252.9	64	227
c) Internal	38	60.2	56.9	47.6	+90.0	45	85
Total	100	100.0	100.0	100.0	+140.2	28	67

The Negev — covering almost half of the area of the country — was inhabited almost exclusively² by a tiny nomadic Bedouin population, whose actual size and variations are very difficult to measure³. Only from the 1931 census can a somewhat more reliable estimate be obtained, which suggests that the population of this region was below 5% of the total country's population.

We may therefore concentrate mainly on the northern half of the country. Since at the beginning of the Mandatory period the economy of the majority of the population was still largely based on agriculture, we might have expected a much larger rural density on the coastal plains (region 2 of Graph 1.3), where the

¹ The sources for the data used in this section are explained in Appendix 6 and especially in 6.9.

² The only small town (Beersheva) in the region, reestablished in 1900, was actually an administrative and marketing center for the Bedouins.

³ Despite difficulties, an attempt has been performed in Appendix 6.3 to obtain estimates of Bedouins during 1922–1946. On the strength of these estimates, it may perhaps be suggested that the population of the Negev grew somewhat during the Mandatory period, but by far less than the population of other regions, so that its share in the total population decreased.

conditions are much more favorable for cultivation¹. Actually in 1922² the density of the rural population on the coastal plain (52 non-urban per sq. km) was just a little higher than in the Galilee (50) and Samaria and Judea (41).

This was due to the persisting effects of the country's decay in previous periods, which especially affected the plains, due to the formation of dunes and marshes, the spread of malaria, more extensive ravages and destructions, etc. (see Chapters 3 and 4). In relation to that, as late as 1875 (as shown by the first modern detailed map of the inhabited places of Palestine)³, large parts of the coastal plain (as well as of region 5: the plains of Esdraelon and Ein Harod-Beisan) had little human settlement apart from Nomadic tribes. A map of the Non-Jewish settlements according to the 1922 census would still show a rather similar picture.

In the hilly part of the country, the population was concentrated for security reasons in rather compact towns and villages, and in many zones, the villages were situated in higher locations, even though they were thus comparatively far from water springs and better lands.

During the Mandatory period, conditions changed drastically. As shown by Table 5.3, the population of the coastal plains increased at a rate almost three times as high as that of the internal regions; the coastal plains came to include over half of the population; and the population density on the coastal plains became 2.7 times as high as that of the internal part of the country.

The reasons for these changes are indicated below (in Section B: regional distribution of the various population groups; in Section C: breakdown into rural and urban sectors).

B) Characteristics of and changes in the regional distribution of the various population groups.

The leading factor in the drastic changes of population distribution mentioned in Section A was Jewish immigration. As already mentioned, land acquisition — which constituted the basis for Jewish agricultural settlement and town development — took place largely in half-empty areas of the coastal plains (region 2) of the Esdraelon-Ein Harod Beisan region (5) and of the Rift (6) (see Graph 1.3). In these regions the percentage increase of the Jewish population was very large (Table 5.5), while it was much smaller — though still considerable — in Jerusalem and in a few areas of the Galilee. By the end of the Mandatory period the Jewish population was practically concentrated almost exclusively in the regions mentioned above (Table 5.4). In regions 2 and 5 and in Jerusalem⁴ the Jews constituted the largest ethnic-religious group (Table 5.6).

On the other hand, Jewish penetration was extremely limited in the hilly region (4) which already had a comparatively dense population (under prevailing agricultural conditions) and in the Negev.

¹ These and other remarks are largely based on D.H.K. Amiran, The patterns of settlement in Palestine. *Israel Exploration Journal*, Vol. 3, 1953, Nos. 2, 3, and 4.

² *Census of Palestine 1931* op. cit. Vol. 1, Report, p. 50.

³ See the paper of Amiran, op. cit.

⁴ For the development of the population of Jerusalem, see Appendix 5.

The Moslems continued to form the overwhelming majority in the Negev and a large majority in the hilly regions (4) and in various zones of the Galilee and the Rift (6) (Table 5.6).

The Christians continued to be largely concentrated in their traditional places in Jerusalem and its surroundings and in the Galilee (Table 5.4), but they also developed considerably in the coastal region.

TABLE 5.4

**PERCENTAGE OF POPULATION BY
REGIONS, WITHIN EACH RELIGION (1944)**

Region	Total population	Moslems	Jews	Christians	Druze and others
1. Negev	3.5	5.8	— ¹	0.1	0.1
2. Coastal	48.9	36.8	74.8	38.8	28.9
3. Galilee	8.5	10.2	1.6	18.0	67.8
4. Samaria and Judea	34.0	42.1	17.9 ²	40.7	2.6
5. Esdraelon and Ein Harod-Beisan	1.6	1.1	2.4	1.4	0.1
6. Rift	3.6	4.1	3.3	1.0	0.5
	100.0	100.0	100.0	100.0	100.0

TABLE 5.5

**PERCENT VARIATION BETWEEN 1931 AND 1944 OF THE
POPULATION OF EACH RELIGION IN EACH REGION³ (EXCLUDING THE NEGEV)**

Region	Total population	Moslems	Jews	Christians	Druze and others
2. Coastal	+122.0	+54.6	+303.8	+70.8	+50.7
3. Galilee	+ 42.1	+41.0	+ 63.5	+43.0	+36.0
4. Samaria and Judea	+ 41.4	+35.5	+ 81.0 ⁴	+35.2	+42.3
5. Esdraelon and Ein-Harod-Beisan	+103.9	+36.7	+218.1	x	x
6. Rift	+ 59.9	+42.2	+137.8	+14.5	2.9
	+ 75.4	+43.3	+217.0	+32.5	+39.5

¹ Less than 0.1%

² This population was almost completely concentrated in Jerusalem.

³ The symbol x indicates that the population of 1931 was too small for the calculation of the ratios of change.

⁴ This increase was due almost exclusively to the increase in the Jewish population of Jerusalem.

TABLE 5.6

**PERCENTAGE DISTRIBUTION OF POPULATION
BY RELIGIONS AND PERCENTAGE URBAN IN EACH REGION (1944)**

Region	Moslems	Jews	Christians	Druzes and others	Total	% urban
1. Negev	99.4	0.2	0.3	— ¹	100.0	9.2
2. Coastal	45.0	48.3	6.1	0.5	100.0	62.7
3. Galilee	71.3	5.9	16.4	6.4	100.0	19.9
4. Samaria and Judea	74.0	16.6	9.3	0.1	100.0	39.4
5. Esdraelon and Ein Harod-Beisan	44.1	49.0	6.8	0.1	100.0	27.4
6. Rift	68.7	29.0	2.2	0.1	100.0	18.1
	59.9	31.6	7.7	0.8	100.0	47.3

¹ Less than 0.1%.

More than two thirds of the Druze population was concentrated in its traditional areas in the Galilee (Table 5.4).

Thus, a considerable geographical division existed between the major population groups. This division appears even sharper if we consider the distribution by inhabited places. A large proportion of people of each religion were living in villages or towns or sections of towns where there were no persons or almost no persons of a different religion.

On the other hand, the great economic development of the coastal plains — largely due to Jewish immigration — was accompanied both in 1922–31 and in 1931–44 by a much stronger increase of the Moslem and Christian populations in this region than that registered in other regions (Table 5.5)¹. This was probably due to two reasons: stronger decrease in mortality of the Non-Jewish po-

¹ The stronger increase of the Moslem population in all zones of the coastal region during the entire period 1922–46, can also be seen by considering separately the growth of the Moslem rural population in the 5 coastal subdistricts and in their main towns:

Percent increase of Moslem rural subdistricts			Percent increase of Moslem population in towns		
	1922–31	1931–46		1922–31	1931–46
Gaza	+42	+66	Gaza	—2	+76
Ramle	+46	+63	Jaffa	+72	+40
Jaffa	+126	+93	Haifa	+117	+101
Tulkarem	+29	+64			
Haifa	+28	+77			
Total Moslem rural population of Palestine	+25	+53	Total Moslem urban population of Palestine	+35	+62

pulation in the neighborhood of Jewish areas (see Chapter 13); and internal migration toward more developed zones¹.

The development of the Jewish population was accompanied by a large increase in the number of inhabited places (many of which were of a relatively small size), but this was not the case with the Non-Jewish population: although this population enlarged its settlement area southwards² and in the coastal region, the number of inhabited places did not increase much. Therefore, along with the rapid population growth, there was a very considerable increase in the average size of villages. On the other hand, with increasing internal security, the rural population, while remaining concentrated in the villages during the largest part of the year, tended more to disperse seasonally in small secondary settlements for cultivation purposes³.

C) Urbanization

The urbanization process was strong during the Mandatory period. As shown by Table 1.2, the percentage of population in towns grew from 34.9% in 1922 to 48.5% in 1946. This was due to two factors:

a) In addition to the 13 places considered as towns during 1800–1910 (see Table 4.3), 10 former Arab villages had already been given municipal status at the beginning of the Mandatory period, and later this status was granted to 6 former Jewish colonies. However, as shown by Table 5.7, these 16 places included only some 15% of the total urban population.

b) The main urbanization factor was that the increase of the population of the 13 original towns (+230% between 1922 and 1946) was larger than that of the rural population (+ 144%, excluding nomads).

Four towns at the end of the Mandatory period exceeded the 100,000 mark. The most striking development was that of Tel Aviv which in 1922 was still the 7th largest town and had become by 1946, the largest town of the country. Tel Aviv together with nearby Jaffa formed the first nucleus of a commercial-industrial and service conurbation which included by the end of the Mandatory period almost 300,000 inhabitants. The development of Tel Aviv was connected with the economic development of the coastal plains, due mainly to Jewish immigration. A very large demographic increase also took place with the development of the large new harbor and industrial areas of Haifa, which became the third-largest town of the country. The capital city, Jerusalem, continued to grow, but at a comparatively slower rate than Tel Aviv and Haifa. Jerusalem continued to be a religious, and educational center, and showed considerable development in government, and other public Jewish and non-Jewish institutions, it did not however develop any large industries. The 4 largest towns included in 1946 67% of the urban population⁴.

According to a rough estimate for 1944, the urban percentage was larger on the coastal plains than in other regions for each of the population groups (Jews excepted), as indicated by the following (see also Table 5.6):

¹ As no statistics are available for internal migration, this conclusion has been obtained from indirect evidence.

² See the paper of Amlan quoted above.

³ Ibid.

⁴ For detailed figures on the increase of the population of the largest towns of Palestine, see Appendix 5.

TABLE 5.7
THE URBAN POPULATION OF PALESTINE (1922–1946)

Town or category of towns	Population		% Population		% increase	Average population of a town in each category	
	1922	1946	1922	1946		1922	1946
Tel Aviv	15,185	183,200	5.6	20.5	+1,106		
Haifa	24,634	145,430	9.1	16.3	+490		
Jaffa	32,524	101,580	12.0	11.4	+212		
Jerusalem	62,578	164,440	23.1	18.4	+163		
4 Large towns	134,921	594,650	49.8	66.5	+341	33,730	148,663
9 other centers previously considered towns	93,529	167,910	34.5	18.8	+79	10,392	18,657
6 former Jewish colonies	6,773	52,650	2.5	5.9	+677	1,355 ¹	8,775
10 former Arab villages	35,867	79,360	13.2	8.9	+121	3,587	7,936
Grand total	271,090	894,570	100.0	100.0	+230	9,682 ¹	30,847
15 towns on the coastal plains	130,205	598,510	48.0	66.9	+360	9,300 ¹	39,901
14 towns in internal regions	140,885	296,060	52.0	33.1	+110	10,063	21,147

TABLE 5.8
TOWNS OF PALESTINE BY NUMBER OF INHABITANTS (1922–1946)

Population	Number of towns		Proportion of population living in each size of town	
	1922	1946	1922	1946
Under 5,000	13 ¹	4	10.9	1.6
5,000–9,999	8	8	20.9	6.4
10,000–19,999	4	10	24.0	15.6
20,000–29,999	1	2	9.1	5.7
30,000–49,999	1	1	12.0	4.2
50,000–99,999	1	—	23.1	—
100,000 and more	—	4	—	66.5
Total	28	29	100.0	100.0

¹ Excluding Netanya, founded 1929.

Percentage urban in the population of each region and religion (1944)

	Total	Moslems	Jews	Christians	Druze and others
Coastal Plains	62.7	46.1	74.3	96.7	17.6
Other regions (excl. Negev)	34.3	20.2	77.1	68.6	10.9

As shown by Table 1.2, Christians and Jews continued to have very high percentages of urban population. However, due to the considerable increase in Jewish rural settlement, the percentage urban of the Jewish population decreased during the Mandatory period while the percentage urban of the Christian population increased. The percentage urban of the Moslems grew at a moderate pace and remained much lower than that of Jews and Christians. As a consequence of that and due to the large Jewish immigration, the Jews constituted over half the urban population (Table 1.3) while the Moslems constituted only 37% of the urban population (as compared to 79% of the rural population).

5.5. POLITICAL CONDITIONS DURING THE MANDATORY PERIOD. THE END OF THE MANDATE.

The Mandatory period not only witnessed modernization and socioeconomic development of the country but it was also a period of political tensions, in which the increasingly strong Arab nationalist movement violently opposed the development of the Jewish National Home; furthermore, the government's views and decisions were often strongly at variance with the expectations of the Jewish and/or Arab population. The history of the Arab-Jewish conflict, of the outbursts of violence which took place from time to time and especially in 1929, 1936–39 and 1945–47, of the difficulties and uncertainties in the Mandate's implementation and of its final breakdown, has been the subject of a very wide literature, and need not be retold here.

However, it is necessary for an understanding of the demographic changes which occurred during this period to mention briefly the outcome of the dramatic events which put an end to the British Mandate. In 1947, the problem of the political settlement of Palestine was examined by a Special Committee of the United Nations Organization, which proposed solving it by dividing Palestine into three parts (an Arab state, a Jewish state and an international area around Jerusalem). This plan was endorsed by the United Nations Assembly and accepted by the Jews; it was, however, rejected by the Arabs. The British government declared that it was unwilling to enforce this plan and that they would withdraw from Palestine. During the period of British withdrawal (December 1947 to May 14th, 1948), the Arabs opened hostilities against the Jews with the aid of units from Syria, Iraq and Egypt. On May 15th, 1948 the State of Israel was proclaimed and was then immediately attacked by 6 Arab states (the three mentioned above, plus Transjordan, Lebanon and Saudi Arabia). The war was ended by an armistice, signed at Rhodes in 1949, which led to the territorial arrangement explained in Section 5.6.

Graph 5.2 shows the partition of Palestine agreed upon at the Rhodes armistice. Zone A constituted the State of Israel; Zone B — roughly corresponding to Region 4 (Judea and Samaria) of Graph 1.3 — was incorporated into Trans-Jordan, and in the course of time was politically united with it¹; and Zone C (the "Gaza Strip") was administered by Egypt as a separate unit.

The Jewish population of Palestine had already lived before the war for the most part in Zone A; the population of the few places included in B left and moved over to Israel. As a result, the statistics for the Jewish population of Palestine (until 1948) and those for the Jewish population of the State of Israel (starting May 15, 1948) form a consistent time series. When the State of Israel was established its Jewish population was about 649,600.

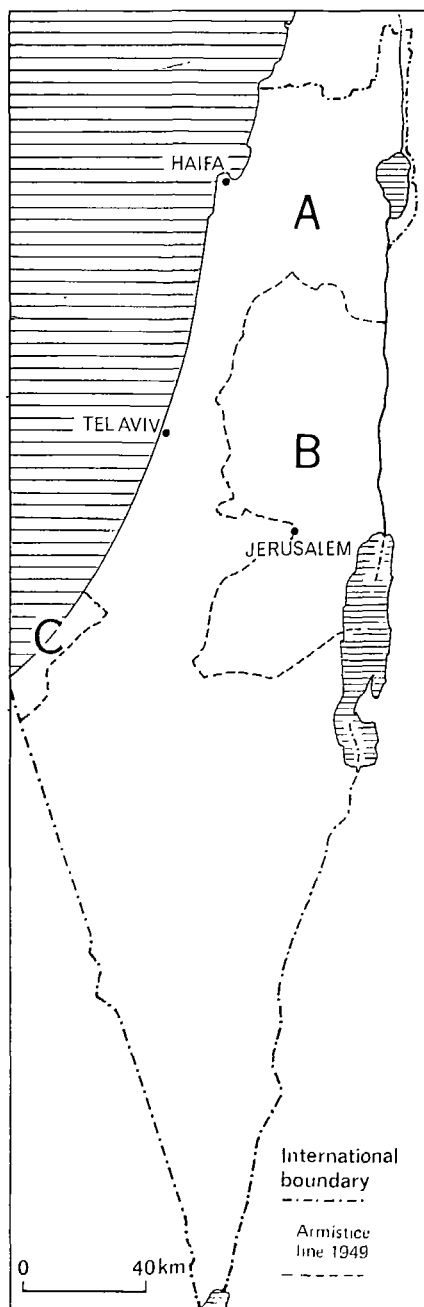
Considerable difficulties are found in evaluating the size and geographical distribution of the Non-Jewish population in the last part of the Mandatory period, due to: long time elapsed since the last census (1931), incompleteness of death recording, scarce reliability of statistics of international migrations for the Moslems, lack of statistics on internal migrations (Appendix 6).

Despite all these difficulties, an attempt has been made to estimate the size and distribution of Non-Jews at the end of 1947 (Appendices 6.8 D, 6.9), and the proportion of Non-Arabs among them. It can thus be suggested that the Arab population was roughly divided as follows before the hostilities: Zone A: 778,700; Zone B: 427,800; Zone C: 73,100; Total: 1,280,000.

The main demographic consequences for the Non-Jewish population of the end of the Mandate and of the hostilities were as follows: (i) most British and other European and Non-Arab Christians left (probably in their majority for their countries of origin) before the end of the Mandate; (ii) the Arab population suffered some war losses, the size of which is unknown; (iii) between April and December 1948 a wide Arab exodus took place from A toward B, C, Lebanon, Syria, Transjordan and some other countries.

No direct statistics of this exodus exist: contrasting figures on its size have been suggested, which are partly based on very inaccurate sources and need not be discussed here. In Appendix 6.10 an attempt has been made to obtain a revised estimate; this has brought to results near to those previously obtained by Sicron, who suggested that about 614,000–626,000 Arabs left the territory of Israel in 1948. The number of Non-Jews who had remained in Israel in 1949 was about 160,000.

¹ The country took the name of "Hashemite Kingdom of Jordan" and Zone B was indicated as "West Bank of Jordan".



Graph 5.2

Boundaries of Israel according to Armistice line of 1949.

The second part of this Monograph (starting with Chapter 8) is devoted to a detailed analysis of the demographic characteristics of the population of the State of Israel (Zone A), with some comparisons to Mandatory Palestine, as far as available data enable to do so.

In respect to the Jewish population of Israel, we remarked already that such comparison does not entail any particular difficulty.

This does not apply however to the Non-Jewish population. Whenever comparisons are made between demographic characteristics of Non-Jews in Israel and in Mandatory Palestine, it is necessary to take into account the following: the Non-Jewish population of Israel is but a fraction of that of Mandatory Palestine; religious, socioeconomic and rural-urban composition in Zone A were somewhat different from these of B and C already before 1948; the mass exodus of 1948 may have introduced some further changes in the composition of the population which remained in A.

The study of demographic evolution and characteristics of the population of Zones B and C after 1948 is outside the scope of this Monograph. However a few data on the size of the population of B and C are given for reference in Appendix 8.

CHAPTER 6

DEMOGRAPHIC GROWTH AND DEVELOPMENTS IN THE STATE OF ISRAEL

6.1 CHANGES IN SIZE AND ETHNIC-RELIGIOUS STRUCTURE OF THE POPULATION OF ISRAEL

Graph 6.1 shows the evolution of the population of Israel and its main ethnic-religious groups since the establishment of the State in May 1948 to the end of 1975. The graph has been prepared by the same method used in Graph 5.1. However, due to the larger size of the population considered here and the small format of this publication the scale of the ordinates is reduced in Graph 6.1 in comparison to Graph 5.1. As in Graph 5.1, Graphical Rational Patterns¹ indicate yearly rates of growth.

It is seen that: 1) all population groups have had a continuous increase during the period 1948–1975; 2) the population as a whole has increased from a little over 800,000 at the time of establishment of the State to about 3,500,000 at the end of 1975; 3) the increase of the Jewish population has been exceptionally high in certain periods such as 1948–51, 1955–57, 1961–64; 4) the increase of the other population sectors has been much more uniform² and on the average very high, especially among the Moslem population; 5) the differentials in rate of growth have determined shifts in the composition of the population by main ethnic-religious groups, but the basic characteristic during the Statehood period has been a big majority of the Jewish population (see Section 14.1).

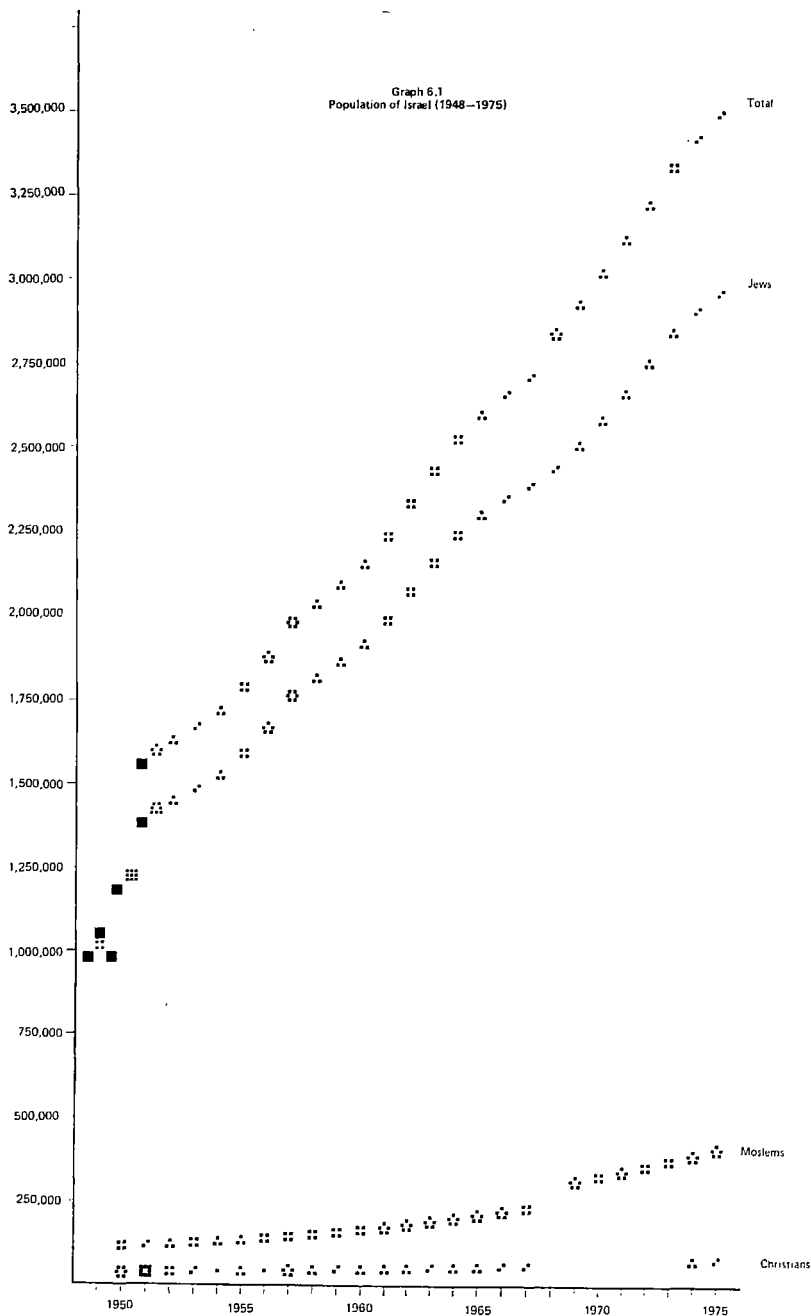
6.2 PLAN OF THE ANALYSIS OF THE DEMOGRAPHY OF THE STATE OF ISRAEL PRESENTED IN THIS MONOGRAPH

We shall try to explain in the next chapters how these demographic developments occurred.

The Jewish immigration will appear as the dominant factor of the demography of Israel between 1948 and 1964. In fact in this period some 1,212,000 immigrants arrived in the country from many different Jewish communities the world over. As these people had very large differentials in educational levels, types of cultures, social attitudes, occupational structure, economic conditions, health standards, marriage and fertility habits, they introduced within the Jewish population an enormous internal variability. In the period 1965–1975,

¹ See Appendix 10.

² Apart from effects of unification of East and West Jerusalem In 1967 (see Section 6.4). This is shown by a break in Graph 6.1.



Graph 6.1
Population of Israel (1948-1975)

immigration has continued but has had a much more limited size. In that period the natural demographic movements have had much greater importance in the development of the Jewish population and they have remained as the dominant factor of growth in the development of the Non-Jews. In the same time many processes have occurred which have largely reduced the heterogeneity of the population, such as intermarriage between Jews of different origins, rapid rising of educational standards, elimination of health and mortality differentials, reduction of nuptiality and fertility differentials, etc.

These and other demographic features will be examined according to the following order. Immigration, emigration and proportion of population growth due to migratory increase will be analyzed in Chapters 8 and 9. Nuptiality, fertility and natural increase in Chapters 10-13. Ethnic-religious, demographic, linguistic, and educational structure of the population and labor force will be studied in Chapters 14-16.

Analysis of population projections (Chapter 17) will enable us to forecast future changes in size and structure of population.

In Chapter 18 we shall examine how the enormous increase in population has affected its geographical distribution.

6.3 IMPORTANT TOPICS OMITTED

Important but complex topics which would have required much more space than available in this Monograph have been completely omitted. Among them a few are mentioned below:

1) Interrelationships between population growth and economic development. This problem is of particular interest but also of great complexity in the special set-up of Israel, due among others, to the exceptionally high rate of growth of the population, and to the enormous investment of capital from abroad.

2) Interplay between processes of demographic diversification and homogenization in the various generations of the immigrants and their descendants, and political and social processes and problems.

3) Value judgments which can be attached from various viewpoints such as: a) political b) economic c) sociological d) ecological, etc. — to the size of population already attained and expected in the future (Chapter 17), to the rate of growth and to the internal structure of the population.

Political consideration are of peculiar importance in Israel, due to the persisting Arab-Israeli conflict and the problems of security involved, and due to the special character of Israel-Diaspora relationships and the prospective of demographic decline of the Diaspora (Chapter 7).

4) Study of the policies followed in Israel which may directly or indirectly affect size, growth and structure of population, and evaluation of their goals and degree of effectiveness. Such policies are not restricted to Governmental decisions and activities, but include also activities of the Jewish Agency, other general public bodies and municipalities in fields such as immigration, immigrants' absorption, education, health, housing, families' and children welfare, etc., which may have considerable influence on demographic developments.

In the following sections, some sketchy information is given on topics which are important for the understanding of the demographic evolution of Israel by readers unfamiliar with the contemporary history and conditions of this country.

6.4

TERRITORIAL EFFECTS OF THE WARS OF 1956, 1967 AND 1973

The Sinai War with Egypt (1956) brought to temporary occupation by Israel of the Gaza Strip (C on Graph 5.2) and Sinai peninsula. However this had no effect on demographic statistics of Israel examined in this Monograph.

Since the Six Day War (June 1967) involving Egypt, Syria and Jordan, the Gaza Strip (C on Graph 5.2), Judea and Samaria (B on the same Graph) as well as Golan Heights and Sinai Peninsula have been administered by the Israel Defence Forces. Statistics for those areas are briefly described in Appendix 8. However the study of the demography of administered territories is outside the scope of this Monograph (see Section 5.7).

The only important change in the borders of Israel which has been taken in consideration in this Monograph is the unification of the part of the town of Jerusalem previously administered by Jordan ("East Jerusalem") with the part within Israel border prior to the War ("West Jerusalem"). Both parts have been merged in a joint municipality (with some further change of boundaries).

As a consequence of this merger the Non-Jewish population of Israel has increased in 1967 by about 66,000 persons (of whom 54,000 Moslems, 11,000 Christians, and 1,000 Others).

The Yom Kippur War of 1973 with Egypt and Syria brought in its wake some adjustments in the cease fire line in the Sinai Peninsula and on the Golan Heights, but those are irrelevant from the viewpoint of the territory considered in this Monograph.

6.5 GLIMPSES OF ECONOMIC TRANSFORMATION AND GROWTH

1) *The austerity period (1948–1951).* The major tasks of the Israel economy under the exceptional circumstances of doubling of population in three and half years were: supplying food, clothing and shelter to the new immigrants, finding employment for both immigrants and demobilized soldiers, and organizing the economy, including the establishment of a civil service and independent foreign exchange, and monetary and fiscal systems¹. Most of the immigrants came without financial means and many had comparatively low formal education level. The burden of dealing with immigrants' absorption fell upon the public sector. Two main policy measures characterize this period: the first was austerity program, which consisted of stringent price control and rationing of food and other basic necessities, raw materials and foreign exchange. This was designed mainly to ensure minimum standards of consumption for the

¹ Nadav Halevi and Ruth Klinov-Malul, *The economic development of Israel*. New York, F.A. Praeger, and Jerusalem, Bank of Israel 1968, p.5.

entire population. The second was extensive public investment activities, financed primarily by inflationary means¹. Two major fields of direct public activity were agricultural settlement (see below) and housing (see Section 6.6).

2) *Later periods.* In later periods important economic challenges were: to maintain or even to raise per capita income, by providing the growing population with increasing amounts of capital and with the education and skills necessary to exploit it¹; to bear the burden of basic developments of the country and of heavy security expenses.

To further these aims the Government and other public bodies raised loans and grants abroad, and large contributions were given by Jewish institutions and private persons abroad. In the 1950ies and early 1960ies restitutions and reparation payments from the Federal Republic of Germany had a considerable impact on the economy of Israel. Later, large loans and grants-in-aid were given by the U.S. Government. In certain periods also large investments by foreign capital took place.

In the last decade or so there has been a growing tendency toward integration of Israel economy into world economy and in particular to strengthen its ties with the European Common Market².

3) *Gross National Product per capita* (at fixed prices) increased from IL 2,309 in 1950 to 7,512 in 1975³, which implies, on an average, a comparatively high yearly rate of per capita growth of 4.6% . Although a considerable part of growth resulted from the high rate of investment, improvement in efficiency was an important contributory factor⁴.

4) *Agriculture and agricultural settlement.* In the first years after the establishment of the state, agricultural settlement was viewed as an ideal way for absorbing immigrants, for many reasons: a) the sudden population growth of 1948–51 occurred immediately after the exodus of large numbers of Arab villagers, which implied on one side reduction of agricultural production and on the other side abundance of land which remained uncultivated. b) New agricultural settlement served also another aim of the official Israeli policies: dispersion of population over the territory; c) the continuing impact of the ideological motivation of "return to the soil" (mentioned in 5.3A); d) the possibility of transforming immigrants of Asian-African origin, with rather low formal educational levels and formerly accustomed to types of urban occupations not easily adaptable to the needs of Israel economy, into agricultural settlers. Agricultural production and marketing continued to be mainly managed or organized by central institutions, and some forms of cooperation continued to remain in force.

¹ *Ibid.*, pp.5–6.

² The international trade of Israel has developed as follows (in U.S.dollars):

	Imports	Exports per capita	Trade deficit
1949	241	27	214
1975	1,188	531	657

³ Calculated at 1970 prices. The growth was particularly high in 1954–55; 1959–65; 1968–72. Decrease in GNP was registered in 1952–53, 1966–67, 1975.

⁴ Halevi and Klinov-Malul, op.cit., p.5

To enhance agricultural production, large efforts were made to extend mechanization, improving cultivation methods, carry out land reclamation, ensure soil conservation and enlarging the share of irrigated land (see Table 6.1). However it became clear that conventional sources (i.e. other than desalinated sea water) would not be enough for cultivating even half of the land potentially cultivable under irrigation. As the majority of water sources in Israel are in the north while most of the cultivable land is in the center and in the south, a big project was completed in the late 1950ies and early 1960ies, to convey surplus water from the former region to the latter. At the same time, this project integrated the local and regional waterworks into one national water system operated according to an overall plan.

Both area of cultivated land and number of persons employed in agriculture have continued to expand up to the late 1950ies and early 1960ies. However, since then, cultivated land has not appreciably grown and both the number and proportion of those working in agriculture have decreased (see also Table 16.7). This has been due *inter alia* to the fact that supply has gradually outgrown domestic demand in the traditional mixed farming product¹ and to increased productivity. However, there has been a considerable increase in agricultural exports and, on the whole, agricultural production has continued to increase substantially (Table 6.1).

5) *Industry* emerged as a major branch of the economy of Palestine during World War II (Section 5.3A). However, the wartime share of national product could not be maintained and the branch declined in the first years after the establishment of Israel to its pre-war level². Since 1958 the share of manufacturing has increased again.

In the first years of Statehood there was high concentration in the production of basic consumer goods (food, clothing and footwear). Later, new industries were established or expanded, such as diamond production, chemical and fertilizer, metal and machinery, electrical and electronic equipment, transport equipment, rubber and plastic products, paper, etc.; a very large diversification of products manufactured in Israel took place and a considerable increase occurred in industrial exports. In broad terms, it appears that the industry has developed mainly in three directions: production on the basis of locally available raw material (such as citrus, Dead Sea minerals, cotton, etc.); production based on skills; use of light raw material such as diamonds, furs, etc., for which cost of transport is small. While in the first years after the establishment of Israel a considerable part of industrial workers were employed by small establishments and crafts, later the share of employed in larger plants has largely increased. Table 6.2 shows some indicators of expansion of industrial activities.

6) *Construction* has always been a very important branch of the economy of Israel, largely due to the need of providing housing for the continuing growing population and for improving the housing conditions of the poorer classes, and buildings for expanding industries, commerce, offices, hotels, etc. The volume of building has been subject to considerable changes in the course of time, also under the impact of changing needs, connected with changing size of immigration.

¹N. Halevi and R.Klinov-Malul, op.cit., p.106

²*Ibid*, p.109.

TABLE 6.1

INDICATORS OF AGRICULTURAL ACTIVITIES (1948-1975)

	Area (sq.km.)			Employed in agriculture (thousands)	Cattle (thousands)		Laying hens (millions)	Tractors (thousands)	Agricultural production quantity index (1967-68=100)
	Cultivated	Thereof: irrigated	Afforested		Dairy (pure-bred)	Beef			
1948-49	1,650	300	53		37.4	0.3	2.7	1.3	13
1954-55	3,590	890	195	102.2	73.0	11.1	3.2	4.1	32
1960-61	4,150	1,360	326	127.6	135.8	57.4	7.8	7.9	66
1967-68	4,136	1,616	496	94.3	146.6	59.0	6.5	14.4	100
1974-75	4,320	1,830	596	80.4	204.2	100.1	8.0	22.4	149

TABLE 6.2

INDICATORS OF INDUSTRIAL ACTIVITIES (1958-1975)

Years	Number of industrial establishments	Number of employed in industry	Indices of industrial production Base: 1968:100		
			Industrial production	Employees	Man-days worked by workers
	(Establishment with 5 employees or over)				
1958	4,662 ¹	117,500 ¹	32.7	56.6	55.2
1963	5,835	169,300	63.1	87.8	87.6
1968	5,994	194,499	100.0	100.0	100.0
1971	6,165	229,650	140.1	121.8	122.6
1975	6,106	256,000	176.9	134.6	126.6

¹ 1959

Also public works (construction and widening of roads, water-pipes, drainage pipes and canalization) have greatly developed.

7) *Transport and communications* have largely expanded. The road network which was 4,225 kms in 1945 over the entire Mandatory Palestine, reached 10,657 kms in Israel in 1973, and included roads linking the Mediterranean to the Red Sea, where a new port (Eilat) was opened. The number of motor vehicles grew from 34,100 in 1951 to 419,400 in 1975. Tonnage of freight loaded or unloaded in ports increased from 1,294,000 tons in 1949 to 8,618,000 in 1975. Israeli shipping has increased from 20 vessels with a gross tonnage of 75,000 in 1950 to 108 with a tonnage of 2,510,000 in 1975. The number of passengers arrived and departed at international airports grew from 61,300 in 1952 to 1,533,200 in 1975. The number of telephones increased from 25,800 in 1949 to 751,700 in 1974.

8) *Tourism* has gradually become a very important branch of the economy. The number of tourists visiting Israel has increased from 22,000 in 1949 to 796,000 in 1976.

6.6

GLIMPSES OF CHANGES
IN LIVING CONDITIONS AND SOCIAL WELFARE

Living conditions of the population of Israel have generally tended to improve to a great extent. Improvement has been shared by all population groups. However, considerable differentials in living conditions are found between the various groups. Generally speaking, living conditions are found to be better if we pass from Moslems to Christians and to Jews; from Jews of Asian-African origin to Jews of European-American origin; from foreign born to Israel born of the same origin. Reasons for these disparities, changes which occurred in the course of time, and policies for decreasing the gaps between various groups have been the subject of much research and aroused much public interest, debates and action. However, they cannot be discussed here.

Some examples of data on various aspects of living conditions are given below and in Tables 6.3–6.4¹.

1) *The private consumption expenditure per person* (in IL, at 1970 prices) increased as follows:

1950	1955	1960	1965	1970	1975
1,655	2,032	2,535	3,324	3,815	4,386

2) The yearly *food balance sheet* shows the following increases in calories and selected nutrients *per capita* per day:

	1949–50	1954–55	1959–60	1964–65	1969–70	1974–75
Calories	2,610	2,860	2,772	2,819	2,988	3,034
Protein (Total: grams)	83.9	88.8	85.1	85.2	91.5	96.6
Animal proteins (grams)	32.2	29.8	34.0	39.1	44.3	48.6
Fat (grams)	73.9	82.2	86.7	95.0	104.3	111.8

3) *Consumption expenditures* of households of Jewish employees at fixed 1968–1969 prices have increased as follows:

	1956–57	1959–60	1963–64	1968–69
Total monthly consumption expenditure (IL) ²	554	674	836	1,017
of which: food (IL)	196	227	250	274
health, education & culture (IL)	72	93	117	183

A survey taken in 1975–76 has shown a further real increase in consumption expenditure by 22.2% since 1968–69.

4) *Possession of durable goods* has generally increased very rapidly among all population groups, as shown by Table 6.3.

5) *Housing conditions*³. Panels A) and B) of Table 6.4 show that housing density has largely decreased in the period 1961–1975, both among Jews and Non-Jews. However in the latter group it is still high. Panel C) shows that there has been a strong decrease in 1961–74 in the proportion of households living in 1–2 rooms.

¹ See, among other sources, *Society in Israel. Selected Statistics*. Jerusalem, Central Bureau of Statistics 1976.

² At fixed 1968–1969 prices.

³ Most of the data quoted are taken from *Survey of Housing Conditions, 1974*. Jerusalem, Central Bureau of Statistics, Special Series No.533.

Panel D) shows that 2/3 of the households own the dwelling in which they are living. Out of 100 households living in owned dwelling, 16.9 purchased it through Ministry of Housing, 32.4 from a private contractor, 29.5 from a private owner, 15.1 constructed by themselves and 6.1 obtained it from other source. Out of 100 households who bought their dwelling through Ministry of Housing, 41.7 were "new immigrants", 15.0 "young couples", 9.8 obtained it through projects of "slum clearance", 18.3 through projects of "saving for building" and 15.2 through other projects.

Panel E) indicates a considerable improvement in the proportion of households having basic housing facilities. However, there are still considerable differentials between Jews and Non-Jews and within the latter groups between urban and rural.

Panel F) shows that a considerable percentage of the existing dwellings has been built in recent years and that the average number of rooms has increased from older to more recent constructions.

TABLE 6.3

PERCENTAGE OF FAMILIES IN POSSESSION OF DURABLE GOODS (1958-1973)

Durable goods	First year for which data are available		1973	1973				
	Year	% of all families		% of all families	Non-Jewish	% of families whose head is Jewish — born in		
			All countries			Asia-Africa	Europe-America	Israel
Electric refrigerator	1958	34.0	92.4	42.3	97.6	95.6	98.9	98.5
Electric washing machine	1958	9.1	55.2	17.8	59.1	62.6	51.3	73.8
Vacuum cleaner	1963	8.7	24.2	2.1	26.5	8.7	39.5	29.6
Telephone	1969	31.0	44.3	4.9	48.4	26.3	62.1	59.9
TV set	1965	2.4	74.4	35.3	78.5	74.7	82.0	77.2
Radio (incl. transistor)	1959	76.2	84.4	71.8	85.7	77.6	91.0	89.0
Private car	1962	4.1	22.1	6.1	23.8	12.8	39.9	39.9

TABLE 6.4
HOUSING CONDITIONS (1961-1974)

A) Households by number of persons per room							
Population group	Year	Up to 1	1.01-1.49	1.50-1.99	2.00-2.99	3.00 or over	Total
Jewish households	1961	35.4	12.4	13.2	23.1	15.9	100.0
	1967	41.4	12.9	14.4	21.1	10.2	100.0
	1972	48.4	14.0	14.5	16.9	6.2	100.0
	1975	52.5	15.0	13.7	14.6	4.2	100.0
Non-Jewish households	1961	12.2	1.4	4.8	21.5	60.2	100.0
	1974	13.2	4.4	9.9	27.0	45.7	100.0

B) Mean density in Jewish urban localities (1972) according to continent of origin of head of household

Asia-Africa	Europe-America	Jews, born			All Jews	All Non-Jews	Total
		Israel, father born					
		Israel	Asia-Africa	Europe-America			
1.9	1.1	1.4	1.6	1.2	1.5	2.8	1.5

C) Households by number of rooms in dwelling

Year	1	2	3	4 or more	Total
1961	20.9	37.7	34.3	7.1	100.0
1969	10.8	36.5	44.7	8.0	100.0
1974	6.3	27.6	47.8	18.3	100.0

D) Percentage of households living in dwelling owned by them

	1961	1966	1969	1974
Per 100 households	59.5	59.2	62.4	67.2
Per 100 Jewish households	58.9	57.6	61.6	66.5

1974: per 100 Jewish households, the head of which was born in

Asia-Africa	Europe-America	Israel
56.0	72.1	73.6

E) Percentage of households with selected housing facilities

Facility	1961	1972						
		All	Jewish	Non-Jewish	Jewish		Non-Jewish	
					Urban	Rural	Urban	Rural
Heating	78.1	81.2	82.4	69.7	82.3	83.9	70.5	68.5
Bath		59.8	64.0	17.2	65.0	44.0	18.4	15.5
Shower		34.0	34.0	34.6	33.0	52.3	30.2	40.5
Kitchen	83.9	95.3	97.0	77.5	97.2	94.0	82.1	71.3

F) Period of construction of dwellings and average size (Survey of 1974)

	Up to 1947	1948-54	1955-60	1961-65	1966-74	Total
Percentage of existing dwellings built in each period	18.3	18.0	18.7	19.7	25.4	100.0
Average number of rooms of dwellings built in each period	2.3	2.6	2.6	2.8	3.1	2.7

6) *Health, education and social welfare.* The development of health and health services is described in Chapter 13 and that of education and educational institutions in Chapter 15. Social security and welfare services have largely developed in Israel, in an effort to build a welfare state based on the community obligation to care for all its members. The services are provided by the Ministry of Social Welfare, departments of social services of local authorities, a large number of voluntary agencies and the National Insurance Institute established in 1954. The services steadily developed from the merely "curative" approach dealing with various forms of social distress and disability to include the "preventive" institution of national insurance and social security benefits¹. The National Insurance Institute administers *inter alia* old age and survivors' pensions, work casualties (injury and disability) benefits, maternity insurance providing a birth grant and maternity allowance for three months after the birth, allowance for all the children of employed persons, allowances for the children after the third in all families, unemployment and rehabilitation services, etc.

The number of persons insured in the National Insurance Institute increased from 535,000 in 1955 to 1,360,000 in 1970². The number of receivers of old age and survivors' pensions has increased from 62,000 in 1960 to 286,700 in 1976. The number of families receiving children's allowances has increased from 39,900 in 1960 to 419,800 in 1976. Children's allowances to employee's families constituted the following percentages of average monthly wage per employee's post, according to the number of children in the family:

No. of children	1	2	3	4	5	6	7	8	9
1960	—	—	—	2.3	5.0	8.1	11.6	15.4	19.2
1975	4.4	8.8	17.6	27.5	37.4	48.4	59.4	70.4	81.4

The families receiving child allowances are divided as follows (in percentages, 1975), according to origin of head of family:

Jews born in			Non-Jews
Asia-Africa	Europe-America	Israel	
13.6	47.4	15.9	22.9

¹ See G. Lotan, "Social Security and Welfare", in *Encyclopaedia Judaica*, Jerusalem, Keter, 1971, vol.9, pp.993-996.

² National Insurance Institute, Israel, *Statistical Abstract 1975-1976*, Jerusalem, 1977.

CHAPTER 7

DEMOGRAPHIC CHARACTERISTICS OF THE JEWISH DIASPORA

7.1 THE NEED TO CONSIDER THE CHARACTERISTICS OF THE JEWISH DIASPORA

The Jews constitute at present the large majority of Israel's population. The overwhelming majority of Israel's Jewish population is still formed today by immigrants or by their children or grandchildren. To understand the characteristics of the demography of Israel, we ought to investigate questions such as the following: to what extent are the immigrants influenced by the demographic, socioeconomic and educational characteristics of their countries or communities of origin; to what extent are they selected groups; to what extent do they change their original characteristics in Israel and to what extent are they still similar from the demographic viewpoint to Diaspora Jews; what proportion of the world's Jewish population lives in Israel and what proportion lives in the Diaspora; to what extent have demographic developments in Israel influenced the prospects of future Jewish survival, etc.

It therefore seems pertinent to offer a brief overview of the demography of the Diaspora¹.

7.2 THE JEWISH DIASPORA FROM ITS BEGINNINGS UNTIL THE 18TH CENTURY

The dispersion of Jews in various countries outside the Land of Israel is a very ancient phenomenon due both to expulsion (following military defeats and persecution) and to normal social and economic processes (migration to new places of settlement in search of means of better livelihood and better environmental conditions). Its beginnings go back to the Babylonian exile (the 6th century BCE: see Section 2.3). The size of the Diaspora was already very considerable in the Hellenistic period, but it was enlarged by far by deportations and emigrations from Palestine following the war with the Romans and in later periods (see Sections 2.5 and 2.6). Since then, and until recently, the Diaspora has included the great majority of the world Jewish population. The geographical distribution of the Diaspora population has changed largely through the ages: at the beginning of the Christian era the major areas of Jewish settlement were probably Egypt,

¹ This chapter is largely based on the volume: R. Bachl, *Population Trends of World Jewry*, Jerusalem, The Institute of Contemporary Jewry, The Hebrew University of Jerusalem, 1976, and on the bibliography quoted there. For some remarks on the sources of statistics on World Jewry, see Appendix 9.

Syria, Asia Minor, the Persian Empire and Italy. At the end of the Middle Ages, Islamic countries, the Iberian peninsula, Italy and the Holy Roman Empire were the leading countries of dispersion, while the Jewish communities in Eastern Europe (Poland, Lithuania, and Hungary) began to gain some importance. The expulsion from Spain and Portugal caused the dispersion of "Sephardi"¹ Jews (largely in the Balkans, North Africa and other lands of the Ottoman Empire).

7.3 SOCIOECONOMIC AND DEMOGRAPHIC CONDITIONS OF THE JEWS BEFORE MODERN TIMES

In the middle of the 18th century the world Jewish population may have slightly exceeded the 2 million mark and was dispersed over rather limited areas:

a) The large majority was to be found in the "Eastern European Belt" between the Baltic and Black Seas, roughly corresponding to the Polish-Lithuanian Commonwealth prior to partition, and the Southern Ukraine and various bordering territories such as Moldavia, Bessarabia, and Bukovina.

b) The second largest concentration of Jews was in the Ottoman Empire and neighboring Moslem countries such as Yemen, Morocco and Persia.

c) A third group was constituted by rather small communities scattered over various parts of Central and Western Europe. This geographical distribution had been, to a very large extent, the consequence of persecutions and expulsions occurring in preceding centuries. In economic terms, it meant concentration mainly in rather backward, Slavic and Turkish areas, which had not participated in the rapid economic development of Western Europe. Often barred from land ownership, the Jews had a non-agrarian ecological and occupational structure; their economic conditions, however, were generally poor. By and large, the Jews constituted a secluded group generally characterized by different and often inferior legal status, a strong adherence to their own religion and traditional ways of life, and use of peculiar languages, such as Yiddish, mainly in Eastern Europe, and Ladino in "Sephardi" or Sephardized communities in Moslem countries.

It seems likely that in many communities the demographic characteristics of the Jews were considerably influenced by traditional and/or religious habits such as: the tendency towards endogamy within the Jewish community; universal and very young marriages; in most communities, monogamy; frequent remarriage of the widowed and divorced²; rather high fertility; favorable results in regard to morbidity and mortality of lesser exposure to alcoholism and venereal disease and possibly of punctilious observance of certain religious norms of personal and dietary hygiene. On the other hand, the unfavorable consequences of adverse environments, urban concentration, catastrophes and persecutions probably determined in many times and places a comparatively very high mortality.

¹ "Sephardic" designates the Jews descended from those who inhabited the Iberian Peninsula before the expulsion (1492).

² On traditional nuptial characteristics of the Jews, see Section 11.6.

During the 19th and 20th centuries the political and socioeconomic conditions of the Jews in many places underwent a very deep change, and in some cases, a complete reversal.

The "modern" evolution of the Jews started in *Western and Central Europe* where legal and administrative measures to remove the inferior status of the Jews and to transform them into citizens with equal rights and duties were introduced, roughly, between the French Revolution (1789) and the Congress of Berlin (1878). These measures were accompanied by a loss of the previously autonomous status of the Jews in personal and family matters and were followed by a marked decline in the observance of Jewish religious norms. Cultural segregation largely disappeared and strong social and geographical mobility developed. The Jews of Central and Western Europe, whose numbers were enlarged by continuous immigration from the Eastern European belt, moved principally towards large towns. They participated mainly in trade and business, and penetrated industry, civil service and the liberal professions. In some countries they took a prominent part in political and public life, arts, science, etc. They were largely absorbed into the urban bourgeoisie and into the intellectual strata of the population.

Legal emancipation occurred much later in *Eastern Europe*, where many of the discriminating political and economic measures affecting the Jews remained in force for a much longer time.

Persisting political difficulties and poorer economic conditions in the East European belt, a high natural increase and a growing secularization, were probably responsible for the comparatively large movement directed — mainly in the period between the last decades of the 19th century and the outbreak of the first World War — towards more developing areas: the U.S.A., overseas territories of the British Empire, and some Latin American countries; Central Europe and other European lands which opened their doors to Jewish immigrants (France, Switzerland, Belgium and the Scandinavian countries).

Within Eastern Europe there was also a tendency to move toward larger towns, where the Jews became part of the modern system of trade and industry, creating a new class of salaried workers, and advanced into the liberal professions. However, apart from subsequent changes in the U.S.S.R., the economic situation of Eastern European Jews in general was far lower than that of their coreligionists in Western and Central Europe. Moreover, the consciousness of belonging to a separate nation continued to be dominant in Jewish society despite assimilatory movements and pressures. Yiddish continued to be used, and autonomous Jewish education continued too, though partly modernized.

The abolition of separate legal status affecting the Jews took place in *Moslem countries* mainly in the second half of the 19th century and in the beginning of the 20th, partly as a result of European conquests or penetration into North Africa and partly as a consequence of the evolution of independent Moslem countries.

European education, ways of life and outlook were increasingly accepted, first by the Jewish communities in countries like Algeria and Egypt, and at later stages

by the Jewish elite in Turkey, Lebanon, Iraq, Tunisia, Iran, Syria, Morocco and Libya, while they hardly touched Yemen. However, in most countries, the greater part of the Jewish population continued to adhere to traditional ways of life. In some countries, Jews became widely urbanized and participated in the modernized sectors of the economy, but, despite some progress, by and large the economic level of the Jewish population remained low, as compared to that of European Jews.

In the communities of *America and other overseas countries* the immigrants from Eastern Europe initially lived under poor economic conditions (in many places considerable proportions of them were needleworkers); they adhered for the most part to their language (Yiddish) and to their traditional ways of life. However in the course of time, linguistic and cultural assimilation into the environment became strong, and a large proportion of the young generations attained higher education. Occupational shifts were strong and the proportions of Jews managing or owning trades, businesses, or industrial enterprises, and working in the professions, etc. became relatively large. This was generally accompanied by a very considerable rise in incomes.

7.5 MODERN DEMOGRAPHIC EVOLUTION OF THE JEWS UNTIL THE SECOND WORLD WAR

The enormous changes in the ecological and socioeconomic conditions of the Jews mentioned in the previous sections were also accompanied by strong changes in their demographic characteristics.

Like "more developed" populations, the Jews experienced during the 19th and 20th centuries a very strong decrease in mortality. Moreover, this decrease was particularly marked for them, so that in practically all countries or localities for which data are obtainable, the age-specific mortality of the Jews and especially their child mortality¹ has been found to be lower than that of the surrounding populations.

During the first stages of mortality decrease, the Jews still adhered in many communities to a considerable extent, to their traditional habits of high nuptiality and fertility. Thus their natural increase became high and their population numbers increased quickly. This was typical for Eastern European Jews in the 19th century and the beginning of the 20th, and for Jews of most Moslem countries during the few decades before their mass emigration (see below).

On the other hand, among the Jews of Western and Central Europe, "European" patterns of marriage had already prevailed in the 19th century, mixed marriages became frequent and fertility decreased more than among the surrounding populations. In Eastern Europe the delay of marriage appeared only at the turn of the 19th century and mixed marriages were very rare before the 1920's. Fertility began declining during the first decades of this century. Taking Europe as a whole it may be reckoned that the Jewish birth rate by around 1925 was some 31% lower than that of the general populations. By that time in Jewish overseas communities as well there was a strong decrease in fertility.

¹ See U. O. Schmelz, *Infant and early childhood mortality among the Jews of the Diaspora*. Jerusalem, The Institute for Contemporary Jewry. The Hebrew University, 1971.

The only Jewish groups still having a high fertility were the Asian and African communities (apart from those more modernized) and possibly special small groups elsewhere which retained strong religious, orthodox attitudes.

The trends mentioned above influenced the evolution of the size of world Jewry, which can be very roughly estimated as follows (see Appendix 9 for sources): 1800: 2.5 millions; 1820–25: 3.3; 1840: 4.5; 1860: 6.0; 1880: 7.7; 1900: 10.7; 1914: 13.5; 1925: 14.8; 1930: 15.9; 1939: 16.7.

It is seen from these estimates that during the 19th century a sort of "Jewish population explosion" took place, but already in the last decades before the second World War the rate of increase had slackened down considerably.

7.6 DEMOGRAPHIC TRENDS OF THE JEWISH DIASPORA POPULATION AFTER THE HOLOCAUST

The Nazis killed a large number of Jews, which has been variously estimated and which was probably about 5,700,000¹, being about 34% of the number of Jews on the eve of World War II. The proportion of victims of the Holocaust may have reached 67% of the pre-war European Jewish population (outside Great Britain). Moreover, Nazi persecutions determined a further decrease in Jewish fertility. Later in the remnants of the communities hit by the Holocaust there was some upsurge of Jewish nuptiality and fertility immediately after the liberation, but this turned out to be a transitory phenomenon (see Section 8.11).

In the Jewish European communities, the dominant demographic features in the Post-Holocaust period have been a very large increase of mixed marriages, a very low fertility, and a very old age structure². At the same time the differentials in age-specific mortality between Jews and Non-Jews have almost disappeared, and the advantage in favor of the Jews has become only marginal. As mixed marriages often determine demographic losses to Jewry, the combined effect of all these features is that in most Jewish European communities, death rates probably exceed birth rates to a considerable extent.

In overseas countries the increase of mixed marriages occurred later than in Europe but it now tends to become strong as well, mainly among the largely university educated grandchildren of the immigrants. However in certain countries such as the U.S.A., the probability that children born to such marriages will be raised as Jews appears to be higher than in Europe.

The fertility of Jews in overseas countries has evolved in a manner similar to that of the surrounding populations: after the very steep decrease in fertility during the critical period of the nineteen twenties and early thirties there occurred, a very considerable "baby boom". However in the last decade or so, fertility has decreased sharply. Levels of Jewish fertility have been systematically lower than those for other population groups. Furthermore in those communities, the Jewish age structure is becoming older. In most communities the combined effect of these trends should also be a negative balance of births and deaths.

¹ Lucy S. Davidovitz, *The war against the Jews 1933–1945*, New York, Bantam Books, 1976, pp. 543–544.

² For some data on age structure of Jewish communities, see Table 8.11.

Up until a few decades ago, the Jewish Diaspora communities in Asia and North Africa had a strong natural increase; however, this branch of Diaspora Jewry is today very small. Most large Jewish communities in these areas have practically disappeared due to the combined effects of emigration to Israel and elsewhere, after the establishment of independent Arab states.

7.7 GEOGRAPHICAL DISTRIBUTION OF WORLD JEWRY

Table 7.1 shows the geographical distribution of world Jewry at various points of time: around 1880, viz. before the great emigration from Eastern Europe; around 1900, viz. in the middle of this movement; in 1939 — on the eve of the Second World War; in 1946 — after the Holocaust, and in 1972¹.

It is seen that in the course of the century under survey a complete shift in the distribution of Jews has taken place:

- 1) The share of the once dominant group (the Eastern Europeans) has decreased from 65% in 1880 to merely 22% in 1972 due to the great emigration and the Holocaust.
- 2) For the same reasons, Central Europe has almost disappeared from the Jewish map.
- 3) Asian-African communities which had reached 12% in 1945/6 are reduced in 1972 to less than 3% , due to large emigration.
- 4) Overseas countries which have attracted the bulk of Jewish emigration from Eastern Europe, have increased their share of Diaspora Jewry from less than 3% in 1880 to 62% in 1972.
- 5) Western and Northern Europe have also increased their share, mainly due to immigration.
- 6) The proportion of World Jewry living in Israel grew from 0.3% in 1880 to 20.4% in 1972.

¹ For sources, see Appendix 8. Estimates given are only approximate. Due to changes of borders in Europe, delineations of the regions are not identical in all periods.

TABLE 7.1

GEOGRAPHICAL DISTRIBUTION OF WORLD JEWRY BY REGIONS (1880-1972)

Region	Size of population (in thousands), around					Percentage of population, around				
	1880	1900	1939	1945/6	1972	1880	1900	1939	1945/6	1972
1. Asia ¹	375	370	533	583.5	123.5					
2. Africa	300	300	594	700	160.4	4.9	3.5	3.3	5.5	1.1
3. Balkans	97	126	250	139	20.8	3.9	2.9	3.7	6.6	1.5
4. Eastern Europe }	4991.5	6384	4357	435	83	1.3	1.2	1.5	1.3	0.2
5. U.S.S.R.			2825	2000	2300 }	65.3	} 60.5		4.1	0.8
6. Central Europe	1349	1682	988	246	81.4	17.6	15.9	17.5	18.9	21.6
7. Western/Northern								6.1	2.3	0.8
8. Europe	333.5	498.5	1042	682	1158.9	4.4	4.7	6.4	6.5	10.9
9. North America }	200	} 1175	5040	5176.5	6105	2.6	} 11.1	31.2	49.0	57.4
10. Latin America			516	578	538			3.2	5.5	5.1
10. Oceania		17	28	35	69 }		0.2	0.2	0.3	0.6
Total Diaspora	7646	10552.5	16173	10784.2	10640	100.0	100.0	100.0	100.0 ³	100.0
Diaspora	7646	10552.5	16173	10784	10640	99.7	99.5	97.1	95.0	79.6
Land of Israel	24	50	475	564	2724	0.3	0.5	2.9	5.0	20.4
Total World Jewry	7670	10602.5	16648	11348	13364	100.0	100.0	100.0	100.0	100.0

1 Outside the Land of Israel.

2 Incl. 209,000 displaced persons.

3 Excl. displaced persons (1.9%).

CHAPTER 8

JEWISH IMMIGRATION

I PRE-MODERN JEWISH IMMIGRATION

8.1. IMMIGRATION BEFORE 1880

We saw in Chapters 2–4 that a remnant of the Jewish population survived continuously in Palestine through the ages, albeit extremely reduced in numbers. Despite enormous difficulties in communication, this community was not completely severed from the Jewish Diaspora. For religious Jews — who formed, in pre-modern times, the great majority of the Jewish people — the link binding them to the Land of the Fathers is close and intimate: the sense of the exile and the hope that the Land might be rebuilt and Jews congregated there from their dispersions — are deeply embedded in the daily Jewish prayers and thought. Thus the continued existence of a Jewish community in Palestine meant much to Diaspora Jews. They provided financial help to Jews in Palestine through the centuries. Moreover, as shown by an impressive quantity of historical records, throughout the late Middle Ages and up to the 19th century, Jews immigrated to the Land of Israel from many Diaspora communities; they came as individuals or in groups, prompted by the desire to be in the land of their fathers in order to pray, to study, and finally to be buried there. Sometimes they were inspired by Messianic hopes, and sometimes they sought asylum in the Holy Land during time of distress in the Diaspora.

However, statistically speaking, these movements were limited in size. It is also likely that poor economic conditions, lack of personal security and low health standards prevailing in the country were causes of substantial re-emigration and high mortality, which therefore greatly reduced the demographic influence of immigration.

With the slight improvement in local conditions at the middle of the 19th century (see Section 4.3), the trickle of immigration became almost continuous; it has been very roughly estimated that some 25,000 Jews may have immigrated between 1850 and 1880.¹ In proportion to the small Jewish population of Israel, this immigration was of a considerable size: see Table 8.1. With regard to their origins a slight indication is given in the distribution by country of previous residence of a small remnant of these immigrants who survived in Palestine in 1916–1918. It was found that among 472 immigrants who arrived in 1842–1881, 37% came from Asia and North Africa (due largely to internal migration within the Ottoman Empire), 29.4% from Russia, 33.6% from other European countries.²

¹ See D. Gurevich, A. Gertz, R. Bachi, *Jewish Population of Palestine. Immigration, structure and natural growth*. Jerusalem, The Jewish Agency for Palestine, 1944 (Hebrew). p.18.

² Percentages compiled on the basis of the "Enumeration of the Jews of Eretz Israel 1916–18", op. cit. (see Appendix 6.12).

II MODERN JEWISH IMMIGRATION: SIZE AND ORIGINS

8.2 STATISTICS ON SIZE AND ORIGINS OF IMMIGRATION

For the period 1881–1914 the available information is based on: (i) some very rough estimates of total size of Jewish immigration in 1881–1903, 1904–1914; (ii) more detailed statistical information for a few scattered years¹ (iii) indirect evidence based on data on survivors of these immigrations classified by years of immigration and country of origin at later censuses².

For 1919–1948 various sets of data were collected by the Mandatory government and the Jewish Agency in respect of arriving immigrants, travellers remaining in the country as immigrants, travellers remaining illegally, immigrants entering without a government certificate, etc. Methods of collection and problems of evaluation are discussed in Appendices 6.5.A and 6.5.B. We utilize here the rather complex calculations to coordinate and integrate these sets made by Sicron (see Appendix 6.5B). The data thus obtained appear to be generally reliable.

For the period 1948–1975 official data collected by the Government of Israel have been utilized. The methods of collection of those data are discussed in Appendix 7.4. Both coverage and quality of those data appear generally satisfactory so that no additional calculations aiming at reconstruction or correction were needed.

On the basis of these data, Tables 8.1–8.5 and Graph 8.1 have been prepared.

Table 8.1 shows for each period between 1850 and 1975 the total size and yearly average of the immigration. This yearly average is compared a) to the population from which the immigration to Israel originates, viz. the Jewish Diaspora considered as a whole³. (b) to the volume of intercontinental Jewish migrations, of which immigration to Israel can be considered as a part⁴, (c) to the size of the absorbing population — the Jewish population of Palestine and Israel⁵.

¹ See D. Gurevich, A. Gerz, R. Bachi. *Jewish Population of Palestine*. op. cit.

² See mainly: "Enumeration of the Jews of Eretz Israel," op. cit.

³ The evaluations of the size of the Jewish Diaspora population are only approximative (for the sources of Jewish statistics, see Appendix 9). Evaluation for the Diaspora population correspond in this table more or less to the central year of the period surveyed. As most population evaluations utilized in Table 8.2 refer to the beginning of each period, this explains some differences between the rates of the two tables.

⁴ With respect to certain periods and especially for 1850–1880 and after 1940, these estimates are only rough guesses (see Appendix 9).

⁵ Population estimates are not accurate for the 19th century, while they are very reliable after 1919.

TABLE 8.1

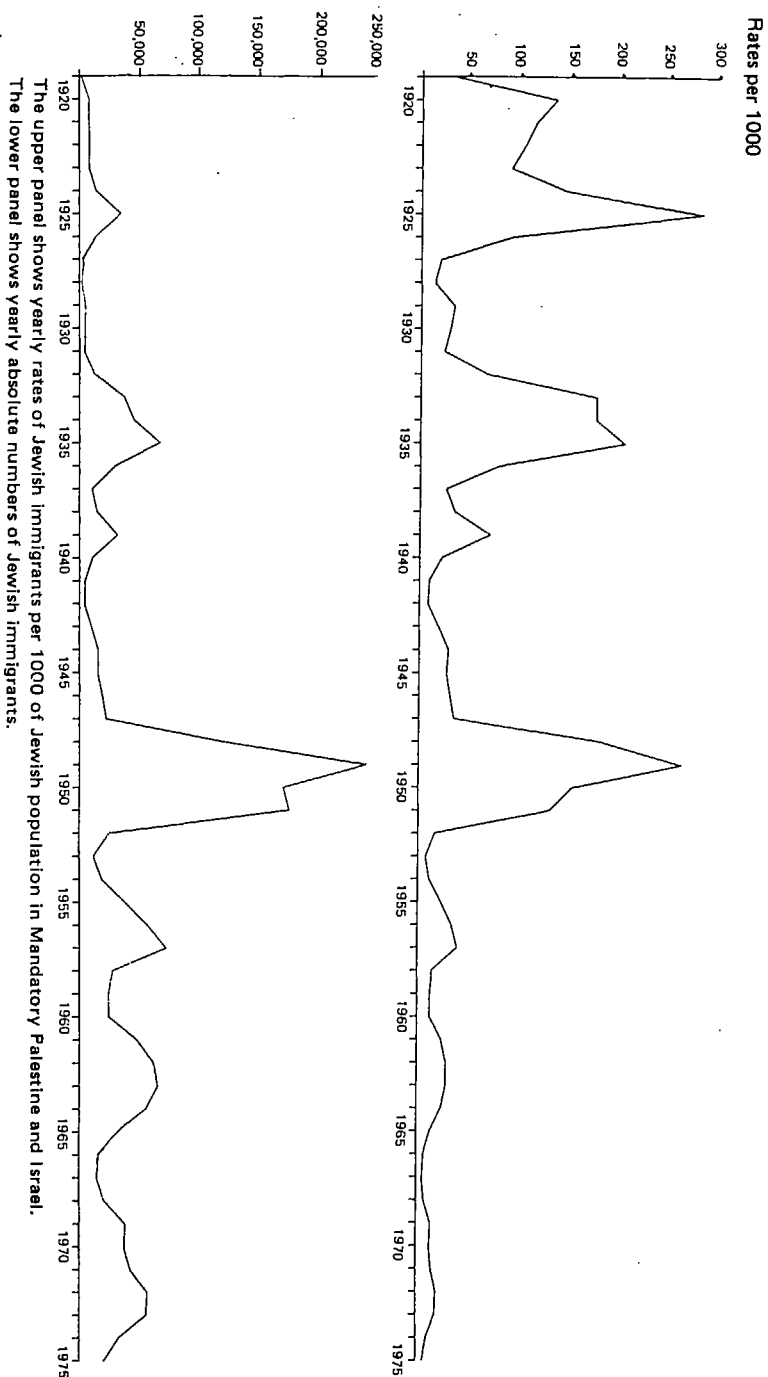
**DIMENSIONS OF JEWISH IMMIGRATION TO
MANDATORY PALESTINE AND ISRAEL (1850-1975)**

Adminis- tration	Absolute number of immigrants			Average annual number of immigrants per 1000		
	Period	Whole period	Annual average	Jews in the Diaspora	Overseas Jewish migrations	Jewish popu- lation of Palestine or Israel
a) Otto- man period	1850-80	25,000	800	0.13	294(?)	44.7(?)
	1881-1903	20,000				
		30,000	1,000	0.11	30(3)	24.5
	1904-10	20,300	2,900	0.24	22(4)	43.8
	1911-14	14,000	3,500	0.27		43.8
	1850-1914	84,300	1,296	0.14	34	37.4
b) British Mandate	1919-23	35,183	7,037	0.50	97(5)	95.9
	1924-26	62,133	20,711	1.41	312	183.6
	1927-31	19,480	3,896	0.26	100	25.1
	1932-36	191,224	38,245	2.43	629	136.8
	1937-39	56,499	18,833	1.16	295	45.4
	1940-45	60,315	10,053	0.73	328	20.1
	1946-48(1)	58,023	24,882	2.23	444(6)	40.1
	1919-48	482,857	16,440	1.16	300(7)	76.9
	1948-51(2)	686,739	189,184	16.57	822	184.2
	1952-54	54,065	18,022	1.54	541	12.3
c) Israel	1955-57	164,936	54,979	4.60	687	33.4
	1958-60	75,487	25,162	2.04	539	13.7
	1961-64	228,046	57,012	4.41	512	27.5
	1965-68	81,337	20,334	1.51	(480)(8)	8.7
	1969-73	227,258	45,452	3.25	(680)(8)	17.2
	1974-75	52,007	26,004	1.83		9.0
	1948-75	1,569,875	58,951	4.64	671(9)	40.6
b+c part of a+b+c	1919-75	2,052,732	36,655	2.29	527(9)	59.0
	1881-1914+					
	1919-1975	2,112,000	23,200	1.49	326(9)	48.4

- (1) Up to May 14th. (2) Starting May 15th. (3) 1881-1900
 (4) 1901-14 (5) 1920-23 (6) 1946-47
 (7) 1920-47 (8) Rough estimates (9) Up to 1973

Graph 8.1

Jewish immigration to Mandatory Palestine and Israel (1919–1975)



The upper panel shows yearly rates of Jewish immigrants per 1000 of Jewish population in Mandatory Palestine and Israel.
 The lower panel shows yearly absolute numbers of Jewish immigrants.

Graph 8.1 represents the yearly number of Jewish immigrants and yearly rates per 1000 of Jewish population of Mandatory Palestine and Israel between 1919 and 1975.

Table 8.2 shows the average yearly rates of immigration per 1000 of Jewish population in ten large geographical regions into which we have divided the Jewish Diaspora and for eleven periods between 1919 and 1974¹.

Table 8.3 measures the differential propensity to immigrate to the Land of Israel from each Diaspora region as follows. Rates of immigration in each period per 1000 Jewish inhabitants of each region as given by Table 8.2 are transformed into index numbers by taking as 100 the rate of total immigration per 1000 of total Jewish Diaspora population in each period. The last three columns of the table show averages of the indices, weighted according to the number of years in each period. These averages refer respectively to: the Mandatory period; the Statehood period 1948–74; the entire period (56 years) covered.

Table 8.4 ranks the Diaspora regions according to the propensity to immigrate to the Land of Israel during 1919–74. Proportions of Diaspora population found in each region in various periods are shown on the basis of Table 7.1.

8.3 GENERAL CHARACTERISTICS OF MODERN IMMIGRATION, DIFFICULTY IN ANALYZING IMMIGRATION VARIATIONS

A glance at Tables 8.1–8.4; Graph 8.1 and other tables (not reproduced here) which show detailed data on immigration by country of origin and by periods between 1919 and 1975, is sufficient for grasping the following general characteristics of modern immigration to the Land of Israel during almost a century, between 1881 and 1975:

- 1) During this long period, immigration has been practically continuous. Only during 1915–1918 there has been an almost complete standstill, due to the First World War.
- 2) However, the volume of immigration has shown strong long-run and short-run variations (see respectively 3 and 4 below).
- 3) Let us compare three periods having a similar length: a) the last phase of pre-war Ottoman rule (1881–1914); b) the Mandatory era (1919–14.5.1948); c) the period since the establishment of Israeli independence (15.5.1948–1975). The total immigration has increased as follows from period to period: a) 55,000–65,000 b) 483,000 c) 1,570,000.

¹ The basic classifications used were as follows: during 1919–34, 1947 and for illegal immigrants, 1939–45 — by citizenship; 1935–51 by countries of birth; after 1952 by country of previous residence. Some of the geographical classes are specified below. Asia: excludes Israel and includes Turkey. Balkans: Bulgaria, Greece, Yugoslavia; Eastern Europe outside the U.S.S.R.: Poland, Rumania, and before the Second World War the Baltic countries as well. Central Europe: Austria, Czechoslovakia, Germany and Hungary.

TABLE 8.2

ANNUAL RATES OF IMMIGRATION TO THE LAND
OF ISRAEL PER 1,000 JEWS IN EACH DIASPORA REGION (1919-1974)

Regions	1919- 1931	1932- 1938	1939- 14,548	15,548- 1951	1952- 1954	1955- 1957	1958- 1960	1961- 1964	1965- 1968	1969- 1971	1972- 1974
Asia	1.7	7.5	4.8	181.1	14.3	15.4	23.8	28.4	1.1	44.8	14.4
Africa	0.1	0.3	0.4	41.3	13.3	52.9	8.6	74.0	26.5	20.5	11.5
Balkans	1.2	5.7	4.7	200.7	20.1	8.2	6.2	7.6	5.1	7.9	7.0
Eastern Europe	1.0	4.0	1.7	118.8	3.8	32.9	47.2	81.7	26.3	34.4	
Central Europe	0.2	3.9	4.6	26.5	1.9	17.3	2.0	3.3	3.4	5.2	
Northern/Western Europe	0.2	0.6	0.4	3.6	1.1	0.8	0.9	1.5	2.4	8.8	12.7
U.S.S.R.	0.8	0.3	0.0	1.1	0.0	0.0	0.6	0.2	0.5	2.6	
North America					0.1	0.1	0.1	1.6	0.2	1.2	
Latin America	0.1	0.1	0.1	0.2	1.1	1.4	1.1	4.1	1.9	4.6	4.8
Oceania					0.5	0.4	0.5	0.8	1.0	4.9	3.9
Total	0.6	1.9	1.0	17.8	1.7	5.2	2.3	5.3	1.9	3.7	4.6

- 4) Jewish immigration to the Land of Israel has had since the 1880ies a wave-like type of sequence: it expands over a few years, reaches a peak and then recedes; afterwards it increases again. This is quite clear from Graph 8.1, covering 1919–1975, which shows the expansions in size and especially in rates of immigration around 1920, 1924–26, 1932–36, 1939, 1948–52, 1956–57, 1961–64, and 1969–73. From indirect evidence for previous periods, expansions in immigration occurred around 1882, at the end of the 1880ies and the beginning of the 1890ies, around 1904–1909 and in 1911–1914.
- 5) Rates of immigration per 100 Jewish population of the Land of Israel have reached during certain years very high levels. For instance they were between 13% and 15% in the years 1920, 1924 and 1951; between 15% and 20% in 1933, 1934, 1948 and 1950; 20.6% in 1935 and 26.6% in 1949.
- 6) In the Ottoman period immigrants had originated from many countries, but in the Mandatory period and in the Israeli independence period immigration became genuinely cosmopolitan, there being practically no Jewish community in the Diaspora not represented among the immigrants.
- 7) However, throughout all the periods considered, the relative propensity to immigration has been very different in the various countries. While it is impossible in this Monograph to analyze this propensity with regard to each Diaspora country, Tables 8.2 and 8.3 enable us to grasp some basic features, with regard to a few large regions.

Among all Diaspora areas, two groups of regions (*a* and *b* below) can be identified as having completely different behavior with regard to propensity to immigrate:

- a) Diaspora communities in Eastern Europe, the Balkans, Asia and (starting in 1948) Africa have had a very strong propensity for immigration: its general level over 1919–1975 has been about 4 to 8 times higher than the Diaspora average, and for certain periods and areas it has been larger by more than 10 and sometimes even more than 20 times.

These regions correspond largely to the areas in which the majority of the Jews lived at the end of pre-modern times (see Section 7.3); in part of them the general tendency to emigrate was very strong, and was also directed to other immigration countries, but in some of them it was almost exclusively directed toward the Land of Israel.

- b) Jewish communities in Western and Northern Europe, the Americas and other overseas countries have had, throughout the entire period, a comparatively low propensity to immigrate towards the Land of Israel (with an exception of the years 1969–75, see Section 8.7). By and large, these are the areas in which the Jews have enjoyed in the last century more favorable political and economic conditions, have been more closely integrated within the framework of the local society, have had lesser feelings of immediate dangers, and which in various periods have drawn immigration from other Diaspora countries.

In the absence of relevant data, it can be surmised that at least for North America, low Jewish emigration towards Israel is an aspect of the generally low propensity of Jews to re-emigrate from that continent. It may be added that all the countries of this group have exerted a considerable attraction also for Israeli

TABLE 8.3

INDICES OF DIFFERENTIAL PROPENSITY TO IMMIGRATE
TO THE LAND OF ISRAEL FROM EACH DIASPORA REGION (1919-1974)

Region	1919- 1931	1932- 1938	1939- 14.5.48	15.5.48-1951	1952- 1954	1955- 1957	1958- 1960	1961- 1964	1965- 1968	1969- 1971	1972- 1974	1919- 14.5.48	15.5.48-1974	1919-Total 1919-74
Asia	303	395	481	1019	843	299	1033	534	1227	1210	315	382	820	590
Africa	21	17	41	233	782	1025	372	1390	1374	553	253	26	784	386
Balkans	207	301	478	1130	1182	159	268	141	265	213	{ 316 }		437	373
Eastern Europe	176	211	174	669	222	637	2051	1534	1368	929	{ 153 }		977	561
Central Europe	27	205	465	149	110	335	86	61	174	140	209	34	148	180
Western/Northern Europe	29	32	43	20	63	15	38	28	122	239	{ }		83	57
U.S.S.R.	133	16	4	6	2	1	26	3	27	71	278	64	48	56
North America	{ }		{ 4 }		{ 1 }		3	2	8	32	17	{ }		8
Latin America	11	8	5	1	63	27	49	77	96	123	105	{ 8 }		37
Oceania					{ 29 }	8	22	15	51	132	85		41	24
All regions	100	100	100	100	100	100	100	100	100	100	100	100	100	100

residents. As will be seen in Section 9.6 and 9.7, these are the countries towards which emigration from Israel is more voluminous.

While the above characteristics are shared by all the communities included in this group, differentials among these communities in propensity to immigrate to Israel and in its dynamics are considerable. For instance, in almost all periods the Jewish communities of the U.S.A. and Canada have shown the least propensity to immigrate to Israel (about 0.6 per 1000 per year during 1952–74), while Latin American and West European Jewish communities together have shown a propensity to immigrate 5 times larger. Considering individual communities, the differences are even more pronounced (see Section 8.7).

- c) The situation in two other groups of Jewish communities is less clear-cut. Communities in Central Europe had a high propensity to immigrate mainly in the period of Nazi persecutions.

Emigration from Soviet Russia was prohibited during the greater part of the era under survey; hence immigration rates were extremely low. However, in the short periods at the beginning and end of this era, in which there has been some possibility to emigrate, the immigration propensity toward the Land of Israel was comparatively high.

Thus the overall picture of immigration from the Diaspora towards the Land of Israel is a very complex one. On the one hand, it appears that some general factors of attraction toward the Land of Israel have been active throughout the time and have affected all the Diaspora communities. On the other hand, immigration has been particularly strong in certain periods and certain areas; in fact, immigration from communities with a high propensity during a few limited periods accounts for a considerable proportion of the entire immigration. These more important immigration streams are described in Sections 8.4–8.7.

However, it might be asked whether it is possible to attempt besides description, an analytical research on immigration variations. It is in fact conceivable to calculate for each Diaspora community and for each year between 1919 and 1975 the rates of immigration. We would thus have at our disposal over 2,000 rates, and we might try to analyze them statistically, and to measure factors of change in propensity for immigration to the Land of Israel over time and space.

But in order to perform this task, we should have, among other tools, 1) a satisfactory model giving a list and classification of the main possible positive and negative factors acting on propensity for immigration to the Land of Israel; 2) proper techniques for measuring the action of each of them and their interactions; 3) empirical information on their intensity in each period and area.

Re 1. Considerable efforts and ingenuity have been invested in building fruitful and sometimes very suggestive economic, sociological and other models.¹ However, difficulties in establishing comprehensive models are still extant, due,

¹See for instance, among the works published by CICRED for the World Population Year: A. Speare, "The relevance of models of internal migrations for the study of international migrations"; and R.T. Appleyard, "Economic and non-economic factors in the dynamics of internal migration." Both in *International Migration*. Seminar held in 1974. For the application of a model to the analysis of immigration to Israel, see: S.N. Eisenstadt, *The Absorption of immigrants*, London, Routledge and Kegan, 1954.

among other things, to the extreme variability of situations and the complexity of human nature. For instance, migrations may be due either to mass flights or to balanced decisions by prospective immigrants. In the second case, a host of economic, psychological, political and social factors affecting the person, his family or group may be weighed one against the other. These may involve comparisons between the conditions in the country of origin as against information, expectations or guesses on prospective and comparative conditions in alternative countries of immigration.

Re 2 and 3. Many of the factors involved are very difficult to measure, and even if measurable may show different results if judged according to immigrants' micro-perception and according to macro-statistical measures. In any event, statistical information on motivations for immigration can be obtained for the Land of Israel only on some aspects of it and for very recent years¹ and cannot be utilized for a comprehensive analysis of a century of migration movements.

Taking the above into consideration, we shall not attempt here this inviting task nor that of comparing the immigration to Israel to other large international migratory movements².

We have therefore limited ourselves to the following:

- 1) Reviewing the evolution of immigration in the main periods between 1882 and 1975 given in Sections 8.4–8.7, we have high-lighted some of the factors which may have influenced positively or negatively the size of immigration, such as: conditions in Diaspora countries which increased pressure to emigrate; degree of freedom to emigrate; possibility of selecting other immigration areas; policy of the government of Palestine or Israel toward Jewish immigration; conditions prevailing in the country; help extended to immigrants; influence of ideological factors, etc.
- 2) Some general considerations on the action of each of the main determinants of the size of immigration are given as follows: general evolution and conditions of Diaspora Jews: Chapter 7 and Sections 8.4–8.7; general evolution and conditions of Palestine and Israel: Chapters 5, 6, 15, 16.
- 3) Some discussion of future immigration is given in Chapter 17, in connection with population projections.

8.4 IMMIGRATION DURING THE LAST OTTOMAN PERIOD (Up to 1914)

We saw in Sections 7.3 and 7.4 that a) the majority of Jews still lived at the end of the 19th century in Eastern Europe, generally under adverse economic and political circumstances, which prompted increasingly large masses of them to leave, in spite of all the difficulties connected with emigration and travel. b) Between 1880 and 1914 the gates of the quickly developing overseas countries were open or almost open to foreign immigrants, and hence large Jewish overseas immigration was directed toward them (Table 8.1).

¹ Mainly on the basis of the survey of immigrant absorption started in 1968 by the Central Bureau of Statistics (See Appendix 7.8).

² For some indications in this direction see: R. Bachi, "Trends of population and labour force in Israel", Jerusalem, In *The Challenge of Development*, The Hebrew University, Kaplan School, 1958.

In that period some 3% of Jewish overseas emigrants went to tiny Palestine. Let us bear in mind the very poor economic conditions prevailing in the country at that time, the Ottoman authorities' opposition to Jewish immigration, the lack of security, and the adverse health and general conditions; then the question to be explained is not why the immigration stream toward Palestine was so small, but why it existed at all and included during 1880–1914 some 55,000–65,000 persons.

A part of the immigration which came in this period was a continuation of that of pre-modern times (Section 8.1) and was prompted by religious motivation; however, for the most part, new ideological motivations were added to or substituted for the former. In the last decades of the 19th century a worsening of the conditions of Eastern European Jews and a revival of antisemitism in Western and Central Europe had dispelled many illusions about the possibility that "the Jewish problem" could be solved by emancipation and assimilation of Jewry into surrounding European societies. New national Jewish ideals had begun to take shape, calling for auto-emancipation of Jews from permanent minority status. It was held that freedom could not be acquired simply as a gift from outside and should not be paid for by the denial of Jewish religious or national ideals, traditions or hopes. Thus various movements which later coalesced into the Zionist movement founded in 1897, started to call upon Jews to form a new society in the land of their fathers, where the old national culture and language could be revived and rejuvenated. National aspirations received a socialist interpretation by the immigrants who came to Palestine during 1904–1914 and who were strongly influenced by political developments in Russia in that period. These immigrants believed that the Jewish society to be founded in Palestine should be more egalitarian than the capitalistic one and should be based on labour — largely agricultural — and on cooperation between the workers.

8.5 IMMIGRATION DURING THE MANDATORY PERIOD (1919–1948)

In this period immigration became, on the average, 8 times as large as in 1882–1914. The main reasons for this are to be sought in the interplay of the following factors:

- 1) During 1919–1938, the urge to emigrate from Eastern Europe continued to be strong both for political and economic reasons. Later, the area of Jewish emigration pressure was extended to Central Europe, due to antisemitic propaganda and persecutions by the Nazis.
- 2) At the same time strong limitations on international immigration were adopted by those overseas countries which had traditionally been havens for Jewish immigrants (in 1920 a quota system was adopted by the U.S.A.).
- 3) Meanwhile: a) Zionism had obtained official recognition in the Palestinian Mandate (see Sections 5.1); b) the Zionist movement had spread throughout the Diaspora and was particularly active, in countries hit by antisemitism, in channeling immigration toward Palestine; c) financial help given by Jews for developing Palestine and favoring Jewish immigration had increased; d) despite oscillations in the policy of the Mandatory power immigration

laws until the Second World War were mainly based on the economic principles of the country's absorption capacity.¹

- 4) Under these circumstances, immigration reached relatively considerable heights (as measured in Table 8.1 by rates of immigration per 1,000 Jewish population of the Land of Israel) and particularly during the following periods: in 1920–22, when it was largely composed of pioneer elements; in 1924–26 when it included a considerable proportion of middle class elements displaced by the adverse economic and political conditions of Jews in Poland; and in 1932–36, when it included large proportions of persons of means, members of liberal professions, etc. driven from Europe by Nazi persecutions.
- 5) In between those periods and later, other factors acted to slow down immigration, such as the economic crisis which hit Palestine in 1927–28; and the prolonged disturbances of 1936–39 caused mainly by the Arab revolt against the development of the Jewish National Home and Jewish immigration.
- 6) Immediately before and during the Second World War, when the Nazis perpetrated the massacres of European Jews, the pressure on people in danger of destruction to leave Europe became desperate.
- 7) At the same time – when most countries were closed to Jewish immigration – the Mandatory power changed the Palestine immigration policy. Under Arab pressure, severe political limitations were imposed on the number of Jews to be admitted to Palestine (1939) in order to ensure that they remain a minority in the country, and on the freedom to sell lands to the Jews (1940). During 1939, the wave of immigrants who reached the country by breaking these regulations was considerable, but later the war rendered communications increasingly difficult; thus the size of European immigration decreased during 1940–45.
- 8) Nazi persecutions, during the war had led to flight or the deportation to ghettos and annihilation camps of many millions of European Jews. *After the war* survivors had been concentrated in camps for displaced persons in Europe, while others were homeless and could not readapt themselves to live in places where the majority of their families had been massacred. The demand for emigration to Palestine was very pressing. However, with the political limits imposed by the British on the size of Jewish immigration to Palestine, a considerable part of the immigration which came from Europe to Palestine in 1946–48 was clandestine, and at the same time over 50,000 persons who attempted immigration were sent back and were interned in camps in Cyprus, Mauritius and other places.
- 9) During the Mandatory period, the propensity to immigrate to the Land of Israel from Yemen and other Asian countries continued to be strong probably due to the joint operation of religious and Zionist aspirations, the sensitivity to environment's adversity, economic pressures, etc.

¹The main categories admitted were: i) persons of independent means; ii) persons having a definite prospect of employment in Palestine. These were determined under a "labour schedule" mainly allotted to the Jewish Agency (under special conditions concerning the age, skill, training and competence of the immigrants); and iii) dependents of immigrants and permanent residents.

8.6 MASS IMMIGRATION AFTER THE ESTABLISHMENT OF ISRAEL (1948–1951)

At the time of the establishment of Israel (May 15, 1948) the Jewish population was about 649,600. In the course of about 3 1/2 years (up to the end of 1951), 689,739 Jews immigrated to Israel. This comparatively very large stream (as well as the very high rates of immigration per 1000 Jews in Balkans, Asia, Eastern and Central Europe and Africa, shown by Table 8.2) can be explained by the unique combination of various "pull" factors towards Israel and "push" factors from Diaspora countries:

- 1) The establishment of the State of Israel was followed by the abolition of all limitations on Jewish immigration¹ and by the inauguration of a policy directed to help this immigration². Moreover, the renewal of Jewish Statehood after 2000 years had a very strong ideological impact on wide sectors of Diaspora Jewry; while in Europe it was seen as the realization of the Zionist movement's political hopes among some immigrants from Yemen and other Afro-Asiatic countries a messianic-religious interpretation was given to that event.
- 2) Granting freedom of entrance to Israel and transport facilities enabled the immigration of detainees from Cyprus and from the camps for displaced persons in Europe. The immigration of other survivors from the Holocaust soon followed, also prompted by the unwillingness of many of them to remain under the new communist regimes which had been established in various Eastern European and Balkan countries.
- 3) The intensification of Arab national movements after the Second World War and during the decolonization period and the feelings aroused by the Israeli-Arab war of 1948–49 caused, in various countries of the Middle East, a deterioration of the situation of the Jews: outbursts of anti-Jewish riots, threats to personal security, worsening of the political and economic situation and anti-Jewish legislation developed a sense of insecurity in Jews of various countries which acted as a stimulant to emigration.
Rates indicating propensity to immigrate to Israel from Asian countries (Tables 8.2 and 8.3) rose enormously due mainly to mass immigration from Yemen and Iraq and also to the large immigration from Non-Arab Moslem countries such as Turkey and Iran. The increase in immigration rates of African countries was largely due to mass immigration from Libya, and the strengthening of immigration from Egypt and North African countries still under French rule (Morocco, Tunisia and Algeria).
- 4) Some of the 'mass' immigrations mentioned above were actually transplantations of certain communities (such as those of Iraq, Yemen, Libya and Bulgaria) almost in their entirety.

¹Declaration of Independence (1948); "legalization" of persons entering the Land of Israel "illegally" (1948); "Law of Return" (1950) granting to every Jew the right to immigrate to Israel, with limited health and security exceptions; Law of Citizenship enabling every Jew to become a citizen as soon as he sets foot on Israeli soil (1952).

²See Section 8.12

Besides the factors mentioned above, the desire not to be separated from other members of the community as well as imitation probably played an important role. The impending dangers of the borders being closed (which soon occurred in various communist and Arab countries) turned the emigration into urgent evacuation. In many cases for both ideological and practical reasons (organization of travel, etc.) emigrants felt they had no choice in selecting Israel as their country of destination. In other cases (such as in French North Africa) some of the emigration went to France or other countries. In many cases, emigrants were compelled to leave behind almost all their possessions.

8.7

IMMIGRATION DURING 1952–1975

Immigration during 1952–75 has never again reached the peak of the period 1948–51. However it has continued, on the whole, to have a considerable size. Over this period it has been almost 900,000 and has averaged over 36,000 per year. Phases of expansion have alternated with phases of depression, the maximum yearly peak (1957) having been a little over 71,000 while only once (in 1953) immigration was as low as 11,000. Immigration to Israel has constituted in this period the major Jewish intercontinental migration and has generally continued to be stronger than during the Mandatory period if measured in terms of rate of immigration to the Land of Israel per 1000 Diaspora Jews. On the other hand, due to the growth of the population rates of immigration per 1000 of Jewish population of Israel have become much smaller than in previous periods (Table 8.1).

Until 1967 immigration continued to stem largely from areas with a traditionally high propensity to immigration; exceptionally low rates of immigration from the small remnants of Jewish communities in Eastern Europe registered in the early fifties, were due mainly to restrictions on emigration from some of these countries. With the easing of restrictions, immigration from countries such as Poland (1955–57) and Rumania (1958–65) was again relatively large; also in the period following the Hungarian uprising of 1956 a considerable number of Hungarian Jews went to Israel.

With the end of French rule in North Africa and following the Sinai War (1956), the rising tide of Arab nationalism, the feeling of insecurity among the Non-Arab inhabitants and in particular among the Jews, brought a strong increase in emigration to Israel, but also to France and other countries. However, periods of freedom for Jewish emigration from Arab countries both in Africa and Asia were alternated by periods of restriction. This accounts for some of the fluctuations indicated by Table 8.2.

The most conspicuous effect of mass immigration and of subsequent immigration to Israel from Eastern Europe, the Balkans, Asia and Africa and of emigration from some of those areas in other directions, has been an almost complete demographic exhaustion of the remnants of the Jewish communities in those countries (see Table 8.4). Therefore, while rates of immigration to the Land of Israel per 1000 Jews living in those countries have still been considerable also in the later parts of the period reviewed here, the absolute size of immigration of these origins has greatly decreased.

TABLE 8.4

**DISTRIBUTION OF DIASPORA POPULATION
BY REGIONS RANKED ACCORDING TO PROPENSITY TO IMMIGRATE
(1880-1972)**

Region	Index of Propensity to immigrate 1919-74	Proportion of Diaspora Population		
		1930	1945/6	1972
1. Asia	590	2.4	5.5	1.1
2. Eastern Europe	561	25.1	4.1	0.8
3. Africa	386	3.8	6.6	1.5
4. Balkans	373	1.3	1.3	0.2
5. Central Europe	180	9.7	2.3	0.8
6. Western/Northern Europe	57	5.4	6.5	10.9
7. U.S.S.R.	56	17.3	18.9	21.6
8. Latin America	37	1.6	5.5	5.1
9. Oceania	24	0.2	0.3	0.6
10. North America	8	33.2	49.0	57.4
Total		100.0	100.0	100.0

Regions with propensity	Nos. of regions	Proportions of Diaspora Population				
		1880	1900	1930	1945/6	1972
Over average	1-5	97.4	88.7	42.3	19.8	4.4
Under average but not very low	6-7			22.7	25.3	32.5
Very low	8-10	2.6	11.3	35.0	54.8	63.1

Alternative phases of expansion and depression of immigration in this period were also partly due to local conditions in Israel.¹ For instance: a) economic difficulties caused by mass immigration were acutely felt in 1952–54 and determined a temporary policy of selection with regard to health, age, skills, etc. of people given help by the Jewish Agency in immigration (though maintaining complete freedom of immigration). b) Also the economic recession of 1965–67 in Israel had repercussions in the size of immigration.

A considerable change occurred *between the Six Day War of 1967 and the Yom Kippur War of 1973*. For the first time, immigration from Western Europe and the Americas constituted a considerable proportion of immigration to Israel (see Table 8.5) while the propensity to immigrate from those countries increased considerably. This may have been due to the interplay of various factors, such as: the trauma caused in many Diaspora quarters by the Six Day War (previous sense of danger for the very existence of Israel and hence increased solidarity, followed by an increased feeling of security for Israel's future, just in a period in which some political and socio-economic uneasiness was felt by the Jews in various Diaspora countries).

Somewhat later, the USSR again made its appearance on the list of countries of immigration to Israel. For half a century Soviet Jewry had practically been severed from contact with world Jewry and from Jewish culture; Jewish religion had been hampered and Zionism outlawed. Despite that, in the late 1960ies there was a strong upsurge of requests to emigrate to Israel and the Soviet authorities lifted to some extent the ban on this movement: between 1969 and 1975 about 106,000 Jews immigrated from the U.S.S.R. to Israel.

Immigration policies were changed in this period (see Section 8.12) in an attempt to fit better the aspirations of the new type of prospective immigrants (including a larger proportion of skilled and professional people).

After the Yom Kippur War (in 1973), immigration shrank again, probably in the main due to the effect of economic and political difficulties in Israel. Emigration from the U.S.S.R. continued, but an increasing proportion of Russian emigrants preferred to leave to other countries instead of to Israel.

From a recent paper by Della Pergola² it can be seen that during 1969–76 the highest rates of immigration to Israel per 1000 Jews were those of Chile (17.6), Uruguay (11.1) and Argentina (6.3), probably due to a large extent to local political and economic difficulties; the Central and Western European communities had rates included between 4.7 and 6.2 per 1000, South Africa 4.9, Great Britain 2.7, Canada 1.6 and U.S.A. 0.8 per 1000³.

¹ It may be noted that the seven years with the lowest rates of immigration per 1000 Jewish population of Israel (1953, 1954, 1966, 1967, 1974, 1975) include — or follow — the only five years since the establishment of Israel in which there has been a decrease in the net domestic product per capita at fixed prices (1952, 1953, 1966, 1967, 1975).

² S. Della Pergola. *Some demographic and occupational characteristics of Western Jews in Israel*. Forthcoming (Seventh World Congress of Jewish Studies, Jerusalem, 1977).

³ On the complex characteristics of immigration from the U.S.A. and its ideological background, see C. Goldscheider, *The Future of American Aliya*. In *Papers in Jewish Demography 1973*. Jerusalem, the Institute of Contemporary Jewry, the Hebrew University of Jerusalem, 1977, pp.337–345.

8.8

THE PROPORTION OF IMMIGRANTS BY ORIGINS

In the preceding sections, attention was mainly given to the propensity to immigrate toward Israel in the various regions of the Diaspora. Here we shall add a few words also on the proportion constituted by immigrants of each origin in the various periods. This proportion is determined both by propensity to immigrate (Tables 8.2 and 8.3) and by the size of the Jewish population in each area (see Table 8.4).

A summary of composition of immigration by major Diaspora areas and by detailed periods is given by Table 8.5 (which goes back on the basis of indirect information to 1882).

Taking into consideration what was said in Chapter 7 in regard to the degree of development of the major areas of Jewish residence, we may very roughly divide them into 3 groups: 1) less developed: Asia and Africa; 2) intermediate: Eastern Europe (and U.S.S.R.) and the Balkans; 3) more developed: Central, Western and Northern Europe; America and Oceania.

Groups 1 and 2 roughly correspond to areas of Jewish settlement before the modern political developments and the big migrations (Section 7.3). Between 1882 and 1948 and again in 1972–74 the immigrants from Eastern Europe (including the U.S.S.R. and the Balkans) formed the majority — and in some periods the very large majority — of the immigrants.

Asian-African Jews were the majority or the largest group among the immigrants between 1948 and 1965 (excl. 1958–60). The third group contributed proportionately very low percentages to immigration, apart from the period of conspicuous immigration from Central Europe (1932–48) and from the period which followed the Six Day War.

The composition of the Jewish immigration to the Land of Israel by origins (Table 8.5) differed during all periods from the distribution of the Diaspora by regions (Table 8.4). However, the differentiation has become much more pronounced in the Statehood period. While after the Holocaust the "Western" elements have become dominant in the Diaspora composition, their share in the immigration has remained comparatively very low. On the other hand, while Jews of Asian-African origin have constituted a very important part of immigration, today their proportion in the Diaspora is dwindling.

This can be seen clearly from the following:

Region	Immigrants		Proportion of Diaspora population	
	1919– 1948	1948– 1972	1930	1972
Asia and Africa	10.4	51.2	6.2	2.6
Eastern Europe	57.7	33.6	42.4	22.4
Central Europe	20.1	4.7	9.7	0.8
Other countries of Europe, America, Oceania	11.8	10.4	41.7	74.2
Total	100.0	100.0	100.0	100.0

TABLE 8.5

JEWISH IMMIGRANTS TO THE LAND OF ISRAEL ACCORDING TO THE REGION OF ORIGIN¹ (1882-1974)

Region	1882- 1903	1904- 1914	1919- 1931	1932- 1938	1939- 1948	1948- 1951	1952- 1954	1955- 1957	1958- 1960	1961- 1964	1965- 1968	1969- 1971	1972- 1974
Asia	12.4	22.6	9.5	8.2	11.1	35.6	24.6	5.3	17.6	8.6	18.5	16.9	4.4
Africa	4.2	1.4	0.8	0.6	1.5	14.0	51.8	63.0	18.5	50.9	31.2	10.3	4.7
Balkans	2.3	0.8	2.6	3.9	5.9	7.1	2.4	0.4	0.5	0.2	0.4	0.3	(5.3)
Eastern Europe	13.0	4.2	53.9	57.6	46.9	33.7	9.0	21.3	48.9	30.1	20.7	8.8	
Central Europe	2.5	0.8	3.2	22.9	30.7	6.6	2.2	5.5	1.2	0.8	2.3	1.7	
Western and Northern Europe	1.1	0.4	1.4	1.5	2.9	1.2	4.2	1.1	3.2	2.3	9.8	18.5	(10.2)
Russia (USSR)	63.6	67.1	25.9	2.9	0.8	1.2	0.3	1.2	5.3	0.6	5.7	14.4	56.8
North America						0.3	1.7	0.6	1.7	1.4	4.4	18.6	9.9
Latin America	0.9	2.7	2.7	2.4	0.2	0.3	3.7	1.6	3.0	5.0	6.6	9.5	8.1
Oceania						0.0	0.1	0.0	0.1	0.1	0.4	1.0	0.6
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1. Less developed	16.6	24.0	10.3	8.8	12.6	49.6	76.4	68.3	36.1	59.5	49.7	27.2	9.1
2. Intermediate	78.9	72.1	82.4	64.4	53.6	42.0	11.7	22.9	54.7	30.9	26.8	23.5	62.1
3. More developed	4.5	3.9	7.3	26.8	33.8	8.4	11.9	8.8	9.2	9.6	23.5	49.3	28.8

¹ For explanations of the statistical data utilized in this table, see Section 8.2.

Generally speaking, Jews of Asian and African origin had at the time of arrival in Israel, lower health and educational standards and were at an earlier stage of demographic development than Jews coming from the intermediate and more developed regions (2 and 3).

III MODERN JEWISH IMMIGRATION: DISTRIBUTION BY SEX, AGE AND MARITAL STATUS

8.9 DISTRIBUTION OF IMMIGRANTS BY SEX

Jewish immigration to the Land of Israel has been, on the whole, well balanced according to sexes. Among the 2,056,000 persons who immigrated between 1919 and 1975, the percentage of males was 50.4 and that of females 49.6. From the viewpoint of distribution by sexes, this immigration thus differs from many other large international migratory streams¹.

However, this does not imply that the sexes were well balanced in all the waves of Jewish immigration to the Land of Israel. Table 8.6 shows the percentage of males among immigrants by periods, while Table 8.7 shows the distribution of individual years 1905–1910 and 1919–1975 by percentage of males among immigrants. It is seen from these tables that males exceeded females in most years between 1905 and 1953 while, starting with 1954 there has been a continuous excess of females in the immigration. The yearly imbalances have generally been rather small. However there have been some notable exceptions. For instance, the excess of males was rather strong in certain periods in which the immigrants had to struggle against particularly difficult circumstances, such as the following:

- 1) Immigration in the late Ottoman period, as exemplified by the 1905–1910 streams from Russia;
- 2) Pioneer immigration of 1919–1923 (in 1920–21 the percentage of males reached 71.1%);
- 3) Immigration during the Second World War period and immediately afterwards. This immigration included a considerable proportion of illegal immigrants, among whom the percentage of males was particularly high (e.g. in 1939–45: 66.1%).

The slight excess of males among the immigrants in other years of the Mandatory period may have been influenced by selectivity in favor of economically productive elements, among whom the males predominated².

¹ In migratory streams motivated by economic factors, considerable imbalances are often found, and in many cases excesses of males are observed.

² The proportion of earners by sex is known for 1938–45: in this period 57.2 out of 100 male immigrants were earners, as compared to a percentage of 12.3 per 100 female immigrants.

TABLE 8.6

**PERCENTAGE OF MALES AMONG THE JEWISH
IMMIGRANTS TO THE LAND OF ISRAEL (1905–1975)**

1) Ottoman period		3) Statehood period	
1905–1910	58.9 ¹	15.5.1948–1949	52.2
2) Mandatory period		1950–51	49.1
1919–23	63.2	1952–53	50.6
1924–31	54.0	1954–57	49.9
1932–38	49.0	1958–60	48.9
1939–45	56.9	1961–64	49.0
1946–14.5.1948	55.4	1965–68	47.7
1919–14.5.1948	53.1	1969–75	47.7
		15.5.1948–1975	49.6
		4) Total: 1919–1975	50.4

¹ Immigration from Russia, through Odessa. See R.Kaznelson. *L'immigrazione degli Ebrei in Palestina nei tempi moderni*. Roma, Comitato Italiano per lo studio dei problemi della popolazione, serie 1, vol. 2, 1931. The proportion of males among Russian Jews was according to the census of 1897 only 48.8%.

TABLE 8.7

**DISTRIBUTION OF THE YEARS 1905–1910 AND 1919–1975² BY PERCENTAGE
OF MALES AMONG JEWISH IMMIGRANTS TO THE LAND OF ISRAEL**

Percentage of males	Number of years with the given percentage of males		
	1905–10	1919–14.5.1948	15.5.1948–75
Over 70	—	1	—
60–69.9	2	1	—
56–59.9	4	7	—
53–55.9	—	9	1
51–52.9	—	3	2
50–50.9	—	1	1
49–49.9	—	2	10
47–48.9	—	2	11
44–46.9	—	2	3
40–43.9	—	2	—
Total number of years	6	30	28

² Excluding illegal immigrants during 1939–45.

During 1933–37, a period of large immigration from Europe, there appeared a feature not uncommon in other international migrations: the immigration included at beginning (1933–34) more males, while afterwards this was compensated by larger female immigration (1935–37).

A similar feature appeared again in many migratory streams at the beginning of the Statehood. While mass immigration tended on the whole to be well-balanced by sexes, there was an excess of males in 1948 (and in some cases also in 1949) followed by later compensatory excess of females in the big immigration waves from countries such as Yemen, Libya, Bulgaria, Poland, Rumania, Hungary, Germany, etc.

In the first years of the Statehood a considerable excess of males in immigration from Morocco, Tunisia and Algeria was caused by the selective character of this migration¹. As already indicated, starting with 1955 the predominant feature was the slight but generally increasing excess of females. A peculiar aspect of this excess is revealed by analyzing the breakdown by sexes within age groups. While, on broad lines, the proportion of males declines with age, as might be expected, the proportion of males at ages 20–39 is found to be particularly low, and to be systematically smaller than at ages 40–59 (Table 8.8).

TABLE 8.8

PROPORTION OF MALES IN EACH AGE GROUP OF IMMIGRANTS (1948–1975)

Years	0–19	20–39	40–59	60+	Total
1948–54	52.0	49.6	50.0	45.9	50.3
1955–57	51.6	47.0	50.5	47.0	49.9
1958–60	52.2	42.7	51.5	46.8	48.9
1961–64	51.9	44.2	49.3	46.9	49.0
1965–68	51.0	43.9	46.4	47.4	47.7
1969–75	50.4	45.9	47.2	46.1	47.7

The causes of this feature have not yet been sufficiently investigated. In a purely hypothetical way the following reasons may be suggested: greater difficulties encountered especially in communist countries in obtaining permission for working men to emigrate than for other population categories; the desire of young men who would otherwise want to immigrate to Israel to avoid the burden of military service in Israel which is generally much heavier for men than for women; decreased difference in difficulty to emigrate between women and men in the past few decades; and the possible interest of young unmarried Jewish girls in the Diaspora in marrying a Jew (which might be easier in Israel than abroad)².

8.10 DISTRIBUTION OF IMMIGRANTS BY MARITAL STATUS

As shown by Table 8.9 the composition by marital status of the immigrants has had considerable fluctuations in the course of time. While these fluctuations are partly related to changes in the age structure which will be examined in Section 8.11, the following points may be indicated:

¹ See Sicron, *op. cit.*, p. 71.

² The proportion of females among single immigrants aged 15 and over has changed as follows: 1919–48: 37.8; 1948–54: 38.1; 1955–57: 41.1; 1958–60: 45.6; 1961–64: 44.7; 1965–68: 47.3; 1969–72: 51.0; 1973–75: 47.6.

1) The high proportions of married within mass immigration (1948–51) and in the later 1950ies and early 1960ies is connected with the larger proportion of immigrants who reached Israel with their families. Greater proportions of unattached immigrants during a considerable part of the Mandatory period¹ and during 1965–71 explain the higher proportion of single persons in these periods.

2) During the Statehood period the absolute numbers of married men and women among the immigrants are almost equal as would be expected. The imbalance during the Mandatory period was due to the fact that some women were only fictitiously married to Jewish Palestinian residents² in order to facilitate their immigration, and later divorced them.

3) The increase in the proportion of widows in 1948–64 was due to factors such as the higher proportion of this marital status (i) among the survivors of the Holocaust; (ii) among immigrants from countries where Jews still had high mortality, such as Yemen; and (iii) changes in the age structure of immigrants; etc.

TABLE 8.9

DISTRIBUTION OF IMMIGRANTS OF EACH SEX
AGED 15 AND OVER BY MARITAL STATUS* (1935–1975)

Years	Males				Females			
	Single	Married	Divorced	Widowers	Single	Married	Divorced	Widows
Absolute numbers								
1935–45	30,861	38,097	353	1,846	22,384	43,462	5,932	6,259
1948–51	83,562	146,683	778	8,254	51,275	147,161	2,462	38,101
1952–64	53,563	103,780	1,396	4,588	40,630	103,949	4,625	26,309
1965–71	27,947	38,016	1,216	2,140	27,613	39,597	2,645	10,040
1972–75	19,037	37,283	1,407	1,766	17,240	37,946	2,617	9,496
Percentages of each marital status within each sex								
1935–45	43.4	53.5	0.5	2.6	30.8	59.8	0.8	8.6
1948–51	34.9	61.3	0.3	3.5	21.5	61.6	1.0	15.9
1952–64	32.8	63.5	0.9	2.8	23.1	59.2	2.6	15.0
1965–71	40.3	54.8	1.8	3.1	34.6	49.6	3.3	12.6
1972–75	32.0	62.6	2.4	3.0	25.6	56.4	3.9	14.1

* Excluding marital status unknown.

¹ The family structure of immigrants varied as follows (per 100 immigrants):

	Attached to family			Unattached
	Heads	Others	Total	
1919–48	19.6	37.5	57.1	42.9
1948–51	23.7	54.5	78.2	21.8
1952–64	21.8	64.0	85.8	14.2
1965–71	20.8	51.2	72.0	28.0
1972–75	31.1	42.4	73.5	26.5

² According to the regulations, immigration permits would be granted rather easily to "any near relative or fiancées" of permanent residents of Palestine.

8.11

AGE DISTRIBUTION OF THE IMMIGRANTS

For the periods prior to 1928, some limited information on the age distribution of the immigrants is given in Table 8.10. Comparing the age distribution of Russian immigrants in 1905–09 to that of the Jewish population of Russia a few years earlier, the following features are seen:

- 1) The proportion of children among the immigrants was smaller than among the still very fertile Jewish population of Russia (see Sections 7.3 and 7.5). This suggests that the immigration probably included a considerable proportion of unattached people who did not immigrate with their families or with children.
- 2) The proportion of people in intermediate working ages (31–50) was somewhat greater among the immigrants than among the general population, as could be expected.
- 3) However, a large percentage of the immigrants was also found in the "over 50" age group. This feature, which is very unusual in international migrations, may perhaps be explained as follows: together with younger "pioneer" immigrants, there continued to arrive, over this period, immigrants of the pre-modern type (Section 8.1) who wished "to be buried in Jerusalem".

TABLE 8.10

AGE DISTRIBUTION OF IMMIGRANTS 1905–09 AND 1919–27¹

	Under 16	16-30	31-50	Over 50
Russian immigrants to Palestine through Odessa (1905–09)	25.2	25.2	24.4	25.2
Russian Jews acc. to 1897 census	42.8	26.3	19.6	11.4
Total immigration to Palestine 1919–23	21.2	78.4		
1924–27	24.1	75.9		

For later periods, more detailed data are available which can be compared to data on the age distributions of communities of origin. Some examples of such distributions are given in Tables 8.11–8.15 and in Graphs 8.2–8.4. In these graphs percentages in each age group are represented by Graphical Rational Patterns proportional to them². To save space, the following large age groups have been used: 0–14; 15–29; 30–44; 45–64; 65 and over. Table 8.11 and Graph 8.2 show age distributions of selected Jewish Diaspora communities, ordered in descending order according to the percentage of children. For each age distribution the following indications are given;

- i) the region according to broad classes:
 - A Asia or Africa
 - E Eastern Europe (incl. the U.S.S.R. and Balkans)
 - W West-Central-Northern Europe
 - O Overseas (Americas or Oceania)

¹ The percentages in the first line are taken from R. Kaznelson, *L'immigrazione*, etc., op. cit. The percentages from the Russian census have been estimated by adapting the original census classes to those given above.

² This graphical method is explained in Appendix 10. In Graphs 8.2–8.4 a small square represents 1%, a large square represents 10%. A percentage (10t+u) is represented by t large squares and u small squares. For instance, in Graph 8.2, 43% at ages 0–14 in Morocco in 1951 is represented by 4 big squares and 3 small squares.

TABLE 8.11

AGE DISTRIBUTION OF SELECTED JEWISH DIASPORA COMMUNITIES

Ordinal Number	Region				Type of age distribution	Country	Year	Percentage of Jewish population aged				
	A	E	W	O				0-14	15-29	30-44	45-64	65 and over
1	A				1	Morocco	1951	42.9	24.8	20.6	5.8	5.9
2		E			1	Russia*	1897	40.8	27.6	16.2	12.1	3.3
3	A				1	Libya*	1931	40.6	26.8	17.4	11.8	3.4
4		E			1	Rumania	1899	40.3	25.4	18.6	12.4	3.3
5	A				1-2	Iran	1966	37.1	26.0	18.6	13.3	5.0
6			W		1-2	Hung.*	1900	36.2	25.2	19.8	14.1	4.7
7		E			2	Poland	1921	33.9	30.1	16.5	15.0	4.6
8		E			2	USSR	1926	28.8	33.7	18.3	14.9	4.3
9				O	2	Canada	1931	27.3	34.1	21.0	15.0	2.6
10				O	3	Canada	1961	27.6	16.9	21.7	25.6	8.2
11				O	3	USA	1971	22.2	24.1	16.7	25.5	11.5
12				O	3	Canada	1971	20.6	25.1	15.4	27.0	11.8
13				O	3	Argent.	1960	20.5	22.0	22.2	27.5	7.8
14			W		3,4	Western Europe	around 1960	19.3	22.1	17.3	29.1	12.2
15			W		3	Prussia	1925	17.6	24.9	24.6	24.9	8.0
16		E			3,4	Rumania	1942	16.8	23.5	28.8	23.0	7.9
17			W		3,4	Western Europe	around 1970	14.7	22.5	15.9	30.6	16.3
18		E			3,4	Russian Rep. (RSFSR)	1970	10.5	15.6	23.1	31.0	19.8

* Estimated from somewhat different original age groups.

Graph 8.2

Age distribution of selected Diaspora communities

Data of Table 8.11

Region	Type of age distribution	Country	Year	Percentage of Jewish population in each age group				
				0-14	15-29	30-44	45-64	65+
A	1	Morocco	1951	■ ■ ■ ■ ■	○ ○ ○ ○ ○	■ ■ ■ ■ ■	○ ○ ○ ○ ○	○ ○ ○ ○ ○
E	1	Russia*	1897	■ ■ ■ ■ ■	■ ■ ■ ■ ■	■ ■ ■ ■ ■	■ ■ ■ ■ ■	○ ○ ○ ○ ○
A	1	Libya*	1931	■ ■ ■ ■ ■	○ ○ ○ ○ ○	■ ■ ■ ■ ■	■ ■ ■ ■ ■	○ ○ ○ ○ ○
E	1	Rumania	1899	■ ■ ■ ■ ■	○ ○ ○ ○ ○	■ ■ ■ ■ ■	■ ■ ■ ■ ■	○ ○ ○ ○ ○
A	1-2	Iran	1966	■ ■ ■ ■ ■	○ ○ ○ ○ ○	■ ■ ■ ■ ■	■ ■ ■ ■ ■	○ ○ ○ ○ ○
W	1-2	Hungary*	1900	■ ■ ■ ■ ■	○ ○ ○ ○ ○	■ ■ ■ ■ ■	■ ■ ■ ■ ■	○ ○ ○ ○ ○
E	2	Poland	1921	■ ■ ■ ■ ■	■ ■ ■ ■ ■	○ ○ ○ ○ ○	○ ○ ○ ○ ○	○ ○ ○ ○ ○
E	2	USSR	1926	■ ■ ■ ■ ■	■ ■ ■ ■ ■	■ ■ ■ ■ ■	○ ○ ○ ○ ○	○ ○ ○ ○ ○
O	2	Canada	1931	■ ■ ■ ■ ■	■ ■ ■ ■ ■	■ ■ ■ ■ ■	○ ○ ○ ○ ○	○ ○ ○ ○ ○
O	3	Canada	1961	■ ■ ■ ■ ■	■ ■ ■ ■ ■	■ ■ ■ ■ ■	○ ○ ○ ○ ○	■ ■ ■ ■ ■
O	3	USA	1971	■ ■ ■ ■ ■	■ ■ ■ ■ ■	■ ■ ■ ■ ■	○ ○ ○ ○ ○	■ ■ ■ ■ ■
O	3	Canada	1971	■ ■ ■ ■ ■	○ ○ ○ ○ ○	○ ○ ○ ○ ○	■ ■ ■ ■ ■	■ ■ ■ ■ ■
O	3	Argentina	1960	■ ■ ■ ■ ■	■ ■ ■ ■ ■	■ ■ ■ ■ ■	○ ○ ○ ○ ○	■ ■ ■ ■ ■
W	3,4	Western Europe	around 1960	■ ■ ■ ■ ■	○ ○ ○ ○ ○	○ ○ ○ ○ ○	■ ■ ■ ■ ■	■ ■ ■ ■ ■
W	3	Prussia	1925	■ ■ ■ ■ ■	○ ○ ○ ○ ○	○ ○ ○ ○ ○	○ ○ ○ ○ ○	■ ■ ■ ■ ■
E	3,4	Rumania	1942	■ ■ ■ ■ ■	■ ■ ■ ■ ■	■ ■ ■ ■ ■	■ ■ ■ ■ ■	■ ■ ■ ■ ■
W	3,4	Western Europe	around 1970	■ ■ ■ ■ ■	○ ○ ○ ○ ○	○ ○ ○ ○ ○	■ ■ ■ ■ ■	○ ○ ○ ○ ○
E	3,4	Rep. of Russia	1970	■ ■ ■ ■ ■	○ ○ ○ ○ ○	○ ○ ○ ○ ○	■ ■ ■ ■ ■	■ ■ ■ ■ ■

*Estimated from somewhat different original age groups

ii) The type of distribution, according to a classification which is somewhat arbitrary but has been found to be of practical use:

1. communities of "pre-modern" type in the sense explained in Section 7.3. In these communities fertility and consequently proportion of children tend to be high (sometimes 40% and over). Such communities were found in Eastern Europe before the beginning of the 20th century and in many Asian-African countries before mass emigration to Israel.
2. Communities with an age distribution typical of a transitional situation (as explained in Sections 7.4 and 7.5).
3. Communities which underwent a prolonged and strong ageing process, and in which the proportion of children is relatively small and that of old people relatively high. For instance, among U.S.A. Jews, persons aged 0-14 constitute only 22% , and persons aged 65 and over are almost 12% . In this distribution and in those of other overseas Jewish communities, the aftereffects of large immigrational waves in the past may add some irregularity.
4. Communities largely affected by the Holocaust (Section 7.6). These effects are complex and cannot be properly assessed by using broad age groups as those in Table 8.11. Moreover, the age of the affected cohorts change with the passing time since the Holocaust.

While we cannot enter here into a discussion of this problem, Table 8.12 provides an example of age distribution of a group of Jewish survivors: displaced persons in the IRO (Internation Refugees' Organization) Camps in the American Zone of Germany in 1948¹. Both the proportions of children born in the period of Nazi persecution and mass murder, and those of old people were very small. On the other hand, the proportions of young people among the survivors were comparatively large, and so were those of children born during the short-lived "baby boom" which occurred immediately after the Liberation (see Section 7.6).

Many distributions of the remnants of European communities today are a blend of 3) and 4), and have also been affected by emigration. Therefore they are rather irregular. Their most marked characteristics are the very small proportions of children and high proportions of old people. Example such as those of Jewries in Western Europe and European Russian (R.S.F.S.R.) are typical.

Table 8.13 and Graph 8.3 show examples of immigration streams originating in given periods and countries. In order to help in their interpretation, Table 8.14 compares a) age distribution of immigrants and b) age distribution of the community of origin² in a few cases in which available data permit such comparison. For each age group, ratios 100 (a/b) are given..

¹ Dora Drutman. *Die Verschleppten in the IRO-Lagern der US-Zone Deutschlands*. Doctoral Thesis. Ludwig-Maximilian University of München, 1948.

² Not all comparisons are strictly correct. In particular, immigration from the U.S.S.R. includes a considerable proportion of people of Georgian origin. The age distribution of Georgian Jews may be supposed to include a much larger proportion of children than that of the R.S.F.S.R.

TABLE 8.12

AGE DISTRIBUTION OF IMMIGRANTS AFTER THE HOLOCAUST

Ages	Displaced persons USA zone of Germany 1948	Immigrants to Israel (1948-52) born in:				
		Hungary	Yugoslavia	Poland	Czecho- slovakia	Germany
0-4	13.9	8.4	8.3	12.4	15.8	41.3
5-9	3.6	2.5	4.4	3.5	1.9	2.7
10-14	4.1	4.9	5.9	4.6	2.9	3.5
15-19	8.3	12.7	6.5	5.0	4.7	5.3
20-24	13.3	17.3	8.4	8.3	13.4	8.4
25-29	15.3	15.1	9.3	13.7	17.8	7.1
30-34	11.9	6.9	7.6	12.9	10.3	4.2
35-39	10.3	7.4	11.9	12.1	11.2	4.7
40-44	6.8	5.9	11.6	9.5	8.6	5.2
45-49	4.0	5.4	8.8	6.1	5.7	4.6
50-54	3.0	4.6	6.7	4.3	3.4	3.7
55-59	2.2	4.1	4.6	2.8	2.0	3.2
60-64	1.8	2.3	2.5	2.3	1.0	2.5
65-69	0.8	1.3	1.8	1.4	0.6	1.7
70 and over	0.5	1.2	1.7	1.1	0.7	1.9
Total	100.0	100.0	100.0	100.0	100.0	100.0

TABLE 8:13

AGE DISTRIBUTION OF JEWISH IMMIGRANTS BY COUNTRIES AND PERIODS¹

Ordinal number	Region			Type of age distribution in community of origin	Degree of selectivity		Country	No. of immigrants	Years	Percentage aged				
	A	E	W	O	t	s				0-14	15-29	30-44	45-64	65 and over
1	A					s	Morocco, Tunisia	101,519	1952-64	44.0	26.4	15.5	11.7	2.4
2	A						Algeria	21,349	1948-68	42.2	29.8	15.1	10.1	2.8
3	A				t/s		Iran	48,307	1948-51	40.4	26.3	19.2	11.8	2.3
4	A				t		Yemen, Aden	30,943	1948-51	39.8	29.8	15.9	12.0	2.4
5	A				t		Libya	123,266	1948-51	39.1	29.1	13.9	13.2	4.7
6	A					s	Iraq	29,427	1955-57	36.4	9.3	29.9	22.2	2.2
7	A				3/4	s	Poland							
		E				s	Morocco, Tunisia							
8						s	Algeria	45,248	1948-51	33.6	45.0	13.7	7.0	0.7
9		E	W		3/4	s	Hungary	8,467	1955-57	26.3	10.1	19.8	37.7	6.1
10		E			3/4	s	U.S.S.R.	71,938	1969-75	23.9	24.8	19.5	21.7	10.1
11				O	3	s	Bulgaria	37,253	1948-51	22.8	22.0	22.0	26.1	7.0
12				O	3	s	Argentina	7,675	1969-75	22.3	41.8	18.9	13.7	3.3
13			W		3	s	U.S.A.	19,789	1969-75	20.1	48.8	17.2	10.3	3.6
14		E			3	s	France	2,727	1974-75	19.4	51.3	11.6	11.0	6.7
15		E			3/4	s	Rumania	87,143	1961-72	16.1	17.7	22.7	32.8	10.5
		E			3/4	s	Poland	4,674	1969-72	1.0	6.2	6.8	42.2	43.8

¹ For explanation of symbols, see text.

Graph 8.3

Age distribution of Jewish immigrants by countries and periods.
(for explanations of symbols, see text. Data of Table 8.13).

Region	Type of age distribution in community of origin	Degree of selectivity	Country	Years	Ages				
					0-14	15-29	30-44	45-64	65+
A	1	s	Morocco, Tunisia, Algeria	1952-64					
A	1	tr/s	Iran	1948-68					
A	1	t	Yemen, Aden	1948-51					
A	1	t	Libya	1948-51					
A	1	t	Iraq	1948-51					
E	3/4	s	Poland	1955-57					
A	1	s	Morocco, Tunisia, Algeria	1948-51					
W	3/4	s	Hungary	1955-57					
E	3/4	s	U.S.S.R.	1969-75					
E	3	t	Bulgaria	1948-51					
O	3	s	Argentina	1969-75					
O	3	s	U.S.A.	1969-75					
W	3	s	France	1974-75					
E	3/4	s	Rumania	1961-72					
E	3/4	s	Poland	1969-72					

In the case of Libya, the distribution of immigrants is rather similar (apart from aged 65 and over) to that of the community of origin (in which probably no large changes occurred between 1931 and 1948). This is a situation typical of all the communities which were transplanted almost in their entirety to Israel. We have indicated such distributions by the symbol *t* in Table 8.13 and Graph 8.3. Yemen, Iraq and Libya are examples of the transplantation of communities with type 1 age distributions. Bulgaria is an example of the transplantation of a community with a type 3 age distribution. In all other examples, immigration is selective (*s* in Table 8.13 and Graph 8.3). A very frequent type of selection is over-representation of young ages (say: 15–29) and under-representation of old ages. However, there are also other types of selection. For instance, the immigration from Poland in 1969–72 included 86% of people aged 45 and over.

Immigration from Iran has been indicated by the symbol *t/s*, because it included only a limited proportion of the community, but its age distribution can be assumed to be rather similar to that of the Iranian Jewry taken as a whole, as it was a few decades ago.

Table 8.15 and Graph 8.4 give an overview of changes which occurred in the course of time in the age distribution of the immigrants.

Panel A shows the age distribution of immigrants born in Asia and Africa; during 1952–64 this distribution was very similar to the structure of communities of origin (see the examples of Morocco and Libya in Table 8.11 and Graph 8.2). Since 1965 there has been a progressive transformation which reflects presumably both a change of age structure of the small remnants of Jewish communities in Asia and Africa and an increasing selectivity of the immigration (with higher proportions of young people).

Panel B shows the age distribution of immigrants born in Europe and America. For the big wave of 1948–51 a better picture is given by the detailed distributions of Table 8.12; some of them reflect a transplantation immigration of people having a distribution more or less similar to that of the displaced persons in Europe. The immigration of people born in Germany shows a very large proportion of children (who were born to parents of many origins in German camps after the Liberation).

In later periods, the dominant characteristics of European-American immigration are: low proportion of children and a rather high proportion of old people which reflect traits of the communities of origin. In recent years, with the stronger influence of immigration from the West and from Russia, selection has brought to an increase in proportions of young people.

Panel C shows the age distributions of all the immigrants together since 1928. It is seen that:

- 1) During the Mandatory period, immigration, which was then predominantly European, had very large proportions of young people: persons aged 15–29 formed almost half of the total and reached even larger proportions in certain periods (1928–31, 1946–48; “illegals” of 1939–45). Children constituted a small proportion of the immigrants. This type of distribution was strongly at variance with that of communities of origin (see, for instance, in Table 8.11: Poland 1921, U.S.S.R. 1926, Prussia 1925). It was mainly due to the selective

TABLE 8.14

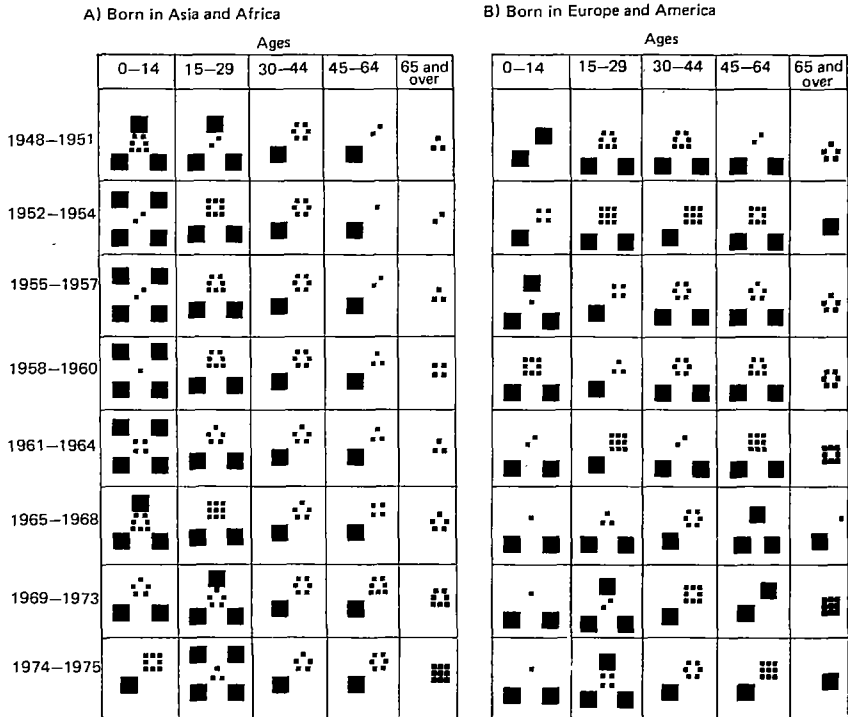
COMPARISON BETWEEN AGE DISTRIBUTION IN JEWISH IMMIGRATION
TO ISRAEL AND IN JEWISH POPULATION OF COUNTRIES OF ORIGIN

	Percentage aged				
	0-14	15-29	30-44	45-64	65 and over
a) Immigration: Libya 1948-51	39.8	29.8	15.9	12.0	2.4
b) Population: Libya (1931)	40.6	26.8	17.4	11.8	3.4
Ratio 100 (a/b)	98	111	91	102	71
a) Immigration: Morocco, Tunisia, Algeria 1948-51	33.6	45.0	13.7	7.0	0.7
b) Population Morocco 1951	42.9	24.8	20.6	5.8	5.9
Ratio 100 (a/b)	78	181	67	121	11
a) U.S.A.: Immigration 1969-75	20.1	48.8	17.2	10.3	3.6
b) U.S.A. Population 1971	22.2	24.1	16.7	25.5	11.5
Ratio 100 (a/b)	91	202	103	40	31
a) U.S.S.R.: Immigration 1969-75	23.9	24.8	19.5	21.7	10.1
b) R.S.F.S.R: Population 1970	10.5	15.6	23.1	31.0	19.8
Ratio 100 (a/b)	228	159	84	70	51
a) Argentina: Immigration 1969-75	22.3	41.8	18.9	13.7	3.3
b) Argentina: Population 1960	20.5	22.0	22.2	27.5	7.8
Ratio 100 (a/b)	109	190	85	50	42

Graph 8.4

Age distribution of Jewish immigrants by
continent of birth and period of immigration
(1928–1975)

Data of Table 8.15.



C) All continents

	Ages				
	0-14	15-29	30-44	45-64	65 and over
1928-1931					
1932-1938					
1939-1945 "Legals"					
1939-1945 "Illegals"					
1946-1948					
1948-1951					
1952-1954					
1955-1957					
1958-1960					
1961-1964					
1965-1968					
1969-1972					
1973-1975					

TABLE 8.15

**AGE DISTRIBUTION OF JEWISH IMMIGRANTS
BY CONTINENT OF BIRTH AND PERIOD (1928-75)**

Years	Percentage aged				
	0-14	15-29	30-44	45-64	65 and over
A) Born in Asia and Africa					
1948-51	37.2	31.9	15.6	12.0	3.3
1952-54	42.2	28.3	16.2	11.0	2.3
1955-57	41.7	27.2	16.4	12.2	2.5
1958-60	41.0	27.0	15.5	12.8	3.7
1961-64	43.5	25.0	15.2	13.0	3.3
1965-68	36.7	29.4	15.2	13.9	4.8
1969-73	25.4	35.3	16.0	16.8	6.5
1974-75	18.0	42.8	14.6	16.0	8.6
1948-75	38.4	29.8	15.7	12.6	3.5
B) Born in Europe and America					
1948-51	19.9	27.0	26.5	21.5	5.1
1952-54	13.7	29.3	18.6	28.0	10.4
1955-57	31.4	13.7	25.7	24.5	4.7
1958-60	27.9	13.4	26.1	26.7	5.9
1961-64	21.5	19.2	22.0	29.3	8.0
1965-68	20.8	22.8	15.8	30.0	10.6
1969-73	21.2	31.9	18.0	19.6	9.3
1974-75	21.2	33.5	16.3	18.9	10.1
1948-75	21.6	25.8	22.9	22.7	7.0
C) All continents of birth ¹					
1928-31	13.2	62.1	11.4	(9.4) ²	(3.9) ²
1932-38	18.9	43.0	20.8	13.7	3.7
1939-45					
"Legals"	20.5	40.5	21.1	15.2	2.6
1939-45					
"Illegals"	6.1	53.3	27.2	12.5	0.9
1946-48	13.7	62.0	16.0	6.6	1.7
1928-48	17.6	46.7	20.1	12.6	3.1
1948-51	28.2	29.4	21.2	16.9	4.3
1952-54	34.7	28.5	17.1	15.3	4.4
1955-57	37.8	23.1	19.5	16.2	3.4
1958-60	31.8	18.7	22.2	21.7	5.6
1961-64	34.2	23.0	18.0	19.4	5.4
1965-68	28.0	27.3	15.8	20.6	8.3
1969-72	22.3	33.8	17.3	18.4	8.2
1973-75	21.2	31.9	17.2	19.6	10.1
1948-75	34.7	28.5	17.1	15.3	4.4

¹ Incl. tourists settling.² Estimate

and largely pioneer character of immigration during various phases of the Mandatory period.

2) Age distribution of immigrants in 1948–51 is a blend formed in almost equal proportions by two completely different distributions, reflecting respectively that of Asian-African communities and that of European survivors of the Holocaust.

3) In 1952–64 the dominant characteristic is the high proportion of children, reflecting the effects of the still high fertility of Asian-African communities. Since 1965 the proportion of children among the immigrants is rapidly decreasing, while that of young people is again increasing, reflecting both the lower proportion of children in the Diaspora and the higher selectivity of the immigration.

4) Since 1961 the proportion of old people among the immigrants is continuously increasing. This is due mainly to the effects of the ageing process which strongly affects Diaspora Jewry.

5) The comparison of the three cumulative distributions given in Table 8.15 shows that the differences are quite striking:

	Proportion at each age				
	0–14	15–29	30–44	45–64	65 and over
All immigrants 1928–48	17.6	46.7	20.1	12.6	3.1
Born in Europe and America 1948–75	21.6	25.8	22.9	22.7	7.0
Born in Asia and Africa 1948–75	38.4	29.8	15.7	12.6	3.5

6) In consequence of the differentials in age distribution between the Europe-America born and Asia-Africa born, the percentage of immigrants of each origin within each age group, changes considerably as shown by the following:

Percentage of immigrants of each age, born	0–14	15–29	30–44	45–64	65 and over	All ages
in Europe and America	37.1	47.7	60.5	65.4	67.9	51.3
in Asia and Africa	62.9	52.3	39.5	34.6	32.1	48.7

While each origin accounts for about half of the immigrants, among the children almost 2/3 were born in Asia-Africa while over 2/3 of old people were born in Europe-America.

As origin differences also imply educational and socioeconomic differences, these findings are of great importance from the viewpoint of Israeli society. However, we shall not discuss these problems here. Also labor force implications of age structure of immigrants will be discussed later (see Chapter 16).

IV IMMIGRANT ABSORPTION

8.12

REMARKS ON THIS TOPIC

Immigrant absorption has many facets. From the viewpoint of the immigrant's welfare, solutions have to be sought to problems such as sheltering on arrival, permanent housing accommodations, occupational, cultural and social adaptation.

From the viewpoint of society, increasing heterogeneity created by the immigration from many countries and the large influx of people with poorer economic, health and educational standards have created complex problems (see Chapters 15 and 16). In the changing scene of Jewish Palestine and Israel, some of these processes have been accomplished spontaneously, and some have been favored or hindered by the surrounding society. Moreover, specific policies adopted for facilitating absorption, the activities of the schools and the army (where immigrants or their children are in close contact with older residents), the activities of institutions established by the government and other public bodies for fostering absorption and helping the immigrants, the direct or indirect contacts of immigrants with government, municipal and other public offices, have all had a considerable impact on some absorption processes.

The methods used and the results of absorption processes have changed in the course of time with changes in the size and type of immigration streams, the economic, social and political conditions of the country, and the financial conditions of governmental and other agencies providing help¹. These processes have been extensively studied by sociologists and economists and have been hotly debated by politicians, since immigrant absorption and the economic and social gaps between people of different origins are still central problems in Israeli life; the literature on them is very large and cannot be even cursorily summarized or mentioned here. In this Monograph we deal only indirectly with some aspects of absorption connected with other topics, such as the following:

- 1) Some indirect remarks on sheltering of immigrants are given in the study of the geographical distribution of the population (Chapter 18) where also segregation of immigrants of various origins and lengths of stay is cursorily examined.

¹ For instance: 1) at the beginning of mass immigration (1948–51), the policies were mainly directed toward providing some kind of shelter (often only tents or huts in camps) and the bare necessities of life, such as meals, essential clothing, medical care, etc. 2) In the early 1950ies "transition camps" were established, mostly near existing towns. This facilitated the opportunities for the immigrants to find employment and to start a more normal family life by doing their own cooking, paying for provisions, etc. Relief work was being provided on a part-time basis. 3) The main economic branch whose development was favored was, in the beginning, agriculture (see Section 6.5). Later there was a switch toward manufacturing industries, mainly in "new towns" (see Chapter 18) 4) After 1967, when the proportion of immigrants from Western countries greatly increased, facilities for integration were put on a considerably higher standard. Accordingly, immigrants with post-secondary education are largely channeled to "Absorption Centers", where they can spend, together with their families, the first five months in the country, studying in intensive Hebrew courses and arranging in advance adequate housing and jobs. Other immigrants are provided with flats rented at highly subsidized rents, or which can be bought on comparatively easy terms. Special incentives are provided to persuade immigrants to settle in developing areas. However, serious consideration is given to employment opportunities in the immigrant's profession. 5) The recent immigration from Russia has necessitated provision of additional training for professionals accustomed to different working methods and having different experience from that usual in Israel. Moreover, retraining is arranged for highly skilled professionals who cannot be integrated in their own professions.

2) Some data on occupational distribution of immigrants according to origins, are quoted in the chapter on the labor force (Chapter 16)).

3) With regard to social evolution, adaptation and cultural assimilation, the following points have been discussed: the advancement in the educational levels of people of Asian and African origin (Sections 15.5—15.8); the adoption of a common language (Hebrew) by the great majority of the immigrants and their offspring (Sections 15.1—15.3).

4) Large strata of immigrants, mainly of Asian and African origin, were, upon arrival in Israel, at an earlier stage of demographic transition than that generally prevalent in Israeli society at large. Some aspects of the later demographic evolution of these immigrants from the viewpoints of nuptiality health, mortality, habits, fertility and family planning are discussed in Chapters 10—13.

5) Two demographic features which can be considered as tests of degree of absorption of new immigrants and their offspring into the Israeli society have been studied: (a) the tendency of immigrants of each origin to remain secluded in marriage or to intermarry with people of other origins (see Sections 10.6 and 10.7); (b) the unconscious or conscious decision of the immigrants to remain in the country or to leave it, as it is finally expressed by re-emigration rates. Measures and characteristics of re-emigration are discussed in Section 9.4.

CHAPTER 9

OTHER MIGRATORY MOVEMENTS

9.1 TOPICS DISCUSSED IN THIS CHAPTER. METHODOLOGICAL PROBLEMS IN MEASURING EMIGRATION

Jewish immigration (discussed in Chapter 8) is the dominant but not the only migratory movement of demographic importance across the frontiers of Mandatory Palestine and Israel. To complete the picture of these movements and of their demographic effects, the following topics are here examined: a) Jewish emigration: volume (9.2, 9.3); re-emigration of immigrants and emigration of Israeli-born (9.4, 9.5); directions of emigration (9.6); size of Jewish population of Israeli origin abroad (9.7). b) Migratory movements of Moslems and Christians (9.8: Mandatory Palestine; 9.9: Israel). c) Migratory balance and its influence on population growth (9.10). At the end of this chapter — an overview of all migratory movements and perspectives for their future is given (9.11).

The statistical study of current emigration streams (size, composition and directions) and of the number of Israeli remaining permanently abroad, is fraught with many difficulties (these are discussed in Appendices 6.5C and 7.4B, where sources of data are explained).

1) Since the inception of the Mandate, yearly data are available on residents declaring at departure their intention to leave the country permanently or for a long period¹. However, these data have become increasingly inadequate to measure the current size of emigration (although they may be of use for studying its composition): while in the 1920ies most emigrants were probably included in this set of statistics, later an increasing proportion of persons remaining permanently abroad did not declare on leaving their intention to do so. There may be many reasons for this: for instance, they may not have decided to emigrate at the time of departure; or the fear of losing the right of residence, should they declare their intention to leave; or they may have felt a sense of shame in declaring emigration, because of the implicit blame often attached by public opinion to the connotation of *yored* (the Hebrew term for emigrant from the Land of Israel).

2) Therefore we have largely utilized in this Chapter another set of statistics which is also available since the Mandatory period and can roughly indicate an upper bound to the size of emigration, viz. the excess of the number of residents departing (during periods of many years) over the number of residents returning.

¹ During the Mandatory period, an intended absence, respectively of over or under one year, was taken as the dividing line between emigration and travel abroad of residents.

3) With the increasing number of Israeli residents traveling abroad, this simple method becomes also less and less reliable, as the volume of emigration is to be calculated out of a very large number of persons leaving or returning. Various devices have been introduced in the course of time to evaluate emigration size, by follow-up of the number of residents who left in each year and did not return after a given span of time (such as: 3 months, 1 year, 2 years, etc.). Results of these methods briefly described in Appendix 7.4) are given below as "revised estimates" of emigration¹.

4) Almost always these estimates of set 3 are lower than those of set 2. However, they have also been found to be somewhat exaggerated, because a number of the persons included in these estimates as emigrants, return to the country even after very long sojourns abroad. For instance, for the period 1948–75, it has been calculated that:

- set 2 (excess of departures over arrivals) suggests a volume of Jewish emigration of 279,700;
- set 3 (revised estimates) indicates about 250,000; however, the actual size (set 4) may roughly be estimated at 215,000². This implies a correction of 23.1% between 2) and 4).

For the Mandatory period an estimate of type 2) is available indicating a total emigration of 64,951 between 1920 and 14.5.1948. Under the circumstances prevailing in that period a correction by 23.1% would appear too high. Taking about one half of it the total emigration in that period can be roughly estimated at 57,500.

We thus have in rounded figures:

	Jewish emigration		
	Set 2 Very exaggerated	Set 3 Exaggerated	Set 4 Final estimate
1920–14.5.1948	65,000		57,500
15.5.1948–1975	279,700	250,000	215,000
1920–1975	344,700		272,500

For shorter periods no estimates of type 4 are available. The rates and ratios of Table 9.1 are therefore calculated according to method 2, and for 1948–75 also according to method 3.

5) Even more difficult than current estimates of emigration is the evaluation of the number of Israelis residing abroad. The census of 1922³ gave an evaluation

¹ On this topic see: Z.Rabi, "Emigration from Israel", *Supplement to the Monthly Bulletin of Statistics*, No. 10, 1976.

² This correction takes into consideration the return of departing residents after long periods of absence. See E.F. Sabatello, *Emigration of Immigrants. The Israeli Case* (forthcoming).

³ *Report and General Abstracts of the Census of Palestine of 1922*, compiled by J.B.Barron. Jerusalem, Greek Convent Press, Table XXIII, Vol. 1, pp. 61–64 and 76.

of the number of "Palestinian citizens residing abroad" (see below in Sections 9.2 and 9.6); however, no explanation of the method followed for obtaining it was offered. We may guess perhaps that the families enumerated in the country were asked to give information concerning their relatives abroad. The results obtained were indicated in the Census Report as "approximate". Under the circumstances in which the 1922 census was taken (see Appendix 6.2) the degree of under-reporting should probably be considered large. However, this is the only direct estimate available for residents abroad at a given point in time and we have taken it as our starting point for the rough calculation described below.

Due to its purely conjectural character we have not utilized here an attempt to measure emigrants' population quoted in the Palestine Census of 1931 (see Report, op. cit., vol I, pp. 61-65 and 76).

As for later periods no comprehensive direct count exists, so far as we know, of the Jewish population of Israeli origin (however defined) living abroad¹, we have tried to evaluate roughly the cumulative "demographic loss" incurred by the Jewish population of Israel due to emigration (actual size of population formed abroad by the emigrants and their descendants).

To do so, we have assumed that if the emigrants had remained in Israel they would have been subject to a natural increase similar to that of Jews of European origin in Israel². Under this hypothesis we can evaluate as follows the order of magnitude of the emigrants' population:

	"Population of emigrants" (and their descendants)	
	Original	Actual size at the end of 1975 rounded
Size at the end of 1922	6,300	13,800
Emigrated 1923-47	48,400	92,800
Emigrated 1948-75	215,000	264,480
Total	269,700	371,000

9.2 JEWISH EMIGRATION IN THE LATE OTTOMAN PERIOD

As far as we know, no statistical reconstruction of the size of emigration in this period has been undertaken. However, there can be little doubt about the fact that number of re-emigrants was comparatively high, both among the pre-modern immigration (see Section 8.1) and among the first modern immigration streams (1881-1914). As already mentioned (Section 4.6), during the World

¹ Only fragmentary indications on Israelis can be obtained by the censuses of certain countries. No statistics are available on births, deaths, accessions and withdrawals occurring in the population of Israeli residents abroad.

² Due to the approximate character of the calculation and to the lack of basic data, we have ignored: (i) the possible effects of age distribution of the population formed by the emigrants and their descendants; (ii) oscillations in the rate of natural increase in the course of time. We have adopted a constant yearly rate of natural increase of 15 per 1000. This is a rounded average of annual rates of natural increase found (a) in the Jewish population of European origin in Israel during 1948-74; (b) in the entire Jewish population of Palestine during 1923-48 (this population in its large majority was of European origin).

War I deportations by the Ottoman authorities, exodus of citizens of countries at war with the Turkish empire, and emigration due to difficult local conditions concurred to reduce considerably the size of the Jewish population.

After the war, a part, but not all of the deportees and emigrants returned. From the 1922 census it appears that at least 6,264 Jews of Palestinian nationality resided abroad; this number corresponded to 7% of the population formed by them and by the Jews enumerated in Palestine (see Section 9.6 on their geographical distribution).

9.3 SIZE OF JEWISH EMIGRATION IN MODERN TIMES

Table 9.1 compares the two sets of data on emigration mentioned in Section 9.1, respectively, to the size of the Jewish population in the country (see rates of columns 4 and 5) and to the size of Jewish immigration (see rates of columns 6 and 7).

It appears from these rates and ratios that emigration has been continuous during the surveyed period, but has been subject — like immigration — to strong long-run and short-run variations.

For instance, during the first part of the Mandatory period (1920–31) it had on the average the comparatively high yearly level of about 30 emigrants per 1000 population, and reached the climax of 61 during the economic crisis of 1926–27. During the 1930ies and during the Word War II, it went down to minimal levels (1932–35: 1.5 per 1000; 1939–44: 0.7 per 1000), apart from the short interval of 1936–39 (almost 20 per 1000). During the Statehood period it has had much lower levels included between 2 and 8 per 1000.

These rates do not appear high¹ when compared to emigration rates prevailing in countries with strong immigration.

Even stronger variations from period to period are shown by ratios of emigration to immigration: in periods such as 1926–27, 1937–39, 1952–54, 1958–60, 1965–68, 1974–75 they reached comparatively very high levels. This can be explained by the following: after large immigration waves (such as those of 1924–25, 1932–36, 1948–51, 1955–57, 1961–64 and 1969–73) there occurs a delayed emigration wave largely due to re-emigration of recent immigrants (Section 9.4). This strengthened emigration occurs, at least partly, in periods in which immigration is at a low level.

Taking long periods into consideration, these effects are ironed out; emigration is thus found to have offset about 28% of immigration in the first part of the Mandatory era (1920–31), about 9% in the second part (1920–48) and about 18% during 1948–75. These ratios do not appear high in comparison with ratios recorded in countries with strong immigration².

¹ For instance, average yearly rates of emigration per 1000 population in 1961–68 were as follows: Israel 5.0; Australia 7.2; New Zealand 8.2; Federal Republic of Germany 8.3; (see E.F.Sabatello, op. cit.).

² For instance, the proportion of emigrants per 1000 immigrants was: Argentina 1857–24: 47; U.S.A. 1908–24: 34; Australia 1906–24: 70.

EMIGRATION OF JEWS FROM PALESTINE AND ISRAEL (1920–1975)

Period	Yearly number of emigrants		Rates per 1000 population		Emigrants per 100 immigrants	
	Excess of departures over returns of residents	Revised estimate	Excess of departures over returns of residents	Revised estimate	Excess of departures over returns of residents	Revised estimate
1	2	3	4	5	6	7
Mandatory Palestine						
1920–23	2,277		30.93		27.3	
1924–25	2,094		28.48		8.7	
1926–27	6,218		61.20		73.6	
1928–31	1,575		14.30		38.1	
1932–35	360		1.48		0.9	
1936–38	5,712		19.67		31.2	
1939–44	333		0.68		2.6	
1945–14.5.48	3,677		6.38		16.9	
Israel						
15.5.48–						
31.12.51	7,238	7,649	7.24	6.93	3.8	4.0
1952–54	11,451	10,833	7.81	7.43	63.5	60.1
1955–57	10,394	9,333	6.36	5.70	18.9	17.0
1958–60	12,388	9,833	6.76	5.37	49.2	39.1
1961–64	10,292	10,134	4.97	4.90	18.1	17.8
1965–68	10,153	8,910	4.33	3.81	49.9	43.8
1969–73	5,986	4,221	2.28	1.61	13.2	9.3
1974–75	19,463	17,473	6.17	6.02	74.9	67.2
Averages						
1) 1920–31	2,630		30.02		27.8	
2) 1932–48	2,013		5.33		9.0	
3) 1920–48	2,289		15.89		13.5	
4) 1948–75	10,123	9,047	5.63	5.05	17.8	15.9
5) 1920–75	6,154		10.83		16.8	

A deep analysis of the effects of political, economic¹, psychological and sociological factors on variations of emigration rates and ratios might be interesting, but it would require research of the type mentioned in Section 8.3 for immigration, which is difficult to undertake and, in any case, outside the scope of this Monograph.

9.4 THE RE-EMIGRATION OF IMMIGRANTS

The proportion of foreign born among emigrants² is very large and exceeds their share in the population:

	Proportion of foreign born					
	Total 1948— 1969	1948— 1959	1955— 1957	1958— 1961	1962— 1964	1963— 1969
Among Jewish emigrants	75.4	84.7	78.5	73.4	70.5	64.9
In the Jewish population of Israel	63.3	71.3	66.7	63.2	61.1	57.2

The same was also true during the Mandatory period³.

Among the foreign born the propensity to emigrate is much larger for those who arrived recently than for those who were in the country for a long time. For instance, rates of emigration⁴ during 1962–69 per 1000 persons who immigrated in 1962–69 varied according to length of stay in the country as follows:

Up to 1 year	Length of stay (years)				
	1–2	2–3	3–4	4–5	
26.8	36.8	21.4	16.0	14.2	

The same conclusions can be drawn from Table 9.2 which refers to large classes of years of stay and to emigration in 1948–73. Other sets of data show that this is also true for very recent years⁵ and that it was also true for the Mandatory period⁶.

¹ For instance, comparison of rates of immigration, emigration, net migratory increase and growth per capita of domestic product at fixed prices, indicates some relationships in certain periods. However, in other periods the effects of political and other factors are dominant.

² See Sabatello (op. cit.). "Emigrants" in this set and in other sets derived from the same sources and quoted below are defined as follows. Respectively: a) for 1948–51 b) 1952–57, residents who left and who did not return until the end of a) 1952, b) 1958. For 1959–61: declared emigrants and estimate of not declaring emigrants. For 1962–69: residents abroad for 4 years or more.

³ For instance, the proportion of born abroad among Jewish residents departing for more than one year was 84.9% in 1935–39, 80.6% in 1940–45. These percentages may be compared to the percentages of foreign born among the Jewish population at the censuses of 1931 (57.8%) and 1948 (64.6%).

⁴ See Sabatello, op.cit.

⁵ See source (b) quoted below.

⁶ For instance, among 28,007 Jewish emigrants in 1920–29, 75.0% were immigrants who entered the country after 1918. See *Statistical Abstract of Palestine* 1929, by D. Gurevich, Jerusalem, Keren Hayesod, 1939, p.44, and R. Katznelson, *L'immigrazione degli Ebrei in Palestina nei tempi moderni*, Comitato Italiano per lo studio dei problemi della popolazione, 1931, p.83. This percentage was much larger than the percentage of postwar immigrants in the Jewish population.

TABLE 9.2

**FOREIGN BORN JEWISH EMIGRANTS PER 1,000 IMMIGRANTS
BY PERIODS OF IMMIGRATION AND DEPARTURE (1948-73)¹**

Period of immigration (born abroad only)	Total	Period of departure						
		15.5.48-1951	1952-1954	1955-1957	1958-1960	1961-1964	1965-1969	1970-1973
Up to 1947	108	16	20	26	13	16	18	..
1948-51	120	28	32	19	10	13	16	..
1952-54	149	—	64	46	7	14	17	..
1955-57	76	—	—	12	19	23	21	..
1958-60	90	—	—	—	17	40	33	..
1961-64	66	—	—	—	—	29	37	..
1965-69	52	—	—	—	—	—	52	..
1970-72	56 ²	—	—	—	—	—	—	56 ²

¹ Derived from Sabatello, op. cit. The rates are per 1,000 immigrants who "survived" up to the end of the year before each emigration period. For those who left in the same period of their arrival, the rates were computed per 1,000 immigrants who arrived in the period. Rates' sum may slightly differ from total because of rounding.

² Immigrants aged 18 or more (not including potential immigrants).

The re-emigration of immigrants who remained in the country for a relatively short time appears thus to be a very important component of emigration. It can generally be interpreted as a backflow of people who did not succeed in finding the hoped-for settlement in the new country. However, re-emigrating people do not always return to their country of origin (see Section 9.6), and the propensity to re-emigrate differs greatly between the various immigration waves and countries of origin. To measure these differentials, various approaches have been followed, such as:

- compilation of statistics of the type used in Table 9.2, in which estimates of emigrants classified by length of stay in the country are compared to estimates of population having the same duration of stay. Rates of emigration per 1000 persons of each country or continent of birth have been compiled in a similar way¹;
- study of emigration among cohorts of immigrants which have been followed up in a sample study of absorption of immigrants arriving in Israel since 1969²;
- indirect inferences from the relative size of emigration in various periods, measured by methods such as those exemplified in Table 9.1;
- comparisons made in the 1948 census between data on the population classified by country of birth and length of stay, and migration statistics by country of birth in pre-census periods³.

¹ See the paper by Sabatello (op.cit.) and an unpublished study on emigration in 1952-57 compiled by the Central Bureau of Statistics of Israel.

² This sample study is carried out by the Central Bureau of Statistics of Israel (see Appendix 7.8). Data on emigration based on this sample and quoted here are taken from Sabatello (op.cit.).

³ See B.Gil and M.Sicron. *Registration of Population (8.XI.1948)*, Part B, pp.XXXIV-XLI. Jerusalem, Central Bureau of Statistics, Special Series No. 53, 1956.

Due to the lack of space we cannot quote here detailed data obtained from these sources. However, some of the main findings are given below: a letter indicates on what type of source (out of those enumerated above under a,b,c,d) the finding is based.

1) *First part of Mandatory period.* The high propensity to emigrate during 1920–31 seen in Table 9.1 is confirmed by more detailed data for this period. Emigration was considerable among the Russian born in the 1919–23 wave (d), and it was very high among Polish-born and Rumanian-born immigrants of 1924–31 (d). Among them, the most important group were middle class Polish immigrants of 1924–25, many of whom could not be absorbed by the still under-developed economy of Palestine at that period. In this respect, it is typical that among the emigrants registered in 1926–27, 91.5% were recent¹ immigrants.

2) *Second part of Mandatory period.* The decrease in emigration in the 1930ies and early 1940ies indicated by Table 9.1 was largely due to the strong decline of re-emigration of immigrants (d). The continuous increase in Nazi persecutions, spread of virulent anti-Semitism also outside the Third Reich, increasing difficulties facing freedom of international migratory movements and later the outbreak of World War II, put considerable obstacles to the emigration movements from Palestine.

However, some re-emigration of immigrants of 1932–36 actually occurred, mainly among persons of German and Polish origin (d). Emigration was comparatively higher in 1936–39 possibly due to the after effects of the strong immigration wave of 1932–35 and to the Arab riots which broke out the same time and worsened to a considerable extent the economic and political situation.

Another increase in emigration occurred in 1945–48 (Table 9.1). Possibly this was due to a greater freedom of travel after the long interruption caused by the war.

3) *Statehood period.* It may roughly be estimate that among immigrants of 1948–75 about 9.3% re-emigrated². According to the data of Table 9.2 re-emigration rates did not change very largely among the various immigration waves; possibly they were somewhat greater (i) among the mass immigration wave of 1948–51 and (ii) among the immigration wave of 1969–72 which was mainly of Western origin.

4) *Re-emigration according to origins.* Re-emigration is much greater among people born in Europe and America than among people born in Asia. The position of African born is intermediate. For instance, for emigration during 1948–69

¹ The available classification indicates that they immigrated to Palestine after the war, presumably most of them immigrated in 1924–26.

² See Rabi, op.cit.

the following indices of the propensity to emigrate¹ were calculated (taking as 100 the general average for all continents of birth):

Born in Asia (excluding Israel)	Born in Africa	Born in Europe and America
43.4	108.0	155.2

In the enquiry on emigration in 1952–57 quoted above, similar results were obtained. Re-emigration of people of Asian origin was minimal among those born in Arab countries such as Yemen or Iraq, and larger among those born in Turkey and Iran. Among European- or American-born, re-emigration was lower among people of Eastern European origin than among Central and Western Europeans and Americans. Recent follow-up samples of new immigrants (b) indicate a similar feature; they also show that the higher propensity to re-emigrate among people from Western countries is connected with the higher average education, linguistic groups and type of skill acquired, which allow a much greater choice of countries of possible destination. These are countries enjoying higher economic standards, which include their own countries of origin. This is partly true also with regard to French-speaking North Africans. On the other hand, the absence of these advantages and the practical impossibility of returning to their countries of origin explain partly the low re-emigration of people born in the Arab countries in Asia. :

5) *Other factors of differentials in re-emigration.* The analysis of new immigrants' samples (b) also reveals that: emigration rates are higher among younger people; single persons are more likely to emigrate than married people; low levels of schooling, high levels of Jewish religiosity and Jewish motivation for immigrating diminish the propensity to emigrate².

9.5 EMIGRATION OF ISRAEL BORN. SEX AND AGE DISTRIBUTION OF EMIGRANTS IN GENERAL

While re-emigration plays a very important role in emigration, it is evident from more recent statistics (given by Sabatello, op.cit.) that adult Israeli-born show an increasing propensity to emigrate. For instance, the average yearly rates of emigration per 1000 Israeli-born aged 20 and over have changed as follows:

¹ In order to measure differentials in the propensity to emigrate of the various population groups, the following procedure was used. Let us indicate: population groups (by age or sex, etc.) by i ; by e_i the number of emigrants from group i in a given period; by p_i the average population of i in the period considered; by $r_i = 1000 (e_i/p_i)$ the rate of emigration for i ; by $r = 1000 (e/p)$ the corresponding rate for the entire Jewish population. Taking $100 (r_i/r)$, we obtain an Index number measuring the propensity to emigrate of i in a given period, as compared to the propensity for the entire population. To abridge the presentation, index numbers calculated with regard to various years or groups of years, have been averaged (by giving the same weight to each year). The rates used have been taken from the paper by Sabatello quoted above.

² See Sabatello, op.cit., and a summary table on re-emigration of new immigrants according to their characteristics appearing in the *Statistical Abstract of Israel, 1976*, pp.134–135.

1948-51	1952-54	1955-57	1958-61	1962-64	1965-69
0.9	4.4	5.3	4.3	7.5	6.7

Considering together Israeli-born and foreign-born it is found that the propensity to emigrate is somewhat greater among men than women and that it is greater among young people than among older age groups. For instance, taking again as 100 the average propensity to emigrate, the following indices by sex and age are obtained:

		Males	Females	Total
1952-57		103	97	100
1948-69		106		100
All ages	1952-57 100	All ages		1948-69 100
0-9	73	0-14		73
10-19	63			
20-29	119			
30-39	139	15-44		118
40-49	115			
50-59	113	45 and over		104
60-69	125			
70 and over	99			

The above indices show — though very mildly — similar characteristics to those which are frequently found in international migratory movements prompted by economic motivations¹. The peculiar feature found in Israel of a high propensity to emigrate among people aged 50-70 may perhaps be connected with the greater difficulties of adaptation in a new country facing elderly immigrants.

9.6

DIRECTIONS OF EMIGRATION

Table 9.3 shows the geographical distribution of emigration by groups of countries of destination. Col. 2 indicates the distribution of Palestine Jews abroad according to the census of 1922 and thus gives some information on the direction of emigration in the late Ottoman period. Cols. 3-4 are derived from the Mandatory statistics on the distribution of Jews who left Palestine for more than one year in 1935-45. Cols. 5-8 are based on the statistics of countries of destination of persons who left Israel and failed to return in 1948-75.

The three sets of statistics, despite the differences in methods of collection, show that part of the emigrants went to countries from which immigration originate confirming the "backflow" character of some of the movements. However, this has been true only a very small scale for immigrants from Moslem countries², and Eastern Europe after the World War II³.

¹ Another factor, viz. the importance of having family connections in the country of intended destination emerges from the *Report on determinants of emigration* prepared by the Department of Sociology, Jerusalem, The Hebrew University, 1959 (Hebrew).

² The strange feature revealed by the 1922 figures of a large concentration of Jewish emigrants in Egypt and Syria was the consequence of the fact that people deported by the Ottomans, or who otherwise emigrated during the World War I largely went to those countries.

³ For 1953-58 the following data are available: out of 100 emigrants a) the number who went back to their country of birth was 25.2; b) to another country on the same continent 6.2; c) to another continent 68.6. The differentials in regard to (a) are very large - according to the country of birth of the emigrants. For example, out of 100 emigrants born in Eastern Europe and the Balkans, only 13.6% went back to their country of birth; among those born in the U.S.A., 96.2%.

TABLE 9.3

DISTRIBUTION OF JEWISH EMIGRANTS BY REGION OF DESTINATION (1922-1972)

Region	Palestine citizens abroad 1922	Emigrants ¹ during					
		1935-39	1940-45	1948-51	1952-64	1965-72	1948-72
1	2	3	4	5	6	7	8
1. Turkey and Iran	1.2	1.1	25.1	8.6	4.3	3.0	4.3
2. Other Asian countries	4.5 ³	1.6	7.8	1.7	1.0	1.0	1.1
3. Morocco, Tunisia and Algeria	6.9	0.2	—	7.8	2.1	0.9	2.3
4. Other African countries	13.6 ⁴	3.1	8.5	2.4	1.4	1.6	1.7
5. Eastern Europe ²	29.4	18.1	1.4	4.1	2.6	0.6	1.9
6. Central Europe ²	3.8	5.5	—	8.0	3.6	6.0	5.2
7. Other European countries	6.7	8.4	4.6	37.3	22.2	38.8	31.4
8. U.S.A.	22.4	51.0	43.1	14.3	41.8	33.1	34.4
9. Canada	0.6	1.0	1.0	7.1	9.5	7.0	8.1
10. Other countries in America and Oceania	10.9	10.0	8.5	8.7	11.5	8.0	9.6
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0
a) Less developed (1-4)	26.2	6.0	41.4	20.5	8.8	6.5	9.4
b) Intermediate (5)	29.4	18.1	1.4	4.1	2.6	0.6	1.9
c) More developed (6-10)	44.4	75.9	57.2	75.4	88.6	92.9	88.7

1 Mandatory period and 1952-61: declaring intention to emigrate or to be abroad for over one year. Other periods: persons who left and did not return within given spans of time.

2 Eastern Europe includes, after 1948, the U.S.S.R., Poland, Rumania, Czechoslovakia and Hungary. Central Europe includes, after 1948, only Germany and Austria. For the definition of other regions, see Section 8.2.

3 Of this: Syria and Lebanon, 2.6%.

4 Of this: Egypt, 12.2%.

About 90% of the emigrants in the period 1948–72 have been attracted by more developed countries such as the U.S.A. (34.4%), Western and Central Europe (36.6%), Canada (8.1%), other countries in the Americas and Oceania (9.6%), and South Africa. In the Mandatory period the percentage of emigration towards these countries was smaller. However they attracted the majority of Jewish emigrants from Palestine. This again suggests that emigration movements have a prevalently economic motivation.

9.7 THE POPULATION OF JEWS OF ISRAELI ORIGIN ABROAD. RATIO OF EMIGRANTS' AND IMMIGRANTS' POPULATION BY REGIONS

As mentioned in Sections 9.1 and 9.2, at least 7% of Palestinian Jews resided abroad in 1922. At the end of 1975 the population formed by Jewish emigrants and their descendants may have had roughly an order of magnitude of some 371,000. (For method of calculation, see Section 9.1). This implies that about 11% of the Israeli Jews reside abroad.

Combining this estimated order of magnitude with the percentages of directions of emigration indicates by Table 9.3, we may obtain a very vague evaluation of the size of emigrants' population by geographic regions, as compared to immigrants' population in Israel¹ originating from the same regions:

Regions	Approximate size of population formed by		
	Jewish emigrants from Israe (a)	Jewish immi- grants in Israel (b)	Ratio 100 (a)/(b)
Asia-Africa	34,900	1,273,820	2.7
Eastern Europe	7,000	905,243	0.7
Germany and Austria	19,300	95,693	20.2
Other European countries	116,500	132,473	87.9
America and Oceania	193,300	53,626	360.5
	371,000	2,460,855 ²	15.1

It appears from these numbers that the emigration/immigration ratio shows very strong "gains" for Israel with respect to Asia-Africa and Eastern Europe; very

¹ The populations compared are: emigrants and their descendants classified by region of first destination (which may afterwards have been changed); born abroad living in Israel (classified according to region of birth), plus children of father born abroad (classified according to region of birth of their father).

² According to the 1972 census. It does not include 225,846 born in Israel to an Israeli-born father.

strong "losses" for America-Oceania¹; an almost balanced situation for Western Europe; and an intermediate position for Germany and Austria.

9.8 MIGRATORY MOVEMENTS OF THE NON-JEWISH POPULATION IN PALESTINE

Estimating the size of migratory movements of the Non-Jewish population during the Mandatory period, and mainly at the beginning and end of this period, is rather difficult — for reasons discussed in detail in Appendix 6.5. Despite that, we have tried to evaluate the volume of a) registered immigration and b) registered emigration by taking respectively: a) the total of the number of immigrants registered on arrival and the surplus of travelers arrived over travelers departed for many years; b) the excess of residents departing over residents returning (also calculated for many years).

Yearly averages and rates of immigration and emigration per 1000 population are presented in Table 9.4. Possibly both sets of rates overestimate to some extent the actual immigration and emigration movements of the Christians (see Appendices 6.5Bii and 6.5C). For the Moslems the opposite is true: the registered migratory traffic reflected by the rates of Table 9.4 constitutes only a part, and possibly not even the majority of actual traffic (Appendix 6.5B,ii).

Table 9.5 presents some indirect measures of mobility, viz.: i) the proportion of Palestinian citizens living abroad according to the (underestimated) data of the 1922 census; ii) the proportion of the population born abroad according to the census of 1931 and other sources.

Table 9.6 indicates the origins of immigrants and destinations of emigrants according to various sources.

Table 9.7 indicates the composition of immigrants and emigrants by sex, age and other characteristics.

¹ For the foreign country with the largest Jewish population of Israeli origin, the U.S.A., the following data are available from the 1970 census:

	Foreign born	Native of foreign or mixed parentage	Total	Native of native parentage	Grand total
<i>Country of origin:</i>					
Israel	35,858	23,239	59,097		
Hebrew mother tongue	36,112	45,883	81,995	19,691	101,686
Foreign parentage:		34,036			
Mixed parentage		11,847			

Part of "Hebrew mother tongue" may not be of Israeli origin. On the other hand, many immigrants to the U.S.A. born outside Israel and having resided for a certain period in Israel may have indicated their country of birth (and not Israel) as country of origin. For born in Israel the following unpublished data have been kindly communicated by the U.S. Bureau of the Census: males 18,590; females 15,878; total 34,468. Of these, immigrated before 1960: 15,484; 1960–64: 6,419; 1965–70: 12,565. Out of 15,914 aliens born in Israel: aged under 5: 824; 5–14: 2,766; 15–34: 9,332; 35–64: 2,630; over 65: 362.

TABLE 9.4

ESTIMATES OF NON-JEWISH IMMIGRATION AND EMIGRATION IN PALESTINE DURING THE MANDATORY PERIOD
(1920-1945)

Years	Yearly averages				Yearly rates per 1000 population			
	Moslems		Christians		Moslems		Christians	
	Immigrants	Emigrants	Immigrants	Emigrants	Immigrants	Emigrants	Immigrants	Emigrants
1920-23 ¹	314	859	661	831	0.6	1.6	9.2	11.9
1924-26	314	796	1029	1401	0.5	1.4	13.7	18.6
1927-31	347	827	1700	946	0.5	1.3	19.9	11.5
1932-35	1340	387	2579	588	1.8	0.5	26.5	6.0
1936-38	1106	3178	2067	2156	1.4	3.9	18.9	19.7
1939-44	958	888	2318	769	1.1	1.0	18.7	6.2
1945-46	1675	81	3901	2431	1.6	0.1	27.9	17.4
Average 1923-46	865	1013	2103	1177	1.1	1.4	20.0	11.7
Ratio of emigrants to 100 immigrants 1920-46	117		56					

¹ For immigrants: 1923 only.

TABLE 9.5

PROPORTIONS OF RESIDENTS ABROAD AND FOREIGN-BORN (1922–1944)

Year	Moslems (settled)	Christians	Total Non-Jews ¹
Residents abroad, per 1000 of population in Palestine and abroad			
1922	8.3	127.9	25.8
Foreign-born per 1000 of population			
1922	18.0		17.7 ²
1931			39.4
	Per 1000		
	males	females	
1931-population	21.1	14.9	
1939-deaths	9.5	9.5	
1939-births, data for parents	11.3	26.2	
1938–44. First births. Data for parents.	12.3	26.1	

¹ Including "Others" (mainly Druzes).² Rough evaluation based on the 1931 census (see *Report of 1931 Census*, op.cit., Vol. I, p. 64).

TABLE 9.6

NON-JEWISH IMMIGRANTS AND EMIGRANTS
BY COUNTRIES OF ORIGIN OR DESTINATION (1922-1945)

Country of origin or destination	Foreign-born by country of birth	Immigrants by country of previous residence		Citizens of Palestine residing abroad by country of residence	Residents departing for over one year by country of destination
	1931	1934-39	1940-45	1922	1935-39
1	2	3	4	5	6
	Moslems	Arabs(1)	Arabs	Moslems	Arabs
A) MOSLEMS (or Arabs)					
Transjordan, Syria, Lebanon, Egypt	85.8	70.1	96.9	77.7	19.9
Other Asian and African countries	12.7	5.4	2.5	2.6	11.0
Europe	0.8	3.6	0.1	0.2	30.1
U.S.A.	0.3	1.7	—	10.7	36.3
Latin America	0.4	15.2	0.2	8.8	9.9
America (outside U.S.A. & Oceania)	—	0.2	0.3	—	19.8
Total	100.0	100.0(2)	100.0	100.0	100.0
	Christians	"Others" (3, 4)	"Others" (3)	Christians	"Others" (3)
B) CHRISTIANS (or others)					
Transjordan, Syria, Lebanon, Egypt	25.3(5)	13.5(6)	23.8(6)	2.5	16.7(6)
Turkey and Iran	20.0	0.6	1.4	0.2	1.5
Other Asian and African countries	5.2	1.7	2.8	2.3	9.5
Great Britain	23.1	56.8	66.9	0.1	38.3
Other European countries	21.0	21.5	3.9	1.1	28.5
Latin America	3.3	2.5	0.1	80.7	0.8
U.S.A.	1.8	1.6	0.8	12.8	3.1
Other countries in America & Oceania	0.3	0.4	0.3	0.3	1.7
Total	100.0	100.0	100.0	100.0	100.0

(1) In 1934: Moslems. (2) Includes 3.9% immigrated from "British dependencies" not classified by continents. (3) Neither Jews nor Arabs. (4) In 1934: Christians. (5) 16.9%: Syria and Lebanon. (6) Considerable proportions of immigrants from or emigrants to Egypt are presumably Moslems who were classified as "Others" (Non-Arabs) according to "race".

TABLE 9.7

COMPOSITION OF NON-JEWISH IMMIGRANTS AND EMIGRANTS (1922-1945)

A) Percentage of males

	Among citizens of Palestine residents abroad (1922)		Among foreign-born (1931)	
	Moslems	Christians	Moslems	Christians
	68.1	64.0	59.4	56.7
	Among immigrants			
1935-39(1) 1940-45(1)	Arabs	Others		
	36.4 43.4	64.8 73.8		

B) Percentage in each age group

	0-14	15-29	30-44	45-64	65 and over
Arab immigrants 1935-39(1)	42.5	42.0	11.1	3.8	0.6
Arab immigrants 1940-45(1)	46.1	35.5	12.5	4.7	1.2
Other immigrants 1935-39(1)	11.0	55.8	25.0	6.9	1.3
1940-45(1)	10.1	62.2	21.4	5.7	0.6

C) Arab immigrants in 1935-44 classified by sex, age and marital status (absolute figures)

	0-14	15-19	20-24	25-29	30-34	35-59	60 and over	Total (2)
Males								
Married	—	3	16	58	76	173	24	351
Unmarried	1288	121	120	111	67	70	23	1807
Females								
Married	52	685	478	216	150	152	8	1741
Unmarried	1055	163	109	37	30	114	35	1547

D) Residents departing for over one year, by country of birth

	Arabs		"Others" (3)	
	1935-39	1940-44	1935-39	1940-44
Born in Palestine	67.0	57.8	5.8	9.9
Born abroad	33.0	42.2	94.2	90.1
Total	100.0	100.0	100.0	100.0

(1) Simple averages of yearly percentages.

(2) Including marital condition not stated.

(3) Neither Jews nor Arabs.

Let us first compare the average yearly rates of immigration and emigration shown by Tables 8.1, 9.1 and 9.4 and the ratio of total number of emigrants to total number of immigrants for the three largest population groups in the Mandatory period:

	Jews	Christians	Moslems
Immigration	76.9 (1919–48)	20.0 (1923–46)	1.1 (1923–46)
Emigration	15.9 (1920–48)	11.7 (1923–46)	1.4 (1923–46)
Emigrants per 100 immigrants	13.5 (1920–48)	56.0 (1923–46)	117.1 (1923–46)

While the mobility of the Christians was considerable (although smaller than that of the Jews), the mobility of the Moslems was comparatively very small. While among the Jews the largest proportion of immigrants remained in the country and emigration balanced only 13.5% of immigration, among the Moslems registered emigration even exceeded registered immigration and among Christians emigration balanced more than half of immigration.

The migratory movements of Christians were of various types:

- 1) During the first part of the Mandatory period, there was apparently continuation of the emigration (largely masculine), directed to overseas countries and particularly toward Latin America, which took place in the last phases of the Ottoman rule¹. However, this stream was probably stopped by the enforcement of restrictions on immigration in American countries.
- 2) During the entire Mandatory period a very active traffic both of immigration and emigration developed between Great Britain or other European countries and Palestine (Table 9.6B). From data not reproduced here it appears that this movement included large proportions of people connected with the Palestine administration and with Christian religious institutions. This movement formed the bulk of Christian migratory traffic. Probably the fact that Christian immigrants included a large proportion of males at young working ages (15–29; see Table 9.7B) is connected with that movement. Presumably many of these immigrants resided in Palestine for a few years and then went back. This may explain why the overwhelming majority of Christian emigrants from Palestine in 1935–44 were foreign-born (Table 9.7D).
- 3) At the end of the Mandatory period a considerable re-emigration of British and other European immigrants took place (see Appendix 6.8D).
- 4) Other groups of Christians belonging to certain churches came from other countries to live in Palestine. For instance, the comparatively large proportions of Christians originating from Turkey, Syria and Lebanon (Table 9.6B, col.2) shown in the 1931 census, can be thus explained, and in particular by the immigration of the Armenians (possibly after the outbreak of persecutions in Turkey).
- 5) A large influx of Christian refugees — from Greece, Poland, Czechoslovakia and other countries — reached Palestine during the Second World War. Many of these refugees were later repatriated but some remained. However, direction and final demographic results of these movements are difficult to ascertain. They

¹ See Table 9.6B, column 5, Section 4.5 and *Census 1931 Report*, op. cit. vol. 1, p.49.

were not included in current statistics and only some estimates on them are available (see Appendix 6.5B).

6) The increase in emigration during 1936–38 – which was very strong both among the Christians and Moslems (Table 9.4) – is explained by the terrorist activities by Arab bands in that period, which induced many people to seek refuge abroad.

The migratory movements of Moslems occurred largely with neighboring countries – Syria, Lebanon, Jordan and Egypt. Apparently they had various aspects, such as the following:

7) Movements between near regions, due to difference in crop prospects, were traditional in the Middle East. In the Mandatory era Palestine attracted from nearby countries also workers in non-agricultural branches of economy, in periods of economic expansion with the prospects of higher wages and larger demand for labor.

Most of these movements of laborers were probably temporary or seasonal; however, part of them were semi-permanent or even permanent. From a demographic point of view, interest is to be focused mainly on the last two types. However, it is very difficult to assess the volume of such movements. A detailed analysis presented in Appendix 6.5B on the basis of the registration of part of the illegal migratory traffic, discovered by the Palestine Police, shows that legal movements (as reflected in Tables 9.4–9.7) constituted only a small fraction of total Moslem immigration. However, among illegal immigrants discovered, re-emigration was very large, so that their final demographic effects were rather limited.

It is not known whether this was also true with respect to illegal Moslem immigrants not discovered by the police. Some limited information is available for the end of the period of economic boom in Palestine during World War II: it was estimated that in 1944–45 among the workers employed by the army or by contractors, there may have been some 14,000 illegal entrants from neighboring countries. However, it is also known that some measures to repatriate or deport these and other illegal immigrants were taken in that period.

8) A considerable number of Palestinian Moslems married women from neighboring countries. This gave to Moslem immigration the very unusual characteristic reflected by Table 9.7A and 9.7C: a very considerable proportion of the immigrants were young married women. Most of them came from neighboring countries, but there was also some immigration from Cyprus¹. While the official

¹ This is shown by the following distribution of fathers and mothers born abroad of Moslem children born in 1939:

Total	Born in							
	Europe	Syria & Lebanon	Trans-jordan	Egypt	Cyprus	Other Asian countries	Other African countries	Other countries
Fathers 446	2	187	55	126	2	41	31	2
Mothers 1031	8	430	115	284	142	32	11	9

data show clearly the existence of this movement, it is hard to evaluate its total extent. Also in this case the size was probably larger than it appears from official registration¹. Some indirect indication is given by Table 9.5. While at the census of 1931 the proportion of foreign-born was larger among Moslem males than among Moslem females, among parents of Moslem children born during 1938–44 the opposite was true. Foreign-born mothers were 2.6% as compared to 1.2% foreign-born fathers².

9) Emigration of Moslems had in the main a character of re-emigration. Table 9.7D shows that people born abroad among Moslem emigrants constituted a far larger percentage than among the Moslem population of Palestine. In the first stages (Table 9.6, col.5) the traffic was mainly directed toward neighboring countries.

However in 1935–39 (Table 9.6, col.6) a considerable part of Moslem emigration was directed toward developed countries (U.S.A., Europe, Latin America and other countries in America).

10) Despite all uncertainties with respect to the size of unregistered movements, it may be assumed that migrations did not have a very considerable effect on the Moslem population, at least in the first decade of the Mandatory period. This is suggested by considering the very low proportions of foreign-born registered at the 1931 census³.

9.9 MIGRATORY MOVEMENTS OF THE NON-JEWISH POPULATION OF ISRAEL

Employing the same methods explained at the beginning of Section 9.8, the following yearly averages of immigration and emigration rates per 1000 population have been calculated for the Non-Jewish population of Israel:

	Yearly average no.		Yearly rates per 1000 population	
	Immigrants	Emigrants	Immigrants	Emigrants
1948–54	214	—	1.2	—
1955–60	340	267	1.6	1.2
1961–66	213	320	0.7	1.2
1967–70	391	1245	1.0	3.1
1971–75	1067	1990	2.2	4.1

The total volume of the movements during 1948–75 was of about 12,000 immigrants and 20,000 emigrants.

¹ See some information on this point in E. Bromberger. The growth of population of Palestine. *Population Studies*, 1948, Vol.2, No.1, pp.71–91. However, this author seems to overstate the size of immigration of foreign women to Palestine.

² For some additional comments on marriages with women born abroad, see Section 11.9.

³ However, it cannot be excluded that some foreign-born being illegally in the country may have not declared their actual birthplace, despite the amnesty promised in connection with census-taking.

The distribution of Non-Jewish immigrants by continents of origin during 1948–68 was as follows:

Europe	America and Oceania	Asia	Africa	Total
92.4	2.2	3.4	1.9	100.0

It is seen from the above figures that in the period 1948–75 both immigration and emigration among the Non-Jewish population of Israel were very small, and oscillated around yearly levels of about 1 per 1000. Only respectively after 1967 and 1970 has there been an increase in emigration and immigration.

These features can be explained as follows:

1) The group which during the Mandatory period had had the largest mobility — European Christians — was reduced in Israel to small size¹.

2) With the closing of the frontiers of neighboring states, the other larger sources of migratory traffic indicated in Section 9.8 under 7) and 8) completely ceased (at least during 1948–1967).

3) No emigration of the type which took place in the period 1948–67 from Gaza, Judea and Samaria (see Appendix 8) occurred among Israeli Arabs. This may have been due to the considerable improvements in their economic conditions.

4) The recent increase in immigration and emigration may perhaps be connected with changes which occurred after the 1967 war. The unification of East and West Jerusalem increased the proportion of Christian clergy and other European Christians in Israel.

5) A special factor of immigration of Non-Jews which has been particularly strong in certain periods is that in many cases they are members of Jewish immigrants' families. This interpretation is suggested by the following data:

a) 87% of the Non-Jewish immigrants in 1955–57 came from Poland, together with the large wave of Jewish immigration from that country;

b) In 1969–75 the proportion of immigrants from the U.S.S.R., Western Europe and America were high both among Non-Jews and Jews.

c) The number of married women among Non-Jewish immigrants in 1958–68 (the only period for which data have been published) was 3.8 times as large as that of married men.

d) In the course of time a certain number of the Non-Jewish members of Jewish families converted to Judaism (see Section 10.4).

¹In 1961 only 3404 Christians born in Europe and America were found in Israel, constituting 6.8% of the Christian population. An additional 2.5% were born in Asia and Africa, so that the foreign-born were 9.3% (as compared with 19.5% in Palestine in 1931 and a probably considerably higher percentage in 1946).

We have been unable to reconstruct the size of the Non-Jewish population of Israeli origin abroad. However, it may be noted that the proportion of Non-Jews among emigrants from Israel during 1948–75 has roughly been estimated as 8%¹, as compared to a weighted average percentage of Non-Jews of about 13% in the population of Israel during the same period.

9.10

MIGRATORY BALANCE AND ITS INFLUENCE ON POPULATION GROWTH

In Appendices 6.6, 6.8B and 7.1 (a) intercensal increases of population in Mandatory Palestine and Israel are compared to (b) natural increase resulting from births' and deaths' statistics and to (c) migratory increase². The main conclusions reached are as follows:

1) For the Jewish population a very satisfactory agreement is found between (a) and (b) + (c) by comparing the 1922 and 1931 Mandatory Palestine Censuses and the 1948, 1961 and 1972 Israeli censuses. The residuals³ not accounted for are very low; this result is very remarkable as this population has multiplied 32 times in the 50 years which have elapsed between the censuses of 1922 and 1972. It is even possible — though with some uncertainties — to guess the part of the increase due to natural and migratory increase between 1919 and 1922, the estimate for the beginning of 1919 being based on the censuses of the Jewish population taken in 1916–18 (see Appendix 6.7B).

2) For the Christian population of Palestine the agreement of intercensal increase in 1922–31 with (b) + (c) is also very satisfactory.

3) For the Moslem population the comparison of apparent intercensal increase and (b) + (c) may appear *prima facie* as acceptable. However, a closer scrutiny reveals that the evaluations of the Bedouin population in the 1922 census are irreconcilable with the results of the enumeration of this population in 1931, the 1922 evaluation probably being very exaggerated (see Appendix 6.3). On the other hand, the only way to make sense out of the intercensal increase of settled population and registered (b) + (c) is to assume that natural increase during this period was underestimated and that coverage of the settled population in 1922 was considerably incomplete. There are good reasons for accepting all the hypotheses mentioned. However, their quantification and the estimate of errors connected with them are not easy. We have tried, despite this, to evaluate these errors. With some uncertainties it appears possible to estimate the respective part of (b) and (c) over the total population growth (see Appendix 6.6).

¹ See Rabi, *op.cit.*

² For the Mandatory period and the Statehood period up to the 1961 census the principle followed in demographic statistics was to consider *de facto* population. Therefore, migratory increase is based on the difference between all arrivals and all departures. Since June 1961 both *de facto* and *de jure* calculations have been carried out.

³ This conclusion is to be qualified by use of revised records of migratory increase which take into account Jewish immigrants not registered by the Mandatory government. However, detailed reconstruction of Jewish migratory movements is available (see Appendix 6.5Bii).

4) For the Moslem and Christian population data on (b) and (c) are available for the period between the 1931 census and up to almost the end of the Mandatory period. However, no census is available after 1931 and no further checking of (a) with (b) + (c) is possible. In regard to the Christian population, there is no reason to doubt the basic soundness of (b) and (c). After some minor corrections we may obtain an evaluation of (b) and (c) between the 1931 census and 1946 which appears to be trustworthy.

For the Moslem population more extensive corrections were attempted (though partly based on almost pure guessing with regard to c). However, the margin of error thus introduced is probably not very large (Appendix 6.8C).

5) For the Moslem and Christian populations of Israel intercensal information is available for 1949–61¹ and for 1961–72. This information also agrees in a rather satisfactory way (although with some inaccuracies) with (b) + (c) in the same periods (see Appendix 7.1). It appears from this and from other information that Israeli statistics are basically sound also with regard to the Moslem and Christian populations.

On the basis of the information mentioned above we have reconstructed in Table 9.10 the sources of growth of the population of Mandatory Palestine and Israel. It is seen from this table that:

1) migratory increase accounted for some 60% of the growth of the Jewish population between 1919 and 1975 (Panel A of Table 9.10);

2) the proportion of Jewish migratory increase during this period was 85% of the total number of immigrants (as indicated by Table 8.1);

3) the contribution of migratory increase to total Jewish population growth was particularly strong in 1919–38 and 1948–51.

4) Since 1958 the contribution of natural increase to Jewish population growth has become dominant and since 1965 it has accounted for about 65%.

5) For the Non-Jewish population natural increase has been the main source of increase both in Mandatory Palestine and in Israel. However, for the Christian population (Panels D and E), migratory increase has had some importance (some 30% in Palestine during 1922–46 and some 10% in Israel during 1955–74).

Among the Moslems (Panels B and C), migratory increase, even if corrected for allowing consideration of illegal movements, plays only a very minor role (involving possibly some 4% of total growth in the Mandatory period, and 1% in Israel).

6) As the Moslems form the majority of the Non-Jewish population of Israel, the data for this population (Panel F) reflect in all periods excepting 1950–51

¹ Part of the Arab population was enumerated somewhat after the 1948 census date (Appendix 7.2), following the 1949 armistice agreement, which fixed the borders of the state.

TABLE 9.10

PERCENTAGE OF POPULATION GROWTH DUE TO NATURAL INCREASE AND MIGRATORY INCREASE (1919-75)¹

Period	Population at beginning of period	Population at end of period	Total population growth	Part of growth due to		Percentage of growth due to	
				Natural	Migratory	Natural increase (Excl. other causes)	Migratory increase (Excl. other causes)
A) Jewish population 1919-75							
1919-23	56,000	92,000	36,000	6,500	29,500	18.1	81.9
1924-31	92,000	175,100	83,100	26,000	57,100	31.3	68.7
1932-38	175,100	412,700	237,600	42,400	195,200	17.8	82.2
1949-45	412,700	563,800	151,100	61,700	89,400	40.8	59.2
1946-14.5.48	563,800	649,600	85,800	30,500	55,300	35.5	64.5
Mandatory period							
1919-14.5.48	56,000	649,600	593,600	167,100	426,500	28.2	71.8
15.5.48-1951	649,600	1,404,400	754,800	88,400	666,400	11.7	88.3
1952-54	1,404,400	1,526,000	121,600	101,400	20,200	83.4	16.6
1955-57	1,526,000	1,762,800	236,800	100,700	136,100	42.5	57.5
1958-60	1,762,800	1,911,200	148,400	101,500	46,900	68.4	31.6
1961-64	1,911,200	2,239,200	328,000	134,200	193,800	40.9	59.1
1965-71	2,239,200	2,662,000	422,800	277,200	145,600	65.0	34.4
1972-75	2,662,000	2,959,400	297,400	190,100	107,200	63.9	36.1
Statehood period							
15.5.48-1975	649,600	2,959,400	2,309,800	993,500	1,316,200	43.0	57.0
1919-75	56,000	2,959,400	2,903,400	1,160,600	1,742,700	40.0	60.0
B) Moslem settled population of Palestine							
1921-31	526,400*	695,400*	169,000*	153,900*	5,400*	96.6	3.4
1932-46	695,400*	1,062,300*	366,900	352,000*	14,700*	96.0	4.0
1921-46	526,400*	1,062,300*	535,900	505,900*	20,100*	96.2	3.8

C) Moslem population of Israel									
1955-74	131,800	392,500	260,700	197,900	2,600	60,100	98.7	1.3	
D) Christian population of Palestine									
1921-31	69,800	89,100	19,300	16,700	2,300	300	87.9	12.1	
1931-46	89,100	144,500	55,400	35,300	19,900	200	63.9	36.1	
1921-46	69,800	144,500	74,700	52,000	22,200	500	70.1	29.9	
E) Christian population of Israel									
1955-74	42,000	84,500	42,500	28,200	3,000	11,200	90.4	9.6	
F) Non-Jewish population of Israel 1950-75									
1950-51	160,000	173,400	13,400	11,400	2,000		85.1	14.9	
1952-54	173,400	191,800	18,400	18,200	200		98.9	1.1	
1955-57	191,800	213,200	21,400	21,200	200		99.1	0.9	
1958-60	213,200	239,200	26,000	26,100	-100	(+4,100)	100.4	-0.4	
1961-64	243,300	286,400	43,100	44,000	-900		102.1	-2.1	
1965-71	453,800	458,700	172,300	101,600	-700	+71,400	100.7	-0.7	
1972-75		533,800	80,000	76,500	3,500	(-4,900)	95.6	4.4	
1950-75	160,000	533,800	374,600	299,000	4,200	+71,400	98.6	1.4	
G) Total population of Palestine									
1921-31	678,300	969,800	291,500	203,900	74,000	13,600	73.4	26.6	
1932-46	969,800	1,815,600	845,800	509,100	336,300	400	60.2	39.8	
1921-46	678,300	1,815,600	1,137,300	713,000	410,300	14,000	63.5	36.5	
H) Total population of Israel 1952-75									
1952-54	1,577,800	1,717,800	140,000	119,600	20,400		85.4	14.6	
1955-57	1,717,800	1,976,000	258,200	121,900	136,300		47.2	52.8	
1958-60	1,976,000	2,150,400	174,400	127,600	46,800	(+4,100)	73.2	26.8	
1961-64	2,154,500	2,525,600	371,100	178,200	192,900		48.0	52.0	
1965-71	2,525,600	3,120,700	595,100	378,800	144,900	+71,400	63.6	24.3	
1972-75	3,115,800	3,493,200	377,400	266,600	110,700	(-4,900)	70.7	29.3	
1952-75	1,577,800	3,493,200	1,916,200	1,192,700	652,000	+71,400	64.7	35.3	

(1) General remarks concerning Table 9.10:

a) For sources and methods of calculation, see text and Appendices 6 and 7.

b) An asterisk (*) indicates that estimates differ largely from official data.

c) Estimates have been rounded. This accounts for some minor discrepancies between partial estimates and their totals.

d) The main "Other causes" of change of population are as follows: in 1922-23, a small change in the boundaries of Palestine; in 1967, the unification of Eastern and Western Jerusalem; in 1961 and 1972 adjustments of evaluations of the Non-Jewish population of Israel in consequence of the results of the 1961 and 1972 censuses, in various periods re-union of families. Adjustments due to censuses are given in parentheses.

the dominant role of natural increase, which is typical for the Moslems. It is seen that during 1958–71 natural increase even compensated for small migratory losses.

7) Within the entire population of Palestine during 1921–46 and Israel during 1952–75 (after the mass immigration), natural increase accounted for about 64% – 65% (Panels G and H).

9.11 AN OVERVIEW OF MIGRATORY MOVEMENTS AND PERSPECTIVE FOR THEIR FUTURE

Here we shall briefly summarize some of the main findings of Chapters 8 and 9, which may have some bearing on perspectives of migratory movements in the future.

Jewish immigration has been since 1881, and mainly since 1919, the central but not only migratory movement of importance for the demography of Mandatory Palestine and Israel. This immigration can be considered a continuation of that which, through the centuries, linked the Jewish Diaspora to the Land of Israel. However, both size and characteristics of immigration have changed in modern times. Instead of a small trickle, a continuous stream has flown in, bringing, between 1919 and 1975, 2,053,000 Jews to the Land of Israel and causing a net migratory increase of 1,742,700, it has contributed 60% of the growth of the Jewish population (from 56,000 in 1918 to almost 3 million in 1975), and has greatly changed the ethnic structure of the country.

Despite continuity of immigration during almost 60 years and the general propensity to immigrate to Israel from all the communities of the Jewish Diaspora, variability in this propensity and wave-like development of immigration are its most conspicuous aspects. These are, in turn, due to the very complex system of factors which influence positively or negatively the size of immigration in each community and period, such as: 1) political and economic conditions of Jews in Diaspora countries, which may increase or decrease the pressure to emigrate; 2) degree of freedom to emigrate; 3) possibility of selecting other immigration areas besides Israel; 4) influence of ideological factors in channeling immigration toward Israel; 5) political, social and economic conditions in Israel; 6) government policy towards immigration; 7) help extended to immigrants, etc.

While we have been unable to measure and separate the effects of these and other factors, some evaluation of their action and interaction emerges from the discussion of development of immigration in modern times, given in Sections 8.2–8.8.

We have seen that until about the middle of the 1960ies comparatively large streams continued to arrive from the communities which had a high propensity to immigrate to the Land of Israel in general or at least during long periods, such as: Eastern Europe and until the closure of its borders, the U.S.S.R., which were traditionally the regions of larger Jewish emigration to overseas countries; Central Europe during the Nazi persecutions; certain Asian and Balkan countries; newly established Arab countries in which all minorities felt endangered, and from which some 581,000 Jews left for Israel during 1948–72.

However, Jewish immigration from these areas is progressively shrinking and has partly disappeared altogether, owing to the progressive depopulation of these communities. Regions with a high propensity to emigrate included in 1930 42% of the Jewish Diaspora, in 1972 they included only 4% . This is at the root of the decline in the rates of immigration per 1000 Diaspora Jews which — with minor ups and downs — has evolved since 1965. It explains too the decreased importance of immigration as a factor of growth of the Jewish population of Israel. In fact, since 1965 immigration has contributed only some 35% of this growth.

In the future, only a minor contribution to immigration can be expected from the communities which were traditionally the main sources of Jewish immigration. As over 74% of the Diaspora Jews are in the Western countries and 21% in the U.S.S.R. the relevant questions are: whether the pressure of the Jews for emigrating from the USSR will continue; whether the Soviet government will permit emigration; and to what extent emigrants will select Israel or other countries as their future destination.

With respect to Jewish communities of America, Western Europe, Oceania and South Africa, the low propensity to immigrate is mainly explained by the facts that, due to comparatively favorable political and economic conditions (apart from certain specific areas in certain periods) , the tendency of the Jews to emigrate from these countries is generally low; even people who may be prompted by religious and/or Zionist motivation to immigrate to Israel find an obstacle in the fact that their economic opportunities are likely to be worse in this Land than in the country of their origin. Such considerations are felt even stronger in periods of peculiar economic and political difficulties, and as that which followed the Yom Kippur War.

Barring major changes in the political conditions of the Jews in the Western countries, upward turn in the propensity to immigrate seems to be dependent upon the possibility of strengthening the action of ideological factors, as it occurred in the special climate which developed for a few years after the Six Day War, and whether special policies or changes in Israel may foster the propensity to immigrate.

If such changes will not occur, prospects of large immigration waves from the Western world do not seem very likely.

Jewish emigration from the Land of Israel has been a minor but also a continuous movement. It was comparatively strong in Ottoman times and in the first phases of the Mandate; it decreases largely in the 1930ies and 1940ies, and has oscillated in the Statehood period around rates which do not seem comparatively high by international standards. Still, between 1920 and 1975 it has offset some 17% of the immigration and has created a new Israeli Diaspora which may have a rough order of magnitude of some 370,000.

Until recently, emigration has been largely re-emigration of people who did not succeed to adapt themselves to the conditions in Israel. However, in recent years there has been some development also of emigration of people born in Israel or who immigrated there a long time ago. Emigrants' composition and prevailing tendency to go to Western countries suggest that economic motivation is prevalent. Also here, as in the case of immigration from Western countries, the future development may depend upon the prevalence of economic over ideological considerations.

With regard to the Non-Jewish population, mobility in normal times has been found to be rather limited, although this was not the case for the Christian European group in Palestine and perhaps for its small remnant in Israel. With regard to the Moslems, migrations in Mandatory Palestine were mainly originating from or directed to neighboring countries. Their final demographic impact was rather small and it has remained small for the Moslem population of Israel. For this population the basic factor of growth has been natural increase.

On the whole, natural increase seems to be today the leading factor in the demographic development of Israel. The next chapters (10–13) will deal with the factors indirectly or directly connected with it.

CHAPTER 10

SPOUSE SELECTION

10.1 TOPICS DISCUSSED IN THIS CHAPTER. METHODOLOGICAL PROBLEMS

This chapter deals mainly with spouse selection in Mandatory Palestine and Israel. Its main finding is that Jews, Moslems, Christians and Druzes practically constitute endogamous groups, which may be studied separately from the viewpoints of family formation and nuptiality characteristics (see Chapter 11). However, also within these four main population groups, there are some sub-groups which from the viewpoint of spouse selection stand apart.

After discussion of the distribution of marriages by ethnic-religious groups of groom and bride (10.4), we give some information on consanguineous marriages (10.5), and deal more extensively with influence of origin, "community" and length of stay on spouse selection in Jewish marriages, which constitutes a basic issue in the demography of Israel as a symptom of fusion between the various components of the Jewish population (10.6, 10.7). Then homogamy and heterogamy¹ by educational level and place of residence are discussed (10.8, 10.9).

Both spouse selection and nuptiality characteristics are influenced to a considerable degree by the structure of the population of nuptial ages by sex, age, countries of origin, etc., and by its changes in the course of time. We start therefore the study of marriage by giving some information on the structure of this population (10.2, 10.3).

Appendix 11 a) lists the main types of data which have been collected in Mandatory Palestine and Israel on the distribution of marriages according to class of population to which groom and bride belong (11.1); b) gives some bibliography on the papers in which part of the many data available on this topic have been analyzed (11.1); c) explains the main measure of homogamy or heterogamy currently used by the official statistics of Israel and largely quoted in this chapter (11.2). This is Benini's index of attraction (or "preference", as we term it here), which varies between 0% and +100%. The value of 0% indicates that the number of marriages between grooms and brides having given characteristics (say: groom born in Germany, bride born in Yemen) equals the number which would be found under the hypothesis of independence between characteristics (say: country of birth) of the spouses. Values of +100% (or -100%) indicate respectively that the actual number of marriages between grooms and brides with given characteristics is the maximal (minimal) compatible with the distribution of all grooms and brides according to the characteristics studied (say: country of birth).

¹ We employ these terms to indicate the tendency to marry between grooms and brides having respectively similar (or dissimilar) characteristics.

TABLE 10.1

AGE STRUCTURE OF THE POPULATION AT NUPTIAL AGE (1926-1975)

A) Jews

Palestine				Israel				
Age	1926	1936	1944	8.11.48	1953	1961	1968	1975
15-19	24.9	13.2	15.1	16.0	17.3	20.8	25.3	21.0
20-24	26.4	17.7	15.9	17.5	17.2	16.2	21.5	22.5
25-29	18.8	27.7	13.5	16.8	17.3	16.6	13.5	20.4
30-34	13.0	22.8	18.3	15.0	16.9	15.7	13.5	12.8
35-39	9.0	15.0	20.0	19.4	14.2	16.6	13.0	11.7
40-44	7.9	8.6	17.2	15.3	17.1	14.1	13.2	11.6
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

B) Moslems

15-19	22.3	18.0	28.7			28.9	25.7	29.1
20-24	22.4	14.8	19.0			22.0	21.7	22.1
25-29	17.9	19.5	10.6			17.0	17.7	15.4
30-34	15.0	19.5	12.4			13.5	14.4	14.1
35-39	12.5	15.4	15.0			10.4	11.4	11.0
40-44	9.9	12.8	13.3			8.1	9.1	8.3
Total	100.0	100.0	100.0			100.0	100.0	100.0

C) Christians

Palestine			Israel	
Ages	1931	1944	1961	1975
15-19	19.1	19.6	22.9	24.1
20-24	21.7	17.3	20.7	20.2
25-29	19.3	14.5	18.3	16.6
30-34	15.7	18.1	16.2	13.8
35-39	13.1	17.0	21.9	13.8
40-44	11.1	13.5		11.5
Total	100.0	100.0	100.0	100.0

10.2

AGE AND SEX DISTRIBUTION
OF THE POPULATION AT NUPTIAL AGES

Table 10.1 shows the distribution of the population in the ages which are more important from the viewpoint of nuptiality¹.

It is seen that — neglecting minor irregularities in the first years surveyed — the Moslem and Christian populations have very high percentages at young ages and a strong decrease of percentages with increasing age. This is a typical situation for a population with high fertility, in which cohorts of births have tended to grow rapidly in the course of time. The structure of the Jewish population is by far more complex: in 1926 and 1968–75 there is also a systematic decrease of percentages with increasing ages; however, in 1936–44 the distribution is almost the reverse; and in 1948–61 percentages at various ages are rather similar.

This variability and irregularity is not unexpected, being the result of the complex interplay of changes in size of cohorts of births and of changing age structure of immigrants. As we saw in Section 8.11, this is, in turn, dependent upon origins of immigrants, age structure of community of origin and degree of selectivity of immigration.

Age distribution and its changes have a profound influence in the sex structure of people belonging to nuptial ages. As we cannot enter here into a detailed study of marriageable population, we shall limit ourselves to a very simple although imprecise calculation. Let us take for granted that women marry younger than men (which is true for all population groups in Mandatory Palestine and Israel: see Sections 11.3, 11.9, 11.10). For the sake of simplicity let us compare the number of women aged 15–39 to that of men aged 20–44, and let us calculate the proportion of males in such a population (Table 10.2).

TABLE 10.2

PERCENTAGE OF MALES AMONG A POPULATION FORMED BY WOMEN
AGED 15–39 AND MEN AGED 20–44 (1926–75)

Year	Jews	Moslems	Christians
Mandatory Palestine			
1926	46.4	45.1	
1936	48.5	48.6	46.4 (1931)
1944	51.0	46.7	52.1
Israel			
1948	51.1		
1953	49.8		
1961	47.7	44.8	44.6
1968	46.1	46.7	
1975	47.4	44.4	45.3

As might have been expected men form generally less than half of such a population in almost all periods and population groups; however, among the Jews there is a continuous tendency to increase in the proportion of men during the Mandatory period and up to 1948; this is probably the direct consequence of the influx of selected immigration waves in that period which contained high

¹ For a detailed discussion of the entire age distribution, see Sections 14.5–14.7.

proportions of young men. During the Statehood period the proportion of men has continuously decreased due, among others, to the reversal in sex composition of young immigrants which was indicated in Section 8.9.

Among the Christians the increase in the proportion of men in the Mandatory period is probably due to the large immigration of young men in that period (see Section 9.8).

10.3 DISTRIBUTION OF JEWISH GROOMS AND BRIDES BY CONTINENT OF BIRTH AND LENGTH OF STAY IN ISRAEL

In the study of family formation among the Jews, the structure of the marriageable population by origins, length of stay, sex and age is of considerable importance. As we cannot enter here into a study of such a population, we shall limit ourselves to giving in Table 10.3 an overview of the structure of persons who married in Israel by origin and length of stay.

In the first years after the establishment of Israel the great majority of grooms and brides were born abroad (in 1952: respectively 88% and 85%). Among them, respectively 56% of grooms and 64% of brides were in the country for a very short time. This was a direct consequence of the mass immigration of 1948–51.

Since then, the share of born in Israel has greatly increased: for example, in 1974 about 48% of the grooms and 58% of the brides were born in Israel, as compared to respectively 12% and 15% in 1952. The larger proportion of Israeli-born brides is explained by the fact that Israeli-born form today large percentages of the population at young marriageable ages; as women marry younger than men the proportion of brides coming from those young classes heavily loaded with Israeli-born is larger than that of grooms.

Sex imbalances are found both among Israeli-born of European-American origin and those of Asian-African origin. Corresponding sex imbalances are found too among foreign-born spouses. By considering data for individual countries of origin (not given here) sex imbalances are found to be stronger than among data by continents quoted here.

Let us divide the spouses according to their continent of birth and for those born in Israel, according to the continent of birth of their fathers. Then it is seen that among people of known origin, the proportion of those stemming from Europe and America has decreased as follows.

Percentage originating from Europe or America

	1952	1955	1960	1965	1970	1974
Among grooms	63.2	59.8	52.6	49.1	49.4	48.4
Among brides	61.1	56.4	48.1	49.5	52.8	43.6

This is mainly a consequence of changes in the composition of immigration by origins which occurred during the Statehood period (see Section 8.8) and of differential fertility of people of various origins.

TABLE 10.3

GROOMS AND BRIDES BY CONTINENT OF BIRTH AND LENGTH OF STAY IN ISRAEL (1952-1974)

Percentage born	Grooms						Brides					
	1952	1955	1960	1965	1970	1974	1952	1955	1960	1965	1970	1974
A) In Israel	12.2	17.4	26.4	29.8	33.5	48.2	15.5	24.4	31.2	30.4	45.8	58.1
Of whom the father was born in:												
Israel				4.2	4.7	5.1				4.4	5.3	5.9
Asia-Africa ¹	5.0	6.0	8.4	6.3	7.2	18.4	5.9	8.4	10.8	6.8	14.3	27.3
Europe-America ¹	7.2	11.4	18.0	19.3	21.6	24.7	9.6	16.0	20.4	19.2	26.2	24.8
B) Abroad	87.8	82.6	73.5	70.2	66.5	51.8	84.5	75.6	68.8	69.6	54.2	41.9
Of whom were born in:												
Asia-Africa	31.4	34.2	38.9	42.5	38.7	30.5	33.0	35.2	41.1	41.5	30.3	23.1
Europe-America	56.4	48.4	34.6	27.7	27.8	21.3	51.5	40.4	27.7	28.1	23.9	18.8
Of whom immigrated:												
Up to 1947	32.0	26.0	14.4	7.4	4.0	19.5	20.0	15.1	7.7	4.1	1.6	8.5
1948-54	55.9	56.6	59.2	38.8	33.8	32.3	64.4	60.5	61.0	34.4	21.5	33.4
1955 and after	—	—	—	24.0	28.7	—	—	—	—	31.1	31.1	—

1 During 1952-60, the division was according to "community" ("Ashkenazim" were taken as European-American origin, "Others" as Asian-African origin).

Considering percentages of grooms and brides according to individual countries of origin (not given here), it is seen that the variability of these percentages in the course of time was even larger than that of percentages by continents given above.

10.4 HOMOGAMY AND INTERMARRIAGE BY ETHNIC-RELIGIOUS GROUP

Statistics on marriages classified by ethnic or religious characteristics of groom and bride are not available. However, some indirect information is available. 1) *Mandatory Palestine*. Table 10.4 shows the statistics of births in 1939 and 1944 cross-classified by ethnic-religious characteristics of the parents¹.

It is seen from these data the homogamy within religious groups was almost complete. Practically, Jews, Moslems, Christians and Druze married almost only within their community. Even among people having in common Arab origin and/or language (such as Arab Moslems, Arab Christians and Druzes) mixed marriages were very rare. Even if we include in the mixed marriages the cases indicated in the footnotes to Table 10.4, which presumably refer to conversions before marriage, the proportion of marriages between people of different religions — as far as it can be judged for birth statistics — was only 0.16% of the total.

In interpreting these data spatial separation of different religious groups (see Section 5.4) and legal difficulties connected with mixed marriages² should be borne in mind.

Among the Christians, the marriage selection was influenced also to a very large extent (i) by the church to which the parties belong: homogamy according to denominations was found to be very high (see Table 10.5); (ii) by their ethnic origin: Arabs and Non-Arabs tended largely to marry within their own groups. However the latter, largely of European origin, constituted a somewhat less secluded group, and married out also with persons of other faiths or origins.

¹This classification was obtained by combining together the classification by "race" (Arab, Jew, Other) and by "religion" (Moslem, Jew, Christian, Other) as given in the birth certificate with regard to the parents.

²Religious marriages were legally acknowledged in Palestine (as today in Israel) and no marriages were performed by civil authorities. This probably made the formation of mixed marriages more difficult, although certain religions admit mixed marriages; in some cases religious conversions can be resorted to to ease such marriages; and in other cases mixed civil marriages are contracted abroad and registered in the country.

TABLE 10.4

BIRTHS IN 1939 AND 1944 BY ETHNIC-RELIGIOUS GROUPS OF THE PARENTS¹

Mother	Father						
	Jewish	Moslem		Christian		Druze or other religion	Total
		Arab	Non-Arab	Arab	Non-Arab		
Jewish	25,531 ²	28 ³	—	8 ⁴	41 ⁵	—	25,608
Moslem Arab	16	91472	53	40	—	—	91,566
Moslem Non-Arab	—	235	140	—	—	—	375
Christian Arab	—	50	—	6633	90	—	6,773
Christian Non-Arab	4	24	—	83	851	—	962
Druze or other religion	—	1	—	2	—	1,094	1,097
Total	25,536	91,810	193	6,766	982	1,094	126,381

(1) Excluding 27 cases for which information on ethnic or religion characteristics were not known.

(2) Between parents being both of the Jewish religion: 2 Arab fathers, 1 Arab mother, 2 mothers of other ethnic origins.

(3) 3 of these mothers were of Jewish origin and Moslem religion.

(4) 1 of these mothers was of Jewish origin and Christian religion.

(5) 5 of these mothers were of Jewish origin and Christian religion.

(6) 1 father of Jewish origin and Moslem religion.

TABLE 10.5

INDICES OF PREFERENCE (%) IN MARRIAGE IN PALESTINE (1938–1945)

Preference between grooms and brides of:	1938–40	1944	1945	Indices based on statistics
Same religion		99.8	99.7	First births
Same ethnic origin ¹		99.3	99.4	First births
Same church (Christians)		88.0	89.4	Marriages
Same clan (Moslem villages)		59.6		5 villages (see Section 10.5)
Same country of birth (Jews)	62.2		49.1	1938–40 all births
Same "community" ² (Jews)		85.0	82.9	1945 first births
Same place of residence ³				Sample of marriages
Jews		74.2	75.5	Marriages
Christians		87.3	88.4	Marriages
Same type of residence place of residence ⁴				
Moslems		95.1	94.9	Marriages
Christians		86.5	87.0	Marriages
Jews		72.2	76.0	Marriages

(1) Arabs, Jews, Others.

(2) Ashkenazim, Sephardim, Others.

(3) Individual towns and villages by subdistricts.

(4) Urban or rural.

Among the Moslems, the small Non-Arab group mixed largely with the Arabs; prevalence of women among Non-Arabs was probably connected with the immigration of brides from countries such as Egypt, Cyprus, etc. (see Section 9.8).

Among the Jews the few mixed marriages were mainly contracted by girls who married Non-Arab Christians and Moslems.

2. *Israel*. Combining scanty information obtainable from different sources¹, the following tentative conclusions may be reached about the main types of mixed marriages.

(a) Mixed couples formed in their overwhelming majority by a Jewish man and a Christian woman immigrated from abroad, and especially in the wave of 1957 and the following years from Eastern Europe and in the recent wave from the U.S.S.R. For instance when the first of these two waves was already declining, in 1958–60, an average yearly number of 78 Non-Jewish married women and 13 Non-Jewish married men were registered in the statistics of immigration. It may be estimated that between 1948 to 1976 slightly over 1,400 Non-Jewish women married to Jewish men and a little less than 100 Non-Jewish men married to Jewish women, converted to Jewry. This corresponds to an annual average of a little over 50 conversions to Jewry due to mixed marriages contracted in the Diaspora.

(b) It can be roughly estimated that in 1948–76 some 500 Israeli Jewish women (largely of second generation of Asian-African origin) have married a Non-Jewish partner in Arab villages. This corresponds to a yearly average of about 18. Possibly, some 80% of Non-Jewish partners were Moslems, 15% Christians and 5% Druzes. In some 56% of marriages with Moslems the Jewish bride converted to Islamism.

On the other hand it can be estimated that between 1948 and 1976 some 50 Non-Jewish males (less than 2 per year) and 130 Non-Jewish females (less than 4 per year) converted to Judaism in order to marry a Jewish partner.

(c) According to statistics for 1968–77 the number of conversions of Christians to Islam has a rough yearly order of magnitude of 2 men and 11 women. It may be assumed that the main reasons for these conversion are marriages with a Moslem partner.

(d) It is known that other types of unions, like those of a Jew with a Moslem bride or of a Moslem with a Christian preceded by conversion to Christianity are rare.

¹ The sources utilized were: unpublished statistics on conversions resulting from files of the Ministry for Religious Affairs; an unpublished research on conversions by D. Gotthold; information on marriages of Jewish girls to Non-Jewish men resulting from a research work in preparation by Dr. J. Ginat. Thanks are given to those persons and institutions for their kind help.

See also: Erik Cohen, "Mixed marriage in an Israeli town". *The Jewish Journal of Sociology*. Vol. XI, No. 1, June 1969.

(e) If we compare the number of mixed marriages of the types (b) – (d) mentioned above which are contracted yearly in Israel, to the average total number of marriages registered in the country in 1951–75 (20,700), we may very roughly evaluate the proportion of the first to the latter around an order of magnitude of some 0.18 per 100. It can be assumed that even if better data were available and if it was possible to obtain information on other types of mixed marriages not included in (b) – (d), the basic conclusion would not change that mixed marriages constitute numerically a very small fraction of the total number of marriages.

10.5

CONSANGUINEOUS MARRIAGES

Marriage statistics do not give data on consanguinity of spouses. However, some information has been made available by special investigations, two of which dealing respectively with Arab villagers and with Jews, are summarized below:

1) A "Survey on social and economic conditions in Arab villages" carried out in 1944 by the Statistical Department of the Government of Palestine in 5 villages¹ indicated rather high endogamy indices (averaging 59.6%) within "clans" and even within "subclans". The "clan" (or "Hamulah") is formed by people related to a common ancestor on their father's side² and generally characterized by proximity of residence and land, joint liability for wrongs committed by one of its members, joint right of compensation for wrongs committed against one of its members, and use of a common guest house. The subclan ("Fachd" or "Aileh") is a less clear-cut and smaller group with parental relation groups going back for a few generations (say: 2).

2) A sample of parents of Jewish babies born in Israel during 1955–57³ shows that among certain Oriental communities marriages between a) first cousins and also b) between uncle and niece and c) more distant relatives were comparatively very frequent, and by far more frequent than among Ashkenazic Jews. For instance, among Iraqis, Syrians and Lebanese Jews, marriages (a)+(b) constituted almost 18% (as compared to less than 2% among Ashkenazim), and those (c) constituted respectively about 11% among Iraqis and 9% among Syrian-Lebanese. Among marriages (a)+(b) the most important type were marriages between children of two sisters or children of two brothers. It may be assumed that these cousin marriages were due to a well-established tradition common to the Jews and to their Moslem neighbors. The frequency of these unions decreased after mass immigration to Israel.

10.6

HOMOGAMY OF JEWS BY ORIGIN AND LENGTH OF STAY IN THE COUNTRY

The analysis of the vast amount of data available since 1938 on homogamy and heterogamy by countries of origin of the Jewish spouses, indicates that preference in marriage between people of the same origin has been, and still is, a very general feature. However, the strength of this tendency changes widely in time and between various groups, as indicated below.

¹See *Special Bulletin No. 21* (reprinted from *General Monthly Bulletin of Current Statistics*, starting with July 1945 issue).

² In the case of the five villages studied, going back 3 to 6 generations.

³ E. Goldschmidt, A. Ronen and J. Ronen. "Changing marriage systems in the Jewish communities of Israel". *Annals of Human Genetics*, 24, 1960, pp. 191–204.

A) *Effects of length of stay on homogamy.*

Homogamy by country of origin decreases systematically with length of stay in Israel, as shown by the two following sets of data taken from research studies¹ which refer respectively 1) to the period immediately after the mass immigration (1952); and 2) to comparatively recent years (1968–70), which were preceded by a rather long period of low immigration level.

1) Average indices of preference between groom and bride of the same country of birth(1952):

Marriages in which: Groom was	Bride was	Index
New immigrant ²	New immigrant ²	80.0
Old resident ³	New immigrant ²	56.0
New immigrant ²	Old resident ³	41.0
Old resident ³	Old resident ³	30.0

2) Average of indices of preference between groom and bride of same origin⁴ (1968–70)⁵.

Marriages in which the groom was:	Index (%)	Marriages in which the bride was:	Index (%)
Immigrated 1961 onwards	50.3	Immigrated 1961 onwards	50.1
Immigrated 1955–60	40.0	Immigrated 1955–60	35.8
Immigrated up to 1954	31.1	Immigrated up to 1954	27.2
Israeli-born	16.2	Israel-born	20.9
Both Israeli born: 9.8			

At the time of mass immigration, homogamy by country among new immigrants was very high. This was probably also due to rather strong spatial concentration of these immigrants. At that time there was also a considerable marriage preference according to length of stay in Israel⁶.

However, already then, in marriages in which one of the parties was an old resident, the preference by country was lower and it was rather weak in marriages between old residents.

¹ See quotations in Appendix 11.1.

² Immigrated 1948–52.

³ Immigrated before 1948.

⁴ "Origin" means "country of birth" for foreign-born and "country of birth of father" for Israeli-born.

⁵ Indices calculated by Schmeltz (see Appendix 11.1) by countries. Averages are simple arithmetic means for the countries for which indices are available for each period of stay.

⁶ See R. Bachi "Immigration to Israel," quoted in Appendix 11.1. Some preference according to length of stay is still found today.

In 1968–70 preference reaches about 50% in marriages in which one of the parties has immigrated before 0–9 years, but it decreases to a level of some 30% in marriages of "old residents" (who immigrated up to 1954).

Among Israeli-born, homogamy by country of origin is still felt but to a very small extent: in marriages in which both husband and wife are born in Israel, preference by origin almost vanishes.

B) *Differentials in homogamy by countries.*

Within each class of length of stay, homogamy is stronger in certain countries than in others. Detailed data belonging to research 1) not given here, show that homogamy decreased in 1952 in the following order, considering averages taken over groups of countries: Asia (highest homogamy); Africa; Eastern Europe; Balkans; Central Europe; other countries in Europe and America. Detailed data of research 2) show that also in 1968–70 homogamy was comparatively high — within each class of length of stay — in certain Asian and African countries such as Yemen, India, Iraq, Iran, Morocco and Libya, where the Jewish communities were on the whole more traditional and less "modernized". In European countries, homogamy by country was generally much lower, but again, certain Eastern European and Balkan countries, such as Rumania, Poland, Bulgaria and Greece had higher indices than those found in Central European and other Western countries.

Perusal of detailed data suggests that within each continent, and with many exceptions, homogamy may decrease with the size of each group's population. It is likely that also geographical concentration has some effect on degree of homogamy but both points have not yet been sufficiently explored.

C) *Variations of homogamy in the course of time.*

Annual indices of homogamy between people born in each country (irrespective of their length of stay) are available for 1944–45 and since 1949 up to date. From perusal of these series of indices it emerges that for groups of foreign-born largely affected by mass immigration of 1948–52, the indices of homogamy increased from 1945 to the first years of Statehood, and then began to decrease. For a few countries which contributed substantial additions of new immigrants in later years, the increases occurred later on. For countries which were not affected or less affected by new immigration waves, the decrease has been practically continuous during the Statehood period.

In the averages given in Table 10.6 some partial compensations between increases and decreases of indices for various countries to some extent mask the trends. However, on the whole, the tendency of homogamy by country of birth to decrease appears very clearly. This can be connected largely with the fact that the growing population of Israel is becoming on an average "more veteran" in the country (see Section 14.3).

D) *Homogamy by "community" or continents.*

Table 10.6 also presents indices of homogamy according to a division of the Israeli population into two broad classes: originating from Asia-Africa and Europe-America, which is often used in sociological research and corresponds to the vague notion of the difference of cultural and economic standards between (a) people originating from Islamic or (b) from Western countries; or between people of (a) Ashkenazi or (b) Non-Ashkenazi communities.

TABLE 10.6

AVERAGE INDICES OF PREFERENCE (%)
BY COUNTRIES OR "COMMUNITIES" (1944-1975)

Year	Indices by countries of birth	Indices by "community" or group of continents (2)	
	Calculated on statistics of		
	First births (for father and mother)	Marriages (for groom and bride)	Marriages (for groom and bride)
1944			85
1945	49		83
1949	62		
1951	55 ⁽¹⁾		
1952		60	85
1953		59	85
1954		57	84
1955-57		58	82
1958-60		54	79
1961-63		53	75
1964-66		52	72
1967-69		43	69
1970-72		36	64
1973-75		41	64 ⁽³⁾

(1) First births from marriages occurring in Israel.

(2) 1944-45. "Community" Ashkenazim, Sephardim, Orientals. Since 1952: 2 origin groups: Asia-Africa and Europe-America. Between 1952-65 born in Israel were assigned to "Europe-America" if Ashkenazi, to Asia-Africa if Sephardi or Oriental. Since 1965 Israeli-born are classified according to continent of birth of father. The change of classification slightly increases the index (1965: first classification: 70; second: 73).

(3) 1973-74

Indices of homogamy within each of these two broad classes are, as expected, much higher than indices by countries, but they also tend to decrease with time.

However, such indices should be treated with some caution, for the reasons explained below (10.7).

10.7 INTERMARRIAGE OF JEWS BY ORIGIN

With decrease of homogamy by country of origin, intermarriage becomes more widespread and is actually very variegated. For instance, in the table of marriages of 1972 cross-classified by 24 countries of birth of groom and bride, out of 576 (=24²) possible pairs of countries, only in 56 marriages were not found. However, distribution of heterogamous marriages is still far from showing independence between origins of groom and bride.

Weak indices of preference or weak indices of dislike appear in intermarriages between people coming from countries in which customs, culture, or language are equal or similar. Among these areas of marriage preference the following may be quoted: Central Europe (Germany, Austria, Czechoslovakia, Hungary); Eastern Europe (Poland, U.S.S.R., including the Baltic countries, and Rumania); in certain periods, Sephardic communities (Bulgaria, Greece, Yugoslavia and to some extent Turkey); former French North Africa (Morocco, Tunisia, Algeria); Latin America; Anglo-Saxon countries. However, contrary perhaps to common opinion, there is rather little intermarriage between people of African and people of Asian origins.

10.8 MARRIAGE BY PREVIOUS PLACE OF RESIDENCE OF GROOM AND BRIDE

Tables 10.5 and 10.7 illustrate respectively for Palestine and Israel the importance of equality, proximity or similarity of place of residence of groom and bride as a factor in marriage selection. This factor appears to be very strong for Moslems, intermediate for Christians and weaker for the Jews. Among the Jews there is probably some tendency to increase in the course of time the proportion of marriages between people living in different localities.

TABLE 10.7
MARRIAGES BY RESIDENCE OF GROOM AND BRIDE (1955-1974)

Years	Percentage of marriages in which groom and bride were resident of same		Percentage of marriages in which groom and bride resided in locality of the same type	
	Subdistrict	District	Jews (1)	Non-Jews (2)
	Jews	Non-Jews		
1955-59	70.0 ⁽³⁾			
1960-62	68.4 ⁽³⁾			
1960-62	68.9		60.9	
1965-66	68.8	92.3	62.0	87.5
1967-68	69.0	92.3	64.8	86.7
1969-70	68.2	96.0	60.6	92.7
1971-72	66.2	94.4	58.8	90.7 ⁽⁴⁾
1973-74	65.7	94.5	59.0	

Percentage of couples who resided after the marriage in the same locality where

Years	Groom and bride	Groom	Bride	In another place
	resided before the marriage			
1952	59.0	25.8	8.1	7.1
1960-62	47.9	28.1	10.2	13.8
1965	49.1	26.6	10.0	14.3

(1) Jerusalem; Tel-Aviv-Yafo; other towns; urban settlements; large villages, small villages, moshavim; kibbutzim; temporary settlements and institutions.

(2) Nazareth and Shefar'am; mixed localities; urban localities; villages; Bedouins in Galilee; Bedouins in the Negev.

(3) Percentage of grooms who married brides from the same subdistrict.

(4) 1971

MARRIAGE BY EDUCATIONAL AND SOCIAL LEVEL AND OCCUPATION OF GROOM AND BRIDE

Data on marriages classified by educational level and origin of groom and bride obtained from the 1961 census show that — independently from the origin — similarity in educational level is a factor of considerable importance in spouse selection.

Educational level has also influenced selection of spouse according to origin. Thus, it is found, for instance, that the proportion of men of Asian-African origin who marry women of European origin increases with the educational level of the men. The proportion of men of European origin marrying women of Asian-African origin decreases with the educational level of the men.

A recent study by Matras suggests that social origin has some, but not very strong influence on spouse selection in Israel¹.

SOME GENERAL CONCLUSIONS ON INTERMARRIAGE IN PALESTINE AND ISRAEL

The data presented in this chapter suggest that:

- 1) At least until a few decades ago the traditional ways of marriage were dominant in the Arab villages and among certain oriental Jewish communities.
- 2) The traditional division by main religious groups (and for Christians also by denominations) has been and still is of overwhelming importance in marriage formation.
- 3) With regard to Jewish society types of formation of marriages are extremely important for judging the extent of aloofness of the various groups, the tendency toward formation of multicultural society or to fusion between communities, etc. From the data quoted above, it emerges clearly that homogamy by countries of birth has been very high in the past and continues to be high also now among the new immigrants during the first years of their stay in the country. Homogamy appears to be closer within traditional groups and probably within larger groups. With increasing length of stay and with the passage from first to second generation in the country, homogamy greatly decreases. Intermarriage appears to spread first among people originating from different countries belonging to geographical areas with similar traditions and culture. However, it is now spreading — although slowly — also among people originating from different continents.

¹ J. Matras. *On marriage, social stratification and mobility in Israel*. Paper submitted to the Seventh World Congress of Jewish Studies, Jerusalem, 1977.

CHAPTER 11

NUPTIALITY AND DIVORCE

11.1 TOPICS DISCUSSED IN THIS CHAPTER. METHODOLOGICAL PROBLEMS

This Chapter deals with nuptiality characteristics such as: proportion marrying; age at first marriage; frequency of marriages; potential effects of nuptiality characteristics on fertility; short-term fluctuations in nuptiality.

As nuptiality characteristics differ greatly between the various sections of the population, we analyze them separately for Jews (Sections 11.2–11.8), Moslems (Section 11.9), and Christians (Section 11.10). At the end of the Chapter, divorces among Jews (Sections 11.11–11.12) and Moslems (Section 11.13) are discussed and an overview on nuptiality and divorces for the entire population is given (Sections 11.14–11.15).

Sources of information on nuptiality in Mandatory Palestine and in Israel are described in Appendix 11.3. The reader is referred to that Appendix also for bibliographical quotations. While the statistical material available is extensive, mainly with regard to the Statehood period, its utilization is not easy.

Common measures of nuptiality are strongly affected by: 1) the irregularity and variability of age and sex distribution of the different sections of the marriageable population (see 10.2–10.3), and by the peculiar nuptial behaviour of the new immigrants, as compared to that of the old settlers and people born in the country (Section 11.7); and/or also by 2) violent short-term fluctuations in nuptiality, which too are partly due to the wavelike evolution of immigration (Section 11.14). Therefore some special measures had to be used which are, at least partly, independent from the distribution of the population by sex, age and marital status, and partly unaffected by short-term fluctuations. These parameters ("cumulated rates of marriage"; "corrected" and "standardized age at marriage"; "proportions of fertile period passed in each marital status", etc) are explained and discussed in Appendices 11.4–11.10.

I) NUPTIALITY CHARACTERISTICS OF THE JEWS

11.2 PROPORTION MARRYING AND MARRIAGE RATES

Table 11.1 shows the following general measures of nuptiality based on current marriage statistics:

1) *Crude marriage rates* per 1000 population. This measure has been found to be strongly affected by the peculiarities of age structure of the population groups and the period surveyed.

Therefore very little use can be made of this rate, which is given here for international comparison and reference only.

2) *Crude marriage rate per 1000 persons of either sex aged 15 and more.* This measure eliminates from the previous one, the effect of the differentials in the proportion of children in the population

3) *Cumulated rates of first marriages per 1000.* These rates indicate the total number of first marriages which would be contracted by 1000 persons surviving from the beginning to the end of nuptial age, if they had at each age x the specific first marriage rate found among people aged x in the year under survey.

These rates, which are explained in Appendix 11.6, eliminate the effects of age structure. However they are subject to violent fluctuations from year to year, and are therefore averaged here over many years.

4) *Cumulated rates of second and later marriages,* which are calculated in an analogous way (App. 11.7).

5) *Cumulated rates of all marriages,* which are obtained by summing up rates 3) and 4).

TABLE 11.1

NUPTIALITY MEASURES (1935-1975)

Measure	Area	Period	Jews	Moslems	Christians	Druze and others	Total
1) Crude marriage rates (yearly averages)	Palestine	1935—47	12.0	10.7	4.4	6.5 ¹	10.6
	Israel	1948—59	10.2		7.7		9.1 ²
		1960—75	8.6	7.4	6.7	7.9	8.4
2) Crude marriage per 1000 aged 15 or more	Israel	1948—59	29.3				
a) Men		(1955—59)	25.1				25.5
		1960—72	24.5	30.3(3)	26.7 24.2 ³	27.5(3)	24.9 ³
b) Women	Israel	1948—59	30.3				
		(1955—59)	25.6				25.8
		1960—72	24.5	31.5(3)	26.9 22.5(3)	29.3(3)	25.4 ³
3) Cumulated rates of first marriages per 1000	Palestine	1935—47	(1095)				
	Israel	1948—59	1056				
		1960—75	1036				999 ⁷
a) Men		(1971—75)		971	917 838	1080	
b) Women	Palestine Israel	1935—47	1163 ⁶	883 ⁴			
		1948—59	1085				
		1960—75	929				908 ⁷
		(1971—75)		834	835 708	999	

TABLE 11.1 continued

Measure	Area	Period	Jews	Moslems	Christians	Druze and others	Total
4) Cumulated rates of second and later marriages per 1000	Israel	1949-59 1960-72	350 225	143			
a) Men							
b) Women	Israel	1949-59 1960-72	269 172	75			
5) Cumulated rates of all marriages per 1000	Palestine	1935-47	1480	144 ¹	614 ⁴		
a) Men	Israel	1948-59 1960-72	1406 1232		1004 ⁵ 1053		1195 ⁵ 1195
b) Women	Palestine	1935-47	1463		627 ⁴		
	Israel	1948-59 1960-72	1330 1089	1203 ⁴	868 ⁵ 916		1170 ⁵ 1066

1 1937-47

2 1951-59

3 1963-72

4 1944-45

5 1956-59

6 Obtained from the cumulated rates for all marriages supposing that in 1935-47 the proportion of first marriages to all marriages was as in 1949-54. A more detailed calculation by Gabriel yields very similar results.

(7) 1960-72.

Table 11.2 shows percentages of single in the population of either sex and quinquennial age groups, which are obtained from various censuses.

The complement to 100 of those percentages for ages at which nuptiality in first marriages has practically reached its end (say, 50 for women), can be considered as a measure of percentage ever married in the surveyed cohort. In such percentages, short-term fluctuations in nuptiality occurring during the life of the cohort are likely to be ironed out.

However, in analyzing percentages ever married for groups formed largely or exclusively by foreign-born persons the following points should be borne in mind. These percentages may reflect cumulated effects of (i) nuptiality abroad (before immigration), (ii) nuptiality in Israel after immigration (iii) selectivity by marital status in immigration, and (iv) selectivity of mortality by marital status.

From Tables 11.1 and 11.2 the following conclusions may be drawn with regard to Jewish nuptiality:

a) Among cohorts which have passed the end of nuptial ages, very high proportions ever married are found. In practice, almost all such cohorts have proportions ever married of over 97% for both sexes in all censuses. In some cases the percentages reach even levels of 98% or 99%. These findings are identical with those indicated by detailed nuptiality tables for 1949–53 and 1960–62, calculated respectively by Gabriel and Yam (see Appendix 11.3 and 11.4).

b) Cumulated nuptiality rates given in Table 11.1 show, on an average, between 1935 and 1975, 1,061 first marriages per 1000 men and 1,049 per 1000 women surviving through nuptial ages.

As explained in Appendix 11.6, such a high a nuptiality would be impossible in the long run in a closed population with constant — even if very high — nuptiality rates. Therefore it must be connected with some special feature of the Jewish population; we shall see in Section 11.7 that this is due to immigration.

c) In periods in which the proportion of population at nuptial ages was high, the yearly crude marriage rate of the Jews of Palestine reached a level (12 per 1000 on an average between 1935–47) which is quite unusual in international statistics.

d) Calculating a rate of marriages per 1000 marriageable population (non-married persons aged 15 and over), we obtain the following results:

	Male	Female
1947–49	93.2	113.7
1960–62	75.3	74.6
1971–73	79.7	75.1

Comparing an average of the rates for 1960–62 and 1971–73 to 82 analogous rates shown in the UN *Demographic Yearbook* of 1968, it is found that the above rates for Israeli Jews exceed 82% of the rates quoted by the UN in respect to males and 87% of the rates for females.

e) Proportions ever married for cohorts aged fifty and over (as obtainable by Table 11.2) do not suggest any systematic difference between the two sexes. However, other measures used on current statistics and influenced by changing age and sex structure of the population in nuptial ages show a different picture. For instance, cumulated rates of first marriages in Table 11.1 show that in 1935–47 nuptiality was 6.2 % higher for women than for men; in 1948–59 it was higher by only 2.7%, while in 1960–75 it has been lower by 10.3%.

Also Table 11.9B suggests a decrease in female nuptiality since the early 1950ies, which stands in contrast with previous increases (since at least 1931). Male nuptiality has evolved in the opposite way: it has decreased between 1931 and 1948 and continuously increased afterwards. This difference in the evolution of nuptiality of the two sexes can be connected with the imbalances in sex distribution of population at nuptial ages illustrated in Section 10.2. This is also confirmed by the rates quoted above under (d) and by Table 11.6 which generally indicates a decrease in age-sex-marital status specific rates for women and an increase for men between 1960–62 and 1971–73.

TABLE 11.2

PROPORTION SINGLE AT EACH AGE AT CENSUSES OF 1931, 1948, 1961, 1972

Ages	JEWS				MOSLEMS				CHRISTIANS			
	Palestine		Israel		Palestine		Israel		Palestine		Israel	
	1931	1948	1961	1972	1931	1961	1972	1972	1931	1961	1972	1972
Single per 100 Males in each age group												
15-19	98.7	98.8	99.0	98.9	95.1	95.7	96.3	96.3	98.4	99.2	98.9	98.9
20-24	77.0	80.0	75.8	76.8	71.8	60.7	63.5	63.5	85.0	86.4	89.3	89.3
25-29	43.6	44.5	30.7	27.5	40.2	21.5	23.0	23.0	56.0	45.6	52.6	52.6
30-34	15.2	23.2	12.7	9.3	18.4	7.7	7.5	7.5	28.6	20.4	18.3	18.3
35-39	7.2	12.4	6.8	5.7	9.3	4.8	4.1	4.1	17.6	8.5	7.1	7.1
40-44	4.0	7.4	4.8	4.7	5.4	4.2	3.1	3.1	16.1	8.8	7.8	7.8
45-49	2.8	5.4	3.5	3.9	3.4	3.1	2.2	2.2	13.9	8.8	8.3	8.3
50-54	1.6	4.0	2.9	3.3	2.2	2.2	3.2	3.2	15.2	7.3	10.5	10.5
55-59	1.0	3.5	2.6	2.8	2.4	2.1	3.0	3.0	15.3	7.3	11.7	11.7
60-64	1.4	2.6	2.5	2.6	2.1	2.1	2.9	2.9	14.9	7.3	8.4	8.4
65-69	1.3	2.0	2.2	2.4	2.1	2.1	2.4	2.4	14.5	7.3	7.9	7.9
70-74	1.1	1.8	2.0	2.3	2.1	2.1	2.4	2.4	13.9	7.3	7.9	7.9
75+	2.2	2.1	2.4	2.0	2.1	2.1	2.4	2.4	13.9	7.3	7.9	7.9
15+	35.7	33.3	27.6	31.5	31.5	36.7	36.3	36.3	47.7	41.5	42.1	42.1
Single per 100 Females in each age group												
15-19	88.2	88.8	90.3	93.3	65.7	78.3	76.9	76.9	80.7	91.4	90.8	90.8
20-24	47.9	38.0	33.8	47.1	21.6	28.5	30.9	30.9	43.9	47.5	51.2	51.2
25-29	19.5	14.8	9.0	15.8	7.3	9.3	13.3	13.3	27.1	26.0	27.5	27.5
30-34	7.7	8.7	4.1	6.2	3.5	4.2	7.3	7.3	22.0	16.6	20.0	20.0
35-39	4.1	6.0	2.6	3.3	2.6	2.3	4.8	4.8	19.2	13.0	17.5	17.5
40-44	2.5	4.9	2.5	3.3	2.4	2.0	3.8	3.8	20.2	14.3	15.7	15.7
45-49	2.1	4.4	2.4	2.0	2.4	2.0	3.0	3.0	18.7	14.3	14.6	14.6
50-54	0.9	3.7	2.7	2.1	2.4	2.0	2.4	2.4	18.8	14.3	15.5	15.5
55-59	1.1	2.9	2.8	2.0	2.7	2.7	2.3	2.3	21.4	19.1	19.8	19.8
60-64	0.5	2.2	3.0	2.4	2.5	2.7	2.2	2.2	17.3	19.1	21.0	21.0
65-69	0.7	1.6	2.8	2.6	2.6	2.7	3.7	3.7	18.7	19.1	19.4	19.4
70-74	0.7	1.5	2.6	2.7	2.2	2.1	2.1	2.1	17.1	19.1	19.4	19.4
75+	1.2	2.1	2.6	2.5	2.1	2.1	1.7	1.7	13.3	19.1	19.4	19.4
15+	23.9	20.6	16.8	22.9	11.7	22.9	24.9	24.9	31.7	32.8	34.3	34.3

TABLE 11.3

AGE DISTRIBUTION OF SINGLE BRIDEGROOMS OR BRIDES (1952-1972)

A) Current statistics corrected for age structure of the population													
Population group	Jews												
	Males						Females						
	15-19	20-24	25-29	30-34	35-39	40+	15-19	20-24	25-29	30-34	35-39	40+	
1952-53	6.6	37.5	28.6	14.8	6.4	6.2	40.2	37.6	12.0	3.5	1.6	2.6	
1971-72	2.5	49.5	33.7	8.9	2.9	2.4	26.6	55.0	13.3	2.9	1.1	1.0	
Non-Jews													
1960-62	12.0	45.7	26.8	9.5	3.0	3.0	55.2	33.5	8.3	2.0	0.7	0.3	
1971-72	8.7	41.3	30.3	10.6	4.1	4.5	47.9	36.7	10.5	2.8	1.3	0.7	
B) Census of 1961, marriages contracted in Israel													
Population group	Percentage married at age												
	-15	16-17	18-19	20-21	22-25	26-29	30-34	34-39	40+				
I) FEMALES													
1) All durations of marriage													
Jews - Born in Asia-Africa	3.4	15.2	27.7	19.5	20.5	7.7	3.5	1.4	1.1				
Jews - Born in Europe-America	0.4	3.2	12.4	17.9	32.9	18.0	9.1	3.3	2.8				
Jews - Born in Israel, father born in Asia-Africa	5.8	12.3	24.4	23.6	23.8	6.1	2.1	1.0	0.9				
Jews - Born in Israel, father born in Europe-America	1.0	3.6	20.9	34.5	31.9	5.7	1.8	0.3	0.3				
Jews - Born in Israel, father born in Israel	3.8	8.0	21.6	25.1	29.1	8.2	2.8	0.9	0.5				
Jews - All places of birth	1.8	7.2	18.8	21.5	28.8	12.3	5.8	2.1	1.7				
Moslems	21.6	21.0	20.9	13.8	12.6	4.8	3.0	0.7	1.6				
Christians	13.0	17.1	20.4	16.8	18.5	7.6	4.0	1.2	1.4				

2) According to selected durations of marriage		Percentage married at each age								
Population group	Duration of marriage	-15	16-17	18-19	20-21	22-25	26-29	30-34	35-39	40+
Jews -- Born in Asia-Africa	20-24	9.1	18.6	23.9	13.7	22.4	7.0	2.5	1.4	1.4
	0-4	0.7	13.4	28.5	21.4	21.2	8.3	3.6	1.6	1.3
	20-24	0.6	1.5	5.9	11.0	38.2	29.2	10.5	2.3	0.8
	0-4	-	3.6	16.6	21.2	30.1	11.6	7.4	3.8	5.7
	20-24	6.0	12.4	17.7	16.8	29.0	11.5	4.6	1.5	0.5
Born in Europe America	0-4	0.1	2.9	19.3	34.8	34.1	6.0	1.8	0.5	0.5
	20-24	1.8	4.1	8.7	11.9	36.0	25.4	9.2	2.1	1.8
Born in Israel	10-14	1.8	6.8	17.9	22.1	28.8	11.0	6.7	3.1	1.8
	0-4	0.4	7.7	22.7	25.7	27.5	8.3	3.9	1.7	2.1
All Jews -- standardized by continent of origin	20-24	4.2	8.8	13.6	13.2	31.7	18.9	6.9	1.9	0.8
	10-14	2.5	8.3	18.8	22.1	27.6	10.3	5.9	2.8	1.7
	0-4	0.1	6.0	20.4	24.8	28.9	9.3	5.0	2.3	3.2
Moslems	20-24	33.7	17.8	16.5	10.9	11.6	5.0	3.3	0.4	0.8
	0-4	4.2	23.7	32.4	16.9	14.8	4.4	1.9	0.2	1.4
Christians	20-24	16.2	17.5	23.4	7.2	11.7	11.7	5.8	2.6	3.9
	0-4	0.9	11.1	25.0	22.2	26.7	9.0	3.0	0.9	1.2
II) MALES										
Jews		1.0		2.8	9.6	34.2	26.4	16.2	5.9	3.9
Moslems		13.1		13.3	18.0	28.0	13.1	8.0	3.6	2.9
Christians		3.2		5.9	10.8	31.6	24.2	16.1	5.0	3.2

In recent years, the problem of the decrease in the chances of females to marry became noticeable and has even aroused some interest in public opinion.

11.3

AGE AT FIRST MARRIAGE

Distribution of marriages according to age of spouses depends upon 1) the changing distribution of the marriageable population by sex and age (Section 10.2) and 2) specific sex and age nuptiality rates. Both 1) and 2) differ for the Jewish population according to country of birth and length of stay or the foreign-born. The proportion of grooms and brides according to such characteristics has also greatly changed in the course of time (section 10.3). Therefore the analysis of the age at marriage is very complex, and is made even more so by the methodological problems affecting the various sets of data available (see Appendix 11.8 and 11.10) which sometimes cause apparent contradictions.

Tables 11.3A and 11.3B show distributions of first marriages by age of grooms and brides obtained respectively: A) from current statistics adjusted for age structure of the population (see Appendix 11.8); B) from 1961 census, taking into consideration only marriages presumably contracted in Israel, dividing them by classes of calendar years, and standardizing the percentages of each class by keeping constant the proportion of spouses by continent of birth (see Appendix 11.10).

Table 11.4 shows average ages at marriage of single grooms and brides i) according to current marriage statistics; ii) according to current statistics adjusted for age distribution of population as in A) above; iii) according to 1961 census (as in B)). Here we give averages both for not standardized distributions and distributions standardized by continents of birth.

As the age distributions of grooms and brides are asymmetrical, also medians and modes have been given, on the basis of current (not standardized) statistics.

These parameters are given in a somewhat unorthodox way: medians for each period are here simple averages of medians calculated for each year of the period. Modes are given by indicating the age class to which they fell in the various years of the period under survey.

It appears from Table 11.3A that the percentage of very young brides has decreased steeply in the course of time while the percentage of those aged 20–24 has increased. The more detailed and standardized data of Table 11.3B enable us to see that the decrease has been very strong for brides under 18 and even more so for those under 16, who have practically disappeared in the course of time. This has been due mainly to the evolution among women of Asian and African origin in the past few decades (see Section 11.6), which caused a strong concentration of marriages between the ages of 18 and 22.

Also among men a similar evolution has taken place: decrease in the proportion of very young, and increase in the proportion of young among the grooms.

Averages based on current statistics and corrected for age distribution of population indicate but minor changes in the course of time.

Table 11.5 gives some information on differences of ages between groom and bride.

TABLE 11.4

**AVERAGE AGE AT MARRIAGE OF SINGLE JEWISH GROOMS AND BRIDES
(1952-1974)**

A) From current statistics of marriages								
Years	Non-corrected parameters						Corrected for age distribution of population	
	Grooms			Brides			Mean	
	Mode	Median	Mean	Mode	Median	Mean	Grooms	Brides
1952-53	21-22 or 22-23	25.55	27.05	18-19	20.90	22.40	27.70	22.70
1957-59	23-24	24.83	26.27	19-20 or 20-21	20.90	22.00	26.70	21.97
1963-65	22-23 ¹	25.03	26.20	20-21 ¹	20.70	21.77	26.60	22.50
1969-70	22-23	23.90	25.00	21-22	21.70	21.85	26.15	22.55
1973-74	23-24 ²	23.95	24.80	21-22 ²	21.85	22.05	25.75	22.45

B) From 1961 census (marriages presumably contracted in Israel)

Length of period of marriage	Approximate years of marriage	Mean age at first marriage			
		Non-standardized		Standardized for continent of birth	
		Males	Females	Males	Females
0- 4	1957-61	26.5	22.3	27.2	23.1
5- 9	1952-56	27.0	22.4	27.2	22.6
10-14	1947-51	27.5	23.1	27.1	22.7
15-19	1942-46	28.4	24.2	27.8	23.2
20-24	1937-41	27.9	24.5	27.4	23.2

¹ 1965 and 1966

² 1974

TABLE 11.5

DIFFERENCE OF AGE AT FIRST MARRIAGE BETWEEN HUSBAND AND WIFE
(Census of 1961)

Population group	Period of marriage	Husband			Older by ten or more years
		Younger	Same age	Older	
		Than wife			
Jews married in Israel	Up to 1935	9.6	11.4	79.0	?
	1936-45	10.1	10.0	79.9	11.8
	1946-54	7.6	7.0	85.4	12.7
	1955-61	7.3	8.5	84.2	9.9
	All periods	8.2	8.5	83.4	11.6
Moslems and Druzes	Up to 1935	9.4	8.0	82.7	43.2
	1936-45	10.2	8.1	81.7	25.1
	1946-54	13.8	8.8	77.5	12.5
	1955-61	15.0	8.6	76.5	11.3
	All periods	12.2	8.3	79.5	21.9
Non-European Christians	Up to 1935	8.3	5.5	86.2	36.0
	1936-45	6.3	6.5	87.2	33.8
	1946-54	7.0	5.9	87.2	24.5
	1955-61	15.0	2.6	82.4	16.4
	All periods	8.9	5.2	86.0	28.2

11.4

REMARRIAGE

Considering persons of different marital status and the same age and sex, it is found (Table 11.6) that divorced men marry much more than bachelors and divorcées marry much more than spinsters. This is not an unusual finding and has sometimes been interpreted as showing that divorce is "generally less a repudiation of marriage than an expression of dissatisfaction with a particular marriage partner"¹. This may also be connected with the likely fact that some divorces are obtained in order to marry somebody else; however, no statistical evidence is available on this point. On the other hand, two sets of data are available which suggest that among divorced persons there is a group of especially unstable individuals, having a greater tendency to change marriage partners; a) Table 11.8 shows on the basis of census data that persons married more than once are more frequent among divorced than among married or widowed of the same age; b) comparatively high proportions shown by the divorce statistics in Israel of people who had already divorced from previous marriages (see Section 11.11).

In the case of widowed persons, nuptiality is larger than that of single of same ages for men, but it is lower for women (Table 11.6).

While the above mentioned characteristics are probably rather constant in the course of time, a large decrease in the proportion of second or later marriages occurred between 1949 and 1972, both among men and women, and considering marriages as registered by current statistics, and when percentages are corrected for the effect of a changing age distribution (Table 11.7). This fall in the proportion of second marriages can probably be explained as follows: (a) the proportion of divorced persons remarrying was inflated considerably between the 1930ies and the early 1950ies, due to the previous large number of fictitious marriages (see Section 8.10). (b) The proportion of widowed persons in the population has tended to decrease with decreasing mortality. Moreover, (c) the effects exerted on nuptiality by the large number of widowed immigrants from abroad in the wake of the Holocaust disappeared in the course of time.

11.5

POTENTIAL EFFECTS OF MARRIAGE CHARACTERISTICS ON FERTILITY

As explained in Appendix 11.9, the effects of the nuptial characteristics analyzed above can be summarized by calculating the proportion of fertile period passed in each marital status.

Table 11.9 shows (in Panel A) the results of these calculations for the main population groups of Palestine and Israel at various censuses. Some additional intercensal estimates are given for the proportion of fertile period passed as single, in Panel B. Table 11.10, based on unpublished calculations performed by J. Yam, indicates, for the sake of comparison, the results of similar calculations with respect of about fifty world populations around the 1930ies and the 1960ies and averaged in ten groups, formed according to a rough classification by types of nuptiality habits prevailing in each group.

¹ Paul C. Glick. *American families*. New York, J.Wiley, 1957, p. 135.

TABLE 11.6

AVERAGE YEARLY NUPTIALITY RATES
PER 1000 OF EACH SEX, AGE AND MARITAL STATUS (1960-62, 1971-73)

A) Grooms								
Age	Jews						Non-Jews	
	Single		Divorced		Widowed		Single	Divorced and Widowed
	1960-62	1971-73	1960-62	1971-73	1960-62	1971-73	1971-73	1971-73
15-19	4.9	5.4	(1)	(1)	(1)	(1)	15.9	(1)
20-24	116.9	132.0	402.0	357.1	(1)	33.3	104.9	(1)
25-29	209.0	262.7	436.7	448.0	(1)	(1)	190.0	(1)
30-34	161.6	197.6	390.6	407.2	151.9	259.3	209.5	(1)
35-44	98.0	81.5	236.7	267.6	148.6	166.0	110.7	216.8
45-54	33.0	23.9	137.2	109.1	101.7	93.1	31.6	84.9
55-64	13.9	7.4	88.7	59.0	70.3	61.0	11.0	24.2
65+	8.1	3.0	59.9	38.7	23.3	18.8	6.0	5.5
15 and over	73.1	79.7	202.2	177.2	52.4	37.4	64.6	47.4

B) Brides								
Age	Jews						Non-Jews	
	Single		Divorced		Widowed		Single	Divorced and Widowed
	1960-62	1971-73	1960-62	1971-73	1960-62	1971-73	1971-73	1971-73
15-19	70.4	54.2	237.8	108.9	(1)	4.6	91.1	(1)
20-24	266.6	244.3	334.8	203.3	88.1	85.6	152.2	169.2
25-29	218.6	170.6	250.2	168.1	98.2	92.0	100.5	94.3
30-34	131.9	98.2	170.8	109.9	61.3	53.0	44.2	29.5
35-44	79.5	50.4	93.5	59.3	36.2	22.1	20.0	8.6
45-54	24.8	16.6	49.3	37.7	18.3	16.9	4.6	1.9
55-64	8.1	7.5	30.2	22.4	7.8	8.6	—	—
65+	3.6	2.9	13.0	11.5	1.8	1.7	—	—
15 and over	116.7	109.6	103.7	64.4	9.8	7.0	93.2	5.5

(1) Basic population less than 100.

TABLE 11.7

PERCENTAGES OF SECOND OR HIGHER ORDER MARRIAGES (1936-74)

	According to current statistics					According to cumulated rates of marriages	
	Percentage of grooms		Percentage of brides		Percentage of marriages in which at least one of the spouses was not single	Percentage of grooms	Percentage of brides
	Divorced	Widowed	Divorced	Widowed		in second or higher order marriage	
1	2	3	4	5	6	7	8
JEWIS							
Tel Aviv							
1936-37	19.2	4.2	15.0	2.7			
1949-54	9.4 ¹	7.1 ¹	9.3 ¹	7.3 ¹	22.6 ²	26.0	20.5
1960-64	9.0	5.2	9.0	4.7	18.3	20.0	17.6
1970-74	6.1	3.4	4.6	3.0	11.3	15.5	13.1
MOSLEMS							
1944-45							
(Palestine)							
1967-69	5.2		11.4	5.2			
1970-74	4.7		4.7	3.3			
CHRISTIANS							
1967-69	3.6		2.0				
1970-74	2.9		1.2				
NON-JEWS							
1962-64	2.9	2.8	2.6	1.3	7.9		
1970-72	2.7	1.5	1.7	0.6	5.5		
1958-72						16.6	11.0

1 Without 1951

2 Without 1951 and 1954.

TABLE 11.8

MARRIED MORE THAN ONCE PER 100 PERSONS OF EACH SEX
AND RELIGION AT SELECTED AGES (1961 CENSUS)

	Aged				
	35-39	45-49	55-59	65 and over	All ages
Men: Jewish	5.9	11.7	19.9	22.9	11.5
Of whom: divorced	10.7	15.6	27.6	32.0	17.9
Moslem	8.2 ¹	17.4	22.8	41.4	15.1
Christian		2.3 ²			6.3
Women: Jewish	7.8	13.4	12.4	9.9	9.0
Of whom: divorced	12.4	20.4	20.8	14.2	15.1
Moslem	6.9(1)	11.9	13.8	18.4	8.5
Christian		(0.6) ²		4.8 ³	2.0

(1) 30-39

(2) Up to 49

(3) 50 and over

Due to the cumulated effect of all the nuptial characteristics discussed above, the Jewish population of Israel appears to pass comparatively a high proportion of fertile period in married life; this proportion is definitely much higher than that of European and American populations. However, for the women this proportion appears to have been decreasing since about 1953 due to the above mentioned increased proportion of women at main marriage ages.

The nuptial measures commented upon above are average values for the Jewish population. However, nuptial behavior has shown considerable internal differentiation in certain phases of modern evolution and still shows some residual differentiation today. Some aspects of differentials are commented upon in Sections 11.6–11.8.

TABLE 11.9

PERCENTAGE OF YEARS PASSED IN EACH MARITAL STATUS BY 1000 MEN SURVIVING BETWEEN 20 AND 60 AND 1000 WOMEN SURVIVING BETWEEN 15 AND 50 (1931–1973)

A) Data for all marital status								
Population group and year	Men (20–60)				Women (15–50)			
	Single	Married	Divorced	Widowed	Single	Married	Divorced	Widowed
<i>Jews</i>								
Palestine								
1931	19.1	78.2	0.7	2.0	24.6	66.3	1.1	8.0
Israel								
1948	22.6	74.4	1.1	1.9	23.7	71.0	1.8	3.6
1961	17.5	80.4	1.1	0.9	20.7	75.0	1.9	2.4
1972	16.7	81.3	1.1	0.8	24.3	71.8	1.9	2.0
<i>Moslems</i>								
Palestine								
1931	19.2	77.6	0.5	2.7	15.1	76.1	0.7	8.2
Israel								
1961					17.8	75.4	1.1	5.6
1972	13.7	84.9	0.4	1.1	20.0	75.3	0.8	4.0
<i>Christians</i>								
Palestine								
1931	31.0	67.2	0.2	1.5	33.1	56.3	0.3	10.2
Israel								
1961					31.7	63.5	1.0	3.9
1972	25.4	73.5	0.4	0.8	33.9	62.6	0.7	2.8
Total population of								
Palestine								
1931	20.4	76.7	0.5	2.4	19.1	71.8	0.7	8.4
Israel								
1961	17.2	80.7	1.1	1.0	20.6	74.9	2.0	2.5
1972	16.7	81.5	1.1	0.8	24.1	72.0	1.8	2.1

B) Percentage of years passed as single by 1000 Jewish men surviving between 20 and 60 and 1000 Jewish women surviving between 15 and 50

	1931	1948	1951	1953	1961	1964	1967	1968	1972	1974
Men	19.1	22.6	19.2	18.2	17.5	17.1	16.8	15.8	16.7	16.0
Women	24.6	23.7	20.2	19.6	20.7	21.5	22.9	22.8	24.3	24.2

TABLE 11.10

INTERNATIONAL COMPARISON OF NUPTIAL PARAMETERS FOR PALESTINE AND ISRAEL (WOMEN ONLY)

Group of countries	Around year	Number of countries	Average age at first marriage	Percentage ever married calculated at 45-54	Percentage of years passed in each marital status by 1000 women surviving between 15 and 55			
					Single	Married	Divorced	Widowed
Scandinavian	1930	4	26.20	78.8	46.4	50.1	0.9	2.7
Great Britain	1960	4	22.78	89.7	30.3	65.4	2.8	1.5
	1930	3	25.78	82.9	42.6	54.0	0.1	3.2
Northwest Europe	1960	3	22.65	86.1	32.7	64.5	0.8	2.0
	1930	3	25.84	82.2	43.2	53.5	0.4	2.9
Central-Southern Europe	1960	3	23.14	88.9	31.7	64.7	2.1	1.5
	1930	7	24.32	87.5	35.7	59.2	0.6	4.5
Eastern Europe	1960	5	23.82	89.5	33.3	62.2	1.5	3.0
	1930	5	23.89	93.7	30.1	63.2	0.6	6.1
North America, Oceania and Europeans in Africa	1960	3	21.73	93.4	24.6	69.9	2.3	3.2
	1930	4	22.89	91.0	29.5	65.0	1.8	3.7
Islamic countries	1960	6	21.02	91.9	24.0	69.0	4.4	2.6
	1930	2	19.90	98.2	15.5	73.5	1.4	9.6
Other Asiatic countries excl. India	1960	4	19.34	98.5	12.8	79.3	1.9	6.1
	1940	3	17.40	99.8	7.1	84.7	0.7	7.6
India	1960	6	21.96	96.7	22.5	69.8	2.0	5.7
	1960	1	16.84	99.5	5.7	83.1	0.9	10.3
Africa South of the Sahara	1960	8	18.30	98.9	10.8	80.1	3.1	6.0
	1950	7	22.35	80.9	36.5	36.8	21.0	5.6
Latin America	1940	7	22.35	80.9	36.5	36.8	21.0	5.6
	1960	8	22.04	88.5	31.3	51.6	12.3	4.8
Palestine	1931	1	20.49	96.0	19.1	71.8	0.7	8.4
Israel	1961	1	21.49	97.5	20.6	74.9	2.0	2.5
Of whom: Jews born in Israel	1948	1	23.09	95.8	23.1			
	1961	1	22.39	96.7	21.3	72.1	2.5	4.0
	1971	1	22.89	96.7	24.1	71.0	2.5	2.5

A) GENERAL REMARKS

We mentioned already in Section 7.3 that before modern evolution, traditional Jewish nuptial characteristics persisted in many Diaspora communities. These characteristics are connected with the Jewish religious belief which puts great emphasis on the role of the family both to fulfill the commandment of "be fruitful and multiply", and to channel all sexual life within marriage, and prescribes the purity of sexual life¹. In orthodox Jewish environments, roles of men and women in family, community, social and economic life are considered different, and a much heavier onus of observance of religious commands is incumbent upon the males. Therefore, boys and girls receive separate and often different education. Very little contact is possible or socially acceptable between young people of the two sexes, and institutions such as dating or courtship are practically nonexistent. However, when boys and girls reach early nuptial age², their families arrange for their marriages, often independently of their children's will, and often with the intermediation of matchmakers. Economic arrangements are made by the families of the couple, sometimes with the help of charitable institutions which help brides who are poor or orphaned. While divorce is not encouraged, it is admitted. Social pressure is put both on singles to marry and on widowed and divorced to remarry.

From the demographic point of view, these habits should result in (1) extremely high proportions ever married, (2) a high proportion of young or even very young marriages, (3) considerable proportions of remarriages (mainly in environments with high mortality and widowhood), (4) a high proportion of the fertile period passed in marriage; (5) a considerable proportion of marriages with large age difference between the spouses.

Some or all of the traditional nuptial Jewish characteristics mentioned above were typical, though with different nuances, for some groups of immigrants, such as: Ashkenazi immigrants of the "pre-modern" type (see Section 8.1); traditionally oriented immigrants from certain Asian and African communities. At least part of these immigrants and their descendants maintained these characteristics, and this seems to be particularly true of some very orthodox Ashkenazi groups.

However, the study of these groups while possible is not easy, because it is difficult to identify them in current statistics³. It is by far easier to study nuptial behavior of people belonging to the more traditional communities of Asian-African origin, which can be identified in the statistics according to place of birth (see below).

¹ See J.Katz, Family, kinship and marriages among Ashkenazim in the sixteenth to eighteenth centuries. *The Jewish Journal of Sociology*, April 1959, Vol. 1, No. 1, pp. 4—22.

² According to Katz (op.cit.), "sixteen was considered the proper age for a girl, and eighteen at the very latest, for a boy".

³ Persistence of traditional Jewish nuptiality characteristics among Ashkenazi Jews has been found in the analysis of data of the 19th century censuses of the Jewish population of Jerusalem, and in fragmentary examples for the Mandatory and Statehood periods. In these examples the orthodox groups have been identified in various ways, such as the following: distinguishing among the marriages those celebrated by Rabbis of the orthodox Agudath Israel; studying characteristics of students of Yeshivoth (advanced religious schools); analyzing demographic data for urban zones where very religious groups predominate. On family life in orthodox groups, see Esther R.Goshen — Gottstein, *Marriage and first pregnancy*. London, J.B. Lippincott, 1966.

B) JEWS OF ASIAN-AFRICAN ORIGIN

In the following we present a few tables showing nuptial measures for the different groups in the Jewish population distinguished according to the continent or country of origin.

Table 11.11 (to be compared to Tables 11.3B, 11.4B and 11.8) shows the average at marriage, the proportion married young and the proportions married more than once, in marriages contracted abroad and in Israel, according to the 1961 census. Table 11.12 gives a comparative measure of nuptiality for groups of each origin, obtained as follows. From the yearly cumulated rates of first marriages for groups of population (classified according to continent of birth), we calculated for every year index numbers, showing nuptiality for each continent as compared to the general average for the Jewish population taken as 100. The index numbers were averaged over many years.

Table 11.13 (to be compared to Tables 11.9 and 11.10) shows the proportion of the fertile period passed as single or married, according to continent of origin.

In analyzing these tables we may take as a working hypothesis that certain Asian-African communities such as those of Yemen, Iran, Morocco, Iraq, etc., had at the time of mass immigration to Israel a very large proportion of people with a traditional outlook; by comparing (a) people of Asian-African origin to (b) people of European origin, we may consider that at the time of immigration group (a) included a considerably larger proportion of people with a traditional outlook than group (b).

It emerges clearly from Table 11.11 that in more traditional communities the *age at first marriage* in the country of origin was very low. For instance, Yemenite women married on an average at 17 and 55% among them married below that age. However, an evolution towards a delay in age at marriage was already starting in the countries of origin. Considering, for instance, all women born and married in Asia (outside Israel) and in Africa, the proportion of those marrying up to 17 was 45.3% in marriages concluded before 1947, and "only" 32.0% in those concluded between 1948 and 1961.

Coming to Israel, the immigration originating in those countries accelerated this evolution under the impact of the influence of the environment, of rising educational standards and of the limits fixed by law in regard to minimum marriage age¹.

The influence of the Israeli environment can be seen from the following percentages of married up to 17 per 100 non-single women born in Asia and Africa, according to the time passed in Israel before marriage:

	All periods of stay	Years passed in Israel between immigration and marriage			
		0-4	5-9	10-14	15-19
Women married 1947-61	17.2	20.5	15.7	12.6	7.4
Women married up to 1947	31.4	31.0	35.1	39.8	14.9
All periods of marriage	18.6	21.2	17.2	17.8	9.5

¹ According to the marriage age law of 1950 (amended 1960) a woman may not be married before 17.

TABLE 11.11

AGE AT MARRIAGE AND REMARRIAGE FOR NON-SINGLE JEWS, CLASSIFIED
BY SELECTED COUNTRIES AND CONTINENTS OF BIRTH (1961 CENSUS)

Continent or country of birth	Period of marriage	Place of marriage	Percentage of		Average age at first marriage		Percentage aged 45-64 married more than once	
			Males	Females				
			married up to 19	"young" up to 17	Males	Females	Males	Females
Grand Total			7.3	14.7	26.8	22.5	16.6	13.1
Israel Total	Total	Israel	5.2	9.2	24.7	21.3	11.1	7.8
Israel- father born in Israel	Total	Israel	6.6	11.8	25.2	21.4	11.2	8.3
In Asia or Africa	Total	Israel	8.3	18.1	24.4	20.8	15.5	10.3
in Europe or America	Total	Israel	3.3	4.6	24.5	21.4	8.9	6.2
Asia- Africa	Before 1947	Abroad Israel	25.4 9.4	45.3 31.5	24.0 26.1	19.2 20.4	13.9	11.3
	1948-61	Abroad Israel	16.2 8.1	32.0 17.2	24.8 25.4	20.2 22.2		
Europe- America	Before 1947	Abroad Israel	4.0 1.2	5.8 2.7	27.5 28.1	23.8 24.8	12.5	10.1
	1948-61	Abroad Israel	1.8 1.4	3.9 4.3	29.4 29.0	24.7 24.4		
Iran	Total	Abroad Israel	22.1 8.7	48.5 18.9	24.3 25.1	18.4 21.2	15.1	8.4
Iraq	Total	Abroad Israel	15.3 7.9	35.7 13.2	26.5 26.9	19.8 21.8	9.1	4.3
Yemen, Aden	Total	Abroad Israel	43.7 17.8	54.9 26.5	20.8 24.3	17.0 20.2	43.3	21.1
Morocco, Tangiers	Total	Abroad Israel	27.3 6.1	53.5 24.4	22.5 24.2	17.4 20.1	18.8	13.1

TABLE 11.12
INDICES OF NUPTIALITY OF THE JEWISH POPULATION, BY SEX ORIGIN AND LENGTH OF STAY IN ISRAEL
(1960-1975)¹

Group of population of each sex taken as base (=100)	Indices
Total population	Born in Israel M 97.6, F 100.4; Asia-Africa M 96.3, F 97.5; Europe M 114.4, F 115.8.
Born in Asia-Africa	Immigrated: recently M 114.3, F 121.9; long time M 97.8, F 96.9.
Born in Europe-America	Immigrated: recently M 139.1, F 145.3; long time M 93.6, F 86.4.
Immigrants from Asia-Africa in each period	Immigrated from Europe: recently M 133.4, F 135.0, long time M 105.8, F 109.3

(1) The category "recently" has changed in the course of time. On an average, it includes 7 years.
The category "long time" refers to the years preceding "recent" years. "Europe" includes "America".

TABLE 11.13
PERCENTAGE OF FERTILE PERIOD PASSED BY JEWISH WOMEN AS SINGLE AND AS MARRIED, ACCORDING TO ORIGIN
AND LENGTH OF STAY IN ISRAEL (1972)

	Percentage of years between 15 and 50 passed as						
	Single				Married		
	Israel	Asia	Africa	Europe- America	Israel	Asia	Europe- America
Born in Israel, by continent of birth of father	25.0	28.9	30.3	26.5	70.9	67.4	64.4
Immigrated: 1955-1960		22.9	21.8	22.8		73.3	73.6
1961-1964		21.7	21.9	22.1		73.8	74.4
1965-1972		24.2	26.8	26.4		70.8	67.7
All periods		23.0	21.8	22.7		73.1	73.6

In the "second generation" (born in Israel from father born in Asia-Africa) the proportion of women married up to 17 is still 18.1%, but it shows too a very clear tendency to decrease in the course of time. This proportion was as follows among marriages occurring in:

1932-36	1937-41	1942-46	1947-51	1952-56	1957-61
34.5	33.0	31.1	19.6	11.4	7.2

The influence of education on age at marriage of women born in Asia-Africa is shown by the following percentages of women married up to 17 according to the number of years of study:

	0	1-4	5-8	9-10	11-12	13+
Married abroad: up to 1946	51.3	39.0	32.1	22.8	16.7	11.3
1947-61	41.1	34.3	27.9	12.3	8.9	(5.9)
Married in Israel: up to 1946	40.0	39.0	24.9	(10.9)	5.6	(12.0)
1947-61						
a) Immigrated 1948						
or after	20.0	23.7	18.3	8.6	4.0	(4.4)
b) Immigrated up to 1947	21.1	22.6	17.5	(2.8)	(2.5)	-

Analysis of percentages of marriages in which men were aged up to 19 and of average age at marriage of brides and grooms would bring us to similar conclusions.

By contrast, the people of European origin had already abroad very low percentages of very young marriages. Emigration to Israel did not lead to any substantial change in these percentages or in the average age at marriage. In consequence of this, the very considerable gulf which existed between the age at marriage of people of Asia-African origin and those of European origin, has been in the course of time consistently decreasing.

With regard to *nuptiality* (at first marriage) Table 11.12 suggests at first sight a rather amazing phenomenon, namely that nuptiality is larger in Israel for people of European origin than for those of Asian-African origin. However, this is probably due to the fact that European immigration contains a larger proportion of single persons and that this increases their current rate of marriage in Israel (see next section).

With regard to *second or later marriages*, Table 11.11 indicates very high rates for population groups (such as the Yemenites) which in the past had very high mortality, considerable rates for European-born in the period following the Holocaust, and low percentages among Israeli-born.

The summary parameters of *the effects of nuptiality characteristics* shown in Table 11.13, indicate the tendency to general standardization. People born in Asia, Africa or Europe-America staying in Israel for the same length of time, have similar proportions of fertile periods passed in each marital status.

Even for foreign-born of each origin without regard to their length of stay in the country, the differentials are very small today, while in the past they were

quite large¹. As an example, compare the following percentages of years passed by women as single, according to the censuses between 1948 and 1972:

	Born in Asia	Born in Africa	Born in Europe-America
Census 1948	16.4	17.3	23.5
End of 1961	19.9	17.2	20.7
End of 1967	21.8	20.3	21.5
Census 1972	23.0	21.8	22.8

11.7 INFLUENCE OF IMMIGRATION ON NUPTIALITY

We have seen that many immigration waves (of the "selected" type) included proportions of single people larger than those found in the population of Israel (after eliminating effects of age structure), and that some immigration waves from Europe after the Holocaust have brought to Israel comparatively large proportions of widowed people (see Section 8.10).

When we compare the composition by marital status (after removal of age structure effects) of a) foreign-born with short length of stay to that of b) foreign-born who were in the country for a long time (Table 11.13), we find that among (a) the proportion of single people is higher than among (b)². However, if we study current marriage rates of group (a) compared to (b) we find that nuptiality is higher for (a) (Table 11.12).

Clearly the large number of single people included in (a) determine a very high nuptiality of this group; this has particularly been true of the new immigrants from Europe-America whose contribution (Table 11.12) to enhance current nuptiality in Israel is very strong. In the period after the Holocaust, the widowed immigrants have increased the nuptiality in second and later marriages.

The question of whether new immigrants have a larger nuptiality than veteran immigrants only because they include more single or widowed persons or also because they have a higher specific nuptiality (after that effects of composition by marital status are removed) cannot be directly answered.

However, if we compare nuptiality behavior of all born abroad to that of all born in Israel, the following results are found which can throw some indirect light on the question posed above:

- 1) Foreign-born taken together and considered over very long periods have higher current nuptiality than those born in Israel (Table 11.12).
- 2) The combined effect of initial high proportion of single persons and of high nuptiality in Israel is, in the long run, a proportion of married persons among veteran foreign-born (and among all foreign-born taken together) which exceeds that found among those born in Israel (Table 11.13).

¹ Considering individual countries of birth, variability in 1948 was even larger (for instance: percentage of fertile period passed as single — born in Yemen: 17.6%; born in Germany and Austria: 25.7%).

² Similar results were found in previous censuses.

It can be assumed that single immigrants who often reach Israel without any family attachment, have a particularly strong tendency to establish here a new home of their own. Immigration is thus a factor which not only increases current nuptiality for short periods, but also tends to determine high long-term nuptiality rates.

The apparently paradoxical finding mentioned in Section 11.2 that 1000 single males (females) surviving between 20 to 60 (or 15–50) have produced on an average 1061 (1049) first marriages can thus be interpreted as (a) being primarily due to short term effects of the new waves of immigration including large proportions of single persons; but also (b) as indicating that in the long period considered here, the nuptiality of the Jewish population of Israel has been comparatively very high, due also to the long-term effects of immigration.

We may then ask what happens to people belonging to the second and later generations born in Israel who are under no special influence of immigration. The last three lines of Table 11.10 help to give a reply. It is seen that while this population has proportions ever married and proportion of fertile period passed in marriage lower than that of the entire Jewish population, it still shows a very marked propensity to marriage if compared to that of populations of European origin. However, this propensity is lower than that of Asian-African populations. The average age at first marriage is a little lower than that for most Europeans, but higher than in North America.

Table 11.13 shows that people belonging to "third or later" generations in Israel¹ have a somewhat higher propensity to marry than people belonging to the "second generation"². It is not clear whether this finding indicates a different generational behavior or whether it is due to the effect of a possibly larger proportion of people belonging to strictly religious groups within the third generation population.

11.8 URBAN/RURAL DIFFERENTIALS IN JEWISH NUPTIALITY

Detailed calculations (not given here) have been carried out on the proportion of the fertile period passed in each marital status according to the type of locality at various censuses between 1931 and 1972. It appears from those data that differentials between urban and rural have generally been of minor importance. In 1931 and 1948 propensity to marriage was lower in kibbutzim than in other types of settlement but this differential has disappeared at the 1961 and 1972 censuses. According to these censuses, the population of towns and rural settlements established after 1948 has more propensity to marry than the population of veteran settlements. This is probably due mainly to larger proportion of new immigrants in the new settlements and to the higher nuptiality of new immigrants (see Section 18.4A).

¹ Born in Israel to an Israeli-born father.

² Born in Israel to a foreign-born father.

II) NUPTIALITY CHARACTERISTICS OF NON-JEWS

11.9 NUPTIALITY CHARACTERISTICS OF MOSLEMS AND DRUZES

We shall discuss in the following some of the findings shown by Tables 11.1-11.9 on nuptiality characteristics of the Moslems. In broad lines, they apply to the Druzes as well.

1) *The proportion ever married* obtainable from Table 11.2 for a large number of cohorts of people aged, say, over 50, and enumerated at censuses between 1931 and 1972, appears to be generally very high — about 97% — 98%. It is more or less in line with that found in other Islamic populations (Table 11.10), and does not show systematic differences between the two sexes.

From data not given here it is seen that proportion ever married among Moslem women has consistently been a little higher in the villages than in the towns and it is highest among the Bedouins.

2) *Age at first marriage.* The retrospective results of the 1961 census (Table 11.3) indicate that in Mandatory Palestine, the custom to marry Moslem girls at very young ages was quite persistent. For instance, according to these data, 34% of the brides who married 1936–41 were up to 15 and 18% were aged 16–17. Special enquiries conducted in the last years of the Mandate and quoted in Table 11.14 though differing in details of age (which were also very difficult to assess with accuracy), generally confirm this feature.¹ The official marriage statistics for Mandatory Palestine which are available only for 1944–45 are not of great help on this point because they bracket together all the marriages between 15 and 19, and indicate that 72.5% of all marriages occurred at these ages.

As a consequence of the high proportion of very young brides, also the proportion of marriages in which the husband was 10 years or more older than his wife, was very large (Table 11.5).

In the course of the past thirty years a very considerable evolution in the ages of Moslem brides has taken place. The proportion of very young brides has decreased very considerably (see Table 11.3)² and both median and average age

¹ Difficulties derive from the inaccuracy in reconstructing age at marriage from census data by comparison of alleged year of birth and alleged year of marriage; from ignorance of exact age; from possible tendency to increase age if declared in marriage certificates if it is below legal limits, etc. In this connection it may be mentioned that the Ottoman Family Law (Book 1, Title I, Chapter II) prescribed for the validity of the Moslem marriage that the groom be aged at least 18 and the bride at least 17. However, a Kadi can give a marriage license, subject to the consent of her guardian to a Moslem girl aged 9 to 17, "if it is claimed that puberty has been attained and her appearance supports the claim".

Another point of some importance with regard to very young marriages is that in certain cases cohabitation starts with a considerable delay after the wedding ceremony.

² Data of the 1961 census show that the decrease started 10–14 years prior the census and developed very quickly; that a parallel development has taken place with regard to the age of the grooms. However, unlike among Asian and African Jews and Christians, the relationship between the delay in marriage and educational level is not clear.

TABLE 11.14

PALESTINE MOSLEMS AND CHRISTIANS: PERCENTAGE DISTRIBUTION
OF FIRST MARRIAGES BY AGE OF BRIDES (FROM VARIOUS SOURCES)
(1944-1947)

Source of statistics	Period of marriage	-15	15-17	18-19	20-24	25-29	30-34	35+
Moslems								
Statistics of marriages	1944-45	0.4	72.5		23.2	2.9	0.7	0.3
Government Health and Welfare Centers	1944-47	34.3	43.0	11.0	9.2	2.1	0.4	-
Women under relief; Government Social Welfare Department	1946-47	38.5	30.1	10.6	13.3	4.4	3.1	
Dr.Canaan's private practice	prior to 1947	25.1	43.1	15.9	12.5	2.2	0.9	0.1
Christians								
Statistics of all marriages (including second and over)	1944-45	0.2	40.7	34.7	12.5	6.7	3.4	1.8
Government Health and Welfare Centers	1944-47	11.0	36.8	22.7	23.2	5.5	0.8	-
Women under relief; Government social Welfare Department	1946-47	14.9	30.4	19.0	20.8	10.9	3.2	0.9
Dr.Canaan's private practice	prior to 1947	11.9	30.4	23.7	26.2	6.3	1.4	0.2

(corrected for age structure) have increased. While in the past, the average age of Moslem brides of Palestine and Israel was similar to the average for other Islamic populations (Table 11.10), in recent years it has become somewhat higher. The difference in age between spouses has tended to decrease but the proportion of marriages in which the bride is older than the groom has increased (Table 11.5).

3) *Remarriage and polygamy.* The remarriage of widowed and divorced persons is rather frequent among Moslems and more so for men than for women (see Tables 11.6–11.8).

Polygamy was in the past a feature of some importance. Contracting new polygamous marriages has been made unlawful in Israel. A rough measure of the extent of this custom is given by the ratio of married women to married men at census or surveys.

By analyzing such ratios it is found that polygamy was in the past more frequent among the Bedouins, less in villages and even less in towns. Today some residuals of it are still found among the Bedouins.

4) *Marriages with foreign-born women* occurred in the Mandatory period (see Section 9.8). Possibly this is connected with differentials in levels of dowry (paid by the husband's to the bride's family) between Palestine and countries from which brides immigrated¹.

5) *Current nuptiality rates.* The crude marriage rate of Palestinian Moslems (1935–47) was very high (10.7 per 1000) in comparison with those of most other countries (Table 11.1). However, it was considerably lower than that registered in Egypt in the same period, probably owing to the different types of occurrences covered by the statistics². The crude rate registered in Israel (1960–75: 7.4 per 1000) is considerably lower; increase in the proportion of children in the population, changes in the age distribution of the population, the disappearance of polygamy, may have been here active factors.

6) *Potential effects of marriage characteristics on fertility.* The proportion of the fertile period passed by the Moslem women (Table 11.9) as single was comparatively very small and similar in Palestine (1931) to that found for other Islamic populations (Table 11.10); this was due to the combination of a high proportion ever married and a low marriage age.

With increases in the marriage age this proportion has increased in the course of time, but it is still rather low. The proportion passed in widowhood has decreased with decreased mortality and decreased proportion of marriages contracted with much older husbands. The combined result of the two opposing changes has been an almost constant very high proportion (about 75%) of the fertile period passed in marriage. This proportion is particularly high for the Bedouins.

¹ Some information on dowries is given by official statistics both of Palestine and Israel.

² Moslem marriages are of various types : (a) new marriage contracts; (b) resumption of broken married life after a *Raga'a* divorce (revocable without a new contract); (c) resumption of broken married life after a *Binona Sogra* divorce (asking for a new contract); (d) *Tasadok* (the marriage occurred without a contract, often registered later). While Egyptian statistics covered in certain periods all these occurrences — although they may have been incomplete for (b) and (d) — Palestinian statistics covered only (a) and (c). Marriages (d) were registered with Sha'aria Courts but not included in the statistics.

11.10 NUPTIALITY CHARACTERISTICS OF THE CHRISTIANS

1) *Proportion ever married.* Unlike Jews and Moslems, the Christians have had both in Palestine and Israel a comparatively low propensity to marry. This is particularly true for Christian women. According to data for many cohorts of women over 50 in the censuses of 1931, 1962, 1972, it is seen that the proportion of Christian women ever married oscillated around 80–85% only. (Table 11.2).

Percentages remaining single at the end of the main nuptial ages were found at the census of 1961 to be very different among people belonging to the various Christian churches:

	Single per 100 aged 45–64			
	Greek Catholic	Greek Orthodox	Roman Catholic	All Christians
Males	5.3	6.2	38.0	8.5
Females	8.0	9.4	37.3	15.8

The particularly high proportion of persons who do not marry among Roman Catholics is likely to be connected with the high proportion of monastics or clerics.

Percentages single among Christians were found to be higher in towns than in villages, at both censuses of 1931 and 1961.

2) *Age at marriage* is comparatively rather low, but higher than among the Moslems (Table 11.3). Also among the Christians there has been in the past 30 years a considerable decrease of very young marriages. These marriages are found to be less frequent among women with secondary or higher education than among women with no education or with elementary education only. Increase in educational level may therefore have been a factor in this evolution.

In a parallel way, also the proportion of marriages in which the husband is much older than the wife has decreased (Table 11.5).

The proportion of young marriages was found in 1944–45 to be higher a) in villages than in towns, b) among Greek Orthodox, Armenian Orthodox, Greek Catholics and Maronites than in other churches; and to be lowest among Anglicans and other Protestants. According to a reconstruction based on statistics of first births in 1944, age at marriage was found to be much higher among Non-Arab than among Arab Christians.

3) *Remarriage* is comparatively rather infrequent among Christians (Tables 11.7 and 11.8). This may be due to lower proportions of divorced people and possibly also to lower propensity of widowed to remarry.

4) *Potential effects of nuptiality characteristics on fertility.* As shown by Table 11.9, the Christian woman passes about a third of the fertile period as single; no considerable change has occurred between 1931 and 1972. Decrease in widowhood occurred in the course of time and has determined an increase in the proportion of the fertile period passed in marriage. However, this remains much lower than that found among Jews and Moslems. In a purely speculative

way it may be suggested that low propensity to marry among the Christians may be connected with various factors, such as: that mentioned for Catholics under 1); emigration (Section 9.8); separation of the Christians into many churches which largely practice or practiced in the past homogamy (Section 10.4); this may create on the local level considerable sex imbalances due to the smallness of the population belonging to each church; difficulties which may have been created by requirement of a dowry from the bride's family and by comparatively higher standards sought when establishing of new families in towns, as compared to the standards prevailing among the Moslems.

5) *Current nuptiality rates.* Low tendency to marry and remarry finds expression also in the low nuptiality rates for Christians indicated by Table 11.1. However, the very low crude marriage rates shown by the official statistics of Palestine were also due to under-registration of Christian marriages (see Appendix 6.4.2).

III. DIVORCES

11.11 DIVORCES IN THE JEWISH POPULATION, AS A WHOLE

Divorce is governed in Israel (as it was in Mandatory Palestine) according to the religious laws of the parties concerned. Among the Christians it is almost non-existent¹. We shall therefore discuss below only divorces within the Jewish population and in Section 11.13 divorces within the Moslem population.

Table 11.15 indicates the average yearly number of divorces per 1000 persons of each sex and religion aged 15 and over. It is seen that during the Mandatory period the rate of divorces among the Jewish population had a very high level. Detailed data show that it reached in 1937 19.8 (19.3) per 1000 men (women) aged 15 and over but declined afterwards to 6.4 (6.6) in 1944. The high level was due to divorces from fictitious marriages (Section 8.10) and the decline was due to the measures taken by the Mandatory Government against this method of immigration². In 1948–49 the rate was much lower: however it increased again in the following years, reaching 6.2 (5.9) in 1950. This was presumably due to the large increase in the number of marriages in 1949–51, caused in turn by the mass immigration wave (see Section 11.7).

Later the rate of divorces became more or less stationary and in the past decade or so has oscillated around 2.6 per 1000 aged 15 and over. Only recently an increase has appeared (1975–76) which may indicate a change of trend.

Obviously, rates obtained by comparing divorces to the entire population aged 15 and over, are very crude. Better measures can be obtained in the following ways:

¹For example, the average yearly number of divorces among Christians in Israel in 1970–75 was 8, or about 1 per 10,000 population. In Mandatory Palestine in 1935–44, 3 divorces per year were registered, constituting less than 3 per 100,000.

² Order-in-Council 1939 amending Palestine Citizens Orders 1925–1931. See: *The Statistics of Immigration and Naturalization for the year 1945*. Jerusalem, Dept. of Immigration, p. XXXVI.

TABLE 11.15

YEARLY NUMBER OF DIVORCES PER 1000 OF EACH
SEX AND RELIGION AGED 15 AND OVER (1935-1975)

Period	Jews		Moslems	
	Males	Females	Males	Females
Palestine				
1935-39	15.7	15.4	4.2	4.2
1940-44	8.5	8.6	5.9	6.0
Israel				
1948-49	4.5	4.2	Non-Jews	
1950-54	5.1	4.9		
1955-59	4.4	3.6	2.2	2.2
1960-64	3.1	3.1	1.6	1.5
1965-69	2.7	2.7	1.4	1.5
1970-72	2.6	2.6	1.9	1.9
1973-75	2.7	2.6	1.7 ¹	1.7 ¹

(1) 1973-74

1) Referring the average yearly number of divorces in a period around a census to the number of married persons registered in the census. This enables some international comparison (despite the well-known difficulties which derive from different laws governing divorce in different countries).

For instance, let us consider rates of divorce calculated in this way for years in which divorce among the Jews of Israel was more or less stabilized:

Average yearly number of divorces per 1000 married

Jewish persons		
	1960-62	1971-73
Males	4.4	4.0
Females	4.6	4.0

These rates are found to be higher than those prevalent in many other countries¹. However they are lower than those found in the USA, and among various Scandinavian, Central European, Balkan and Moslem populations.

2) Divorces from marriages contracted in Israel are currently classified according to the year of marriage *t*. This might enable to evaluate the probability of divorce for a married couple.

In order to make this calculation exactly we should, for example, compare divorces in a given calendar year from marriages contracted in *t*, to the number of couples married in *t* and still living in Israel in the surveyed calendar year. This number is unknown. However, we may utilize for this purpose the number of marriages contracted in *t*, neglecting effects of mortality, divorce in previous years, and emigration. Calculations can be carried out (a) by following up in the

¹ See for example *Demographic Yearbook 1968*, New York, United Nations.

course of time given cohorts of marriages; (b) by calculating probability to divorce in a given calendar year for marriages contracted in each year. As the calculation (a) can be completed only many years after the initial year of the cohort, we have preferred method (b). Some results of this calculation are given in Table 11.16. It is learnt from them that:

a) probability of divorce reaches a maximum two years after marriage and then declines slowly.

b) the cumulative probability of divorce among Israeli Jews is of an order of magnitude of 11%, when effects of emigration and mortality are ignored. By taking them into consideration this probability would be somewhat higher.

3) Table 11.17 shows rates of divorce per 1000 married persons of each age and sex. It is seen that these rates are highest for young people and decline with increasing ages. This finding corresponds to the experience of other countries. However, it is possible that part at least of these differentials by age can be explained by the findings given above under 2): probability of divorce decreases with duration of marriage, and average duration of marriage increases with age at census.

The propensity to divorce decreases with increasing number of children. However in 1971–73 this propensity was larger among couples with 1 child than among couples without children.

Average annual number of divorces per 1000 households
with each number of children (aged 0–17)

	0	1	2	3	4	5	6 or over	Total
1960–62	6.0	4.8	2.5			1.1		4.1
1971–73	3.8	5.0	3.2	1.7	1.2	1.0	0.5	3.4

The proportion of divorced couples with children has tended to increase in the course of time (from 40.9% in 1955 to 47.6% in 1974) and the average number of children of these couples has also slightly increased.

The high tendency of divorced to remarry was already commented upon in Section 11.4. The following percentages show that divorced people have a particularly high propensity to divorce again:

	Percentage divorced among			
	Males		Females	
	1965–69	1970–74	1965–69	1970–74
Among marrying persons	7.2	6.1	6.4	4.6
Among divorcing persons ¹	15.7	14.1	15.2	13.2

(1) According to marital status prior to marriage being dissolved by divorce.

TABLE 11.16

ROUGH ESTIMATES OF PROBABILITIES TO DIVORCE
BY DURATION OF MARRIAGE (1969-1973)

Duration of marriage (years)	0	1	2	3	4	5	6	7	8
Divorces per 1000 marriages	2.9	10.1	11.1	10.1	8.8	7.1	6.1	5.8	5.0
Duration of marriage (years)	9	10	11	12	13	14	15	16	17
Divorces per 1000 marriages	4.4	3.6	3.3	3.4	2.8	2.5	2.0	1.9	2.1
Duration of marriage (years)	18	19	20	21	22 and over	Total			
Divorces per 1000 marriages	1.9	1.9	1.6	1.3	14.1(1)	113.8			

Rough estimate of the probability to divorce: 11.4%

(1) For technical reasons (grouping of years) this rate is very inaccurate.

TABLE 11.17

AVERAGE YEARLY NUMBER OF DIVORCES PER 1000 MARRIED PERSONS
(1960-62, 1971-73)

Ages	Jews				Non-Jews			
	1960-62		1971-73		1960-62		1971-73	
	Males	Females	Males	Females	Males	Females	Males	Females
Up to 19	6.0	11.0	5.3	10.9	5.9	3.5	5.2	4.8
20-24	8.8	9.4	8.9	8.6	5.3	4.0	5.5	3.5
25-29	8.7	6.7	7.8	6.5	3.3	2.3	3.9	2.5
30-34	6.0	4.7	6.3	4.7	2.0	1.3	2.1	1.8
35-39	4.5	3.9	4.7	3.6	1.4	1.4	2.0	1.7
40-44	4.3	3.7	3.8	2.9	1.4	1.4	1.5	2.0
45-49	3.8	3.0	2.8	2.5	1.0	1.4	1.6	1.3
50-54	3.2	3.0	2.4	2.1	1.4	1.5	1.4	1.1
55-59	2.8	2.6	1.9	1.8	1.6	1.3	1.5	1.7
60-64	2.7	2.5	1.8	1.6	1.3	3.8	2.6	5.2
65 and over	2.3	1.7	1.4	1.2	2.3	3.1	1.1	2.2
Total	4.4	4.6	4.0	4.0	2.6	2.6	2.5	2.5

11.12 DIVORCE AMONG JEWS BY ORIGINS, GENERATIONS, LENGTH OF STAY IN ISRAEL AND RESIDENCE

As we saw in Sections 11.6–11.8 the Jewish society in Israel is formed by sub-groups having very different attitudes in respect of marriage formation and family life: very orthodox Ashkenazi, traditional Asian-African groups, more “modern” European groups, new immigrants struggling with difficulties of adaptation to the new country, old settlers who have overcome this stage of life, people of second generation in Israel and of various origins, differently influenced by home environment on one side, and general society on the other, etc. The study of divorce among these groups and effects of possibly increasing permissiveness on their dynamics might be of great interest, but has been until now rather infrequent¹ due also to the difficulty of interpretation of data.

In the following only a few sets of statistics obtainable from official statistics will be examined.

1) *Propensity to divorce according to origin and generation in Israel.*

(i) In order to measure possible differentials in propensity to divorce in origin and generation groups, independently from age structure of couples exposed to the risk to divorce the following calculation was carried out. On the basis of sex and age specific divorce rates for the Jewish population, as shown in Table 11.17, we calculated (a) the number of divorces which would be expected in each group according to the age and sex distribution of the married persons of this group at census. Then the ratio (b)/(a) was calculated between (b) and (a), where (b) is the actual number of divorces which occurred in the group.

As explained above, age specific rates of divorce are probably largely affected by different probabilities of divorce by duration of marriage. Therefore ratios (b)/(a) can be considered as rather good measures of effects of origins on divorce, after other basic factors have been removed. The results of the calculations are given below:

	Born in Israel	Born in Asia-Africa	Born in Europe-America
1960–72 M	1.13	0.84	1.03
F	1.18	0.80	1.08
1971–73 M	1.09	0.87	1.00
F	0.99	0.89	1.13

They suggest that propensity to divorce is not very different between the various groups. However it is somewhat larger among people of European-American than among those of Asian-African origin, and among second or later generations in Israel than among foreign born.

¹ See, for instance: H.S.Halevi, Divorce in Israel, *Population Studies*, Vol.10, No.2, November 1956, pp. 184–192; H.V. Muhsam, A note on the use of divorce statistics to measure ethnic cleavage in Israel, *Papers in Jewish Demography* 1973, Jerusalem, The Institute of Contemporary Jewry, The Hebrew University of Jerusalem, 1977, pp.369–373; U.O.Schmelz, “Divorce: demographic aspects among Jews of Israel”. *Encyclopaedia Judaica: Yearbook* 1975–76, Jerusalem, Keter, pp.256–259.

(ii) Calculations carried out by Muhsam (op.cit.) on "probabilities of marriages celebrated around 1960 in Israel to end in divorce within 8-1/2 years" (per 100) give the following results:

Wife originating from	Husband originating from	
	Asia-Africa	Europe-America
Asia-Africa	7.24	8.45
Europe-America	9.53	8.74

Considering only marriages between spouses of same origin, here also a slightly higher propensity of people of European-American origin can be noted.

(iii) However, the rather low differentials by continent probably blur a much stronger differentiation existing between smaller groups.

The rates of divorce in 1960-62 per 1000 married persons of each country of birth given in Table 11.18 suggest, despite their crudeness¹, that people coming from Morocco have a much higher tendency to divorce than people of other Asian-African origin. The same applies to people from Hungary and Rumania as compared to other people from Europe.

TABLE 11.18

ANNUAL NUMBER OF DIVORCES IN 1960-62 PER 1000 MARRIED PERSONS BORN IN EACH COUNTRY (ENUMERATED AT THE CENSUS OF 1961)

Selected countries in Asia and Africa	Males	Females	Selected countries in Europe	Males	Females
Morocco	7.3	7.4	Hungary	5.7	6.1
Egypt and Sudan	4.1	4.2	Rumania	5.8	5.9
Algeria and Tunisia	3.6	3.6	Yugoslavia	4.1	4.8
Yemen and Aden	3.5	3.5	Germany and Austria	4.5	3.9
Iraq	3.4	3.6	Czechoslovakia	3.7	3.6
Turkey	3.1	3.3	Bulgaria and Greece	3.7	3.5
Iran	3.2	2.9	Poland	3.7	3.4
Libya	2.4	2.8	USSR	1.8	2.1
Asia-Africa	4.2	4.2	Europe-America	4.1	4.1

2) Effects of difference of origin of spouses on probability of divorce.

Muhsam has calculated on the basis of probabilities quoted under 1 ii) and other data, that the probabilities of marriages in which the spouses are of diffe-

¹ These rates have not been corrected for age distribution.

rent origin to end in divorce are slightly higher than for marriages in which both spouses have same origin. Other— admittedly very crude — calculations do not confirm this conclusion. In any event difference of origin does not appear as a major factor in probability of divorce.

3) *Propensity to divorce by length of stay.*

Table 11.19 shows that propensity to divorce among foreign born decreases with length of stay in the country. The differentials are particularly strong among people born in Europe.

These differentials depend to a considerable extent upon the fact that more recent immigrants are younger than veteran immigrants, and younger people have a higher propensity to divorce. However, it is possible that even after eliminating this factor a residual higher tendency of new immigrants to divorce may be seen.

TABLE 11.19

AVERAGE YEARLY NUMBER OF DIVORCES IN 1971–73 PER 1000 PERSONS MARRIED IN EACH POPULATION GROUP (AT CENSUS 1972)

Period of immigration	Born in Asia-Africa		Born in Europe-America	
	M	F	M	F
Before 1948	2.89	2.91	1.96	1.54
1948–1954	3.67	3.04	2.80	2.56
1955–1960	4.20	3.82	3.58	3.72
1961–1964	3.92	4.31	3.86	4.02
1965 and after	5.91	5.71	8.69	8.97
Total	3.91	3.61	3.28	3.27

4) *Divorce by place of residence.*

The average yearly number of divorces in 1971–73 per 1000 married persons in the population (Census of 1971) does not show any important difference in propensity to divorce among urban vs. rural populations. However propensity to divorce appears to be somewhat higher in kibbutzim than in other places.

11.13

DIVORCE AMONG MOSLEMS

The large decrease in the rate of divorce appearing in Table 11.15 between Moslems in 1935–44 (Mandatory Palestine) and Non-Jews in 1955–75 (Israel) may perhaps be explained at least partly by two reasons: a) divorce reported in Israel are presumably only of the definitive type (see Section 11.9.5); b) the inclusion of Christians in the Non-Jewish population. As the Christians form today some 15% of the Non-Jewish population and were some 20% at the census of 1961, the rates for Non-Jews may be increased according to those proportions to obtain those of Moslems and Druzes together.

The same remarks apply also to Table 11.17. This table shows that on broad lines also among the Moslems the tendency to divorce decreases with age. Irregularities of rates depend upon the smallness of the absolute numbers.

Rates of 2.5–2.6 divorces per 1000 married couples, as shown by Table 11.17 are not high by international standards and generally lower than those found in other Moslem populations. For example: Egypt 1959–61: 12.9; Algeria 1953–55: 9.1; Kuwait 1964 and 1966: 8.9; Jordan 1960–62: 6.4, Iran 1965–67: 4.8; Iraq 1956–58: 2.3; Turkey 1964–66: 1.8. However, in making comparison factor (a) should be taken into account. For instance the very high rates for Egypt are explained, *inter alia*, by a full registration of all types of divorce.

IV. CONCLUSIONS ON NUPTIALITY AND DIVORCES

11.14 SHORT TERM FLUCTUATIONS IN NUPTIALITY AND DIVORCES

Nuptiality of the various population groups has interesting characteristics with regard to seasonality¹. The same applies to divorces². Some unpublished exploratory work undertaken in 1944–45 shows that nuptiality may have also some interesting characteristics in regard to its distribution by days of the week. However, due to lack of space, these topics will not be discussed here.

Marriage fluctuations from year to year have also been found to be comparatively strong, and forming characteristic wave-like sequences.

A detailed analysis of these rates, which cannot be undertaken here, reveals among other features for the Jews: (1) the tendency of nuptiality to expand in periods of high immigration waves or immediately following them, caused by the factors explained in Section 11.7; (2) sensitivity to economic changes such as an expansion in periods of prosperity, and a tendency to contraction in periods of depression; (3) sensitivity to political and other factors, such as decrease of nuptiality in periods of disturbances, political difficulties, wide conscriptions or wars. Among Moslems the sensitivity of the nuptiality rates to economic factors, disturbances, etc. is also evident.

11.15 OVERVIEW ON NUPTIALITY AND DIVORCE IN ISRAEL

We have seen that the population of Israel is formed by three groups (Jews, Moslems, Druzes) having generally very high tendency to marry and very high proportions ever married, and one group (Christians) with low nuptiality. The general measures of nuptiality for the entire population of Israel are comparatively high, although smaller than they were in Mandatory Palestine (Table 11.1).

Marriages of Moslems, Jews of Asian-African origin and certain orthodox Ashkenazi Jews have been largely influenced by traditional customs, and in particular by the habit of marrying girls at very low ages. Jews immigrating from Europe have brought very different habits. However, in the course of the time a deep evolution has occurred, which has brought to a standardization of nuptial habits

¹ For instance the strong seasonality of marriage among the Jews is due to preference of couples for summer vacations and other periods and to periods in which according to Jewish tradition no marriages are solemnized. See Raphael R.V. Baron, *Analysis of Seasonality of Trends in Statistical Series*, Jerusalem, Central Bureau of Statistics, Technical Publication No. 39, Vol. 2, pp. 279–83.

² *Ibid.*

of most Jewish groups of and decrease of differentials with the Moslems. Today the general tendency is to marry at young ages but very young marriages have almost disappeared.

New immigrants have strong nuptiality and this has created in periods of large immigration high peaks of general nuptiality. However with declining rates of immigration nuptiality has become more "normal".

Divorce has lost among the Jews the fictitious high levels it had in the Mandatory period. While its incidence is higher than in many other populations, it is much lower than that found in countries having a leading position in divorce propensity.

On the whole, nuptiality characteristics both of Jews and Moslems are favorable to fertility, despite two special features: decrease in nuptiality of Jewish females as compared to Jewish males, which has been created in the past two decades or so by sex imbalances of population of nuptial ages; and some decrease of nuptiality between the generation of Jews born abroad and that of their children.

CHAPTER 12

FERTILITY

12.1

INTRODUCTORY REMARKS

A) TOPICS DISCUSSED

In this chapter we shall discuss the evolution of, and differentials in fertility of the population of Mandatory Palestine and Israel.

For reasons both of availability of data and of expediency, we shall start by presenting (in Section 12.2) data on the evolution which occurred within a few broad population groups, which in certain periods had a marked difference in their reproductive behavior: a) Jews born in Europe; b) Jews born in Asia-Africa; c) Jews born in Israel; d) Moslems, and e) Christians. Present fertility characteristics of these groups will be discussed in Section 12.3.

For groups a) and b) changes will be examined in their reproductive behavior resulting from the transfer from the Diaspora to Israel (12.4).

Research conducted in Israel has identified, besides "origin", many other variables which influence the level of fertility. We have singled out for discussion three which appear to be particularly meaningful: educational level of the woman (12.5), religiosity (12.6), and ecological factors (12.7). For lack of space we shall not examine here other variables, such as length of stay in Israel of the foreign born, socioeconomic conditions, educational level of the husband, labor force characteristics of the woman, etc., on which some statistical evidence has also been collected.

In order to interpret statistical findings on fertility, it is desirable to consider them within the broader frame of analysis of attitudes and behavior regarding family planning, the use of contraceptive methods and abortions, etc. Therefore, some information on research conducted in these fields in Israel is given in Section 12.8, in which the legal and institutional position of contraception and abortion are also briefly discussed.

For reasons of space, we shall not discuss the findings of studies regarding the economic interpretation of fertility in Israel¹.

¹ See, among others, the following studies by Y. Ben-Porath: "Economic analysis on fertility in Israel: point and counterpoint", *Journal of Political Economics*, Vol. 81, No. 2, March-April, 1973, pp. 202-237; "Fertility in Israel, an Economist's Interpretation: differentials and trends 1950-1970". In: A. Cooper, S. S. Alexander, *Economic Development and Population Growth in the Middle East*, New York, Elsevier, 1972, pp. 503-539; *Fertility in Israel. A mini-survey and some new findings*, Jerusalem, The M. Falk Institute for Economic Research in Israel, 1973. Discussion Paper No. 736.

Consequences of fertility levels in different periods and groups from the point of view of net reproduction will be reviewed in Section 12.9. This section will close with a few remarks on public attitudes and policies on natality.

B) MEASURES OF FERTILITY

In the study of the evolution of fertility in the course of time (Section 12.2), it is desirable to use a summary measure, indicating the force of fertility in each surveyed period in the group of population studied, independent of its age structure. Evidently, crude birth rates are not suitable for this purpose. Also general fertility rate relating births to all women in reproductive ages, is not an adequate method, as it is affected by age structure of females in those ages: the analysis of the age structure at principal nuptial ages (Section 10.2) has shown how irregular and changing it has been in Israel. Therefore we have preferred to utilize total fertility rates, obtained by the sum of age specific fertility rates of women, according to the current statistics for each calendar year. Total fertility rates can be interpreted as indicating the number of children that would be born to 1000 females, if they experienced no mortality up to the end of the reproductive period and were subject at each age to the age-fertility rates of the surveyed calendar year.

These rates are largely available in the official statistics of Israel and to some extent also of Mandatory Palestine¹.

These rates measure in an easily understandable form the force of fertility in each calendar year and seem therefore to be well adapted for the study of its evolution in the course of time. However, their utilization for assessing long-term patterns of fertility should be made with great caution in general, and particularly so in the special set-up of the Jewish population of Israel. To understand this point the following example will be given.

Consider fertility rates, specific both by ages of women and by parity in a given calendar year. By summing these rates in the usual way we obtain an estimate

¹ In Mandatory Palestine, data on births by ages of mothers were available since 1938. On the basis of estimates of age distribution the population of the main religious-ethnic groups, total fertility rates were calculated by the Statistical Department of the Mandatory Government. These rates are to be considered with some caution, due to uncertainties in the estimates of the population and its distribution by age and sex, as explained in Appendix 6. However in broad lines they seem reliable; we have used them here without corrections. For the years prior to 1938, total fertility rates were estimated by the Statistical Department by comparing actual births to births expected according to the experience of later years.

Many estimates on total fertility for sub-groups of the Jewish population of Palestine in the Mandatory period, or even prior to it, were prepared by utilizing information existing in censuses, surveys and/or vital statistics. See: R.Bachi, "Marriage and fertility in the various sections of the Jewish population of Palestine and their influence on its future". In D.Gurevich, A.Gertz, R.Bachi, *The Jewish population of Palestine*, Jerusalem, Statistical Department of the Jewish Agency, 1944 (Hebrew). Different methods were used for preparing the estimates of total fertility, some of them very inaccurate, due to crudeness of available data. However, on broad lines they can give a picture of major differentials between sub-groups and periods. For an English review of some of the results obtained, see K.R.Gabriel, "The fertility of the Jews in Palestine. A review of research", *Population Studies*, Vol.6, No.3, March 1953, pp.273-305. For deeper and extensive research on fertility both in Mandatory Palestine and in the first years of Statehood, see K.R.Gabriel, *Nuptiality and Fertility in Israel*, Ph.D. thesis, Jerusalem, Hebrew University, 1957 (Hebrew with English summary). See also K.R.Gabriel, Nuptiality and Fertility of origin groups in Israel. *The Jewish Journal of Sociology*, June 1960, Vol.2, No.1, pp.74-97.

of the number of 1st, 2nd, ... children, that would be born to 1000 females if they experienced no mortality and were subject at each age to the specific rates of the given calendar year. Now take a period following a large immigration wave accompanied by a boom in nuptiality such as occurred in 1952. Total fertility for that year, broken down by parity gives the following results:

Number of children of each parity born to 1000 Jewish women

1st	2nd	3rd	4th	5th	6th and over	Total
1,209	1,188	596	316	204	467	3,980

In the same year, the cumulated rate of first marriage calculated by summing age specific nuptiality rates was 1,185 (Appendix 11.6) and in 1949–51 it was even larger. We mentioned already (Section 11.7) that this seemingly absurd result, viz. that 1000 women may have 1,185 first marriages is to be interpreted as showing that nuptiality rates such as those found in the period under survey, could not be maintained in a closed population during an entire generation. An analogous interpretation can be given to the fertility rates by parity mentioned above, which apparently indicate that 1000 women may have 1,209 first births, 1,188 second births, etc.

As the usual total fertility rate is the sum of fertility rates by parity, it appears from the above that total fertility rates are very sensitive to short-range fluctuations such as those induced by immigration and connected nuptiality. The fluctuations may occur independently from any change in long-range fertility. Therefore, in using total fertility rates for comparing, say, long-range fertility behavior of different population groups, it may be desirable to base the comparison on averages for many years, selected in such a way as to iron out, as far as possible, the effects of short-range oscillations in fertility.

12.2 EVOLUTION OF FERTILITY OF THE MAIN POPULATION GROUPS

Table 12.1 shows the total fertility rates for the main population groups mentioned above, between 1926 and 1975.

Graph 12.1, line 2 shows the total fertility of the Jewish population compared to that of the Moslem population (line 1). Graph 12.2 shows the total fertility of the Jews born in Asia-Africa (line 5), in Israel (line 6), in Europe-America (line 7). The broken line indicates that the information for the period covered by that line is missing¹. Lines 3, 4 and 8 give comparisons with other populations.

A) JEWS BORN IN EUROPE²

Little statistical knowledge is available on the fertility of the Jews of European origin in the latest decades of Ottoman rule. However there is some evidence³

¹ The estimate indicated for the end of Ottoman period is a very rough one, based on the data of the 1916–1918 census of the Jews (see R.Bachī, *Marriage and fertility*, op.cit., p. 180).

² Jews born in America and Oceania are included in the statistics for Jews born in Europe; however their proportion is very small.

³ See R.Bachī, *Marriage and fertility*, etc., op.cit., pp.176–181.

that even in the "modern" groups of this population fertility was still high, and it may be assumed that this was true for the more orthodox religious groups which at that time constituted a considerable proportion of the Jewish population of European origin. An order of magnitude of 5 or even more has been tentatively suggested, on the basis of the meagre information at our disposal.

As the majority of the Jews were then of Russian origin (Section 14.2), it may be of interest to compare this figure to fertility of Jews in Russia. From data of the Czarist census of 1897, it has been calculated that the fertility of the Jews was around that period, about 6 children per woman¹. Jewish immigrants from Russia to the United States had — according to indirect evidence given by the U.S. census of 1910 — a total fertility of a similar order of magnitude and an even higher level in older generations².

TABLE 12.1

TOTAL FERTILITY RATES (1926–1975)

Years	Jews, born in				Moslems	Christians			
	Israel	Asia-Africa	Europe-America	Total					
A) Mandatory Palestine									
1926-27	3.49 ⁴	4.55 ⁴	1.82 ⁴	3.86	6.37	4.29 ³			
1928-30				3.35	6.56		4.17		
1931-33				2.84	6.51			4.16	
1934-36				2.67	7.14				
1937-39				2.35	7.51	4.16			
1940-42				2.36	7.83	3.88			
1943-45				3.68 ⁵	4.79 ⁵	2.91 ⁵	3.35	9.42	4.37
1946-47							3.44		
B) Israel									
1948-49	3.57	4.47	3.20	3.25					
1950-53	3.52	6.09	3.10	3.94					
1954-57	2.83	5.61	2.64	3.63	7.6 ⁶	4.7 ⁶			
1958-60	2.76	5.11	2.39	3.46	8.8	4.5			
1961-64	2.73	4.68	2.42	3.37	9.4	4.7			
1965-67	2.78	4.41	2.52	3.35	9.40	4.37			
1968-71	3.03	4.18	2.84	3.40	8.90	3.80			
1972-75	3.01	3.75	2.75	3.17	8.17	3.66			

¹ Bronislaw Bloch, *Tables to natural movements among the Jews in Russia toward the end of the 19th century*. Paper submitted to the Seventh World Congress of Jewish Studies, Jerusalem, 1977.

² See data for Russian-born in 1910 in the volume *Differential fertility 1940 and 1910*, U.S. Census of Population of 1940, Washington, Bureau of the Census.

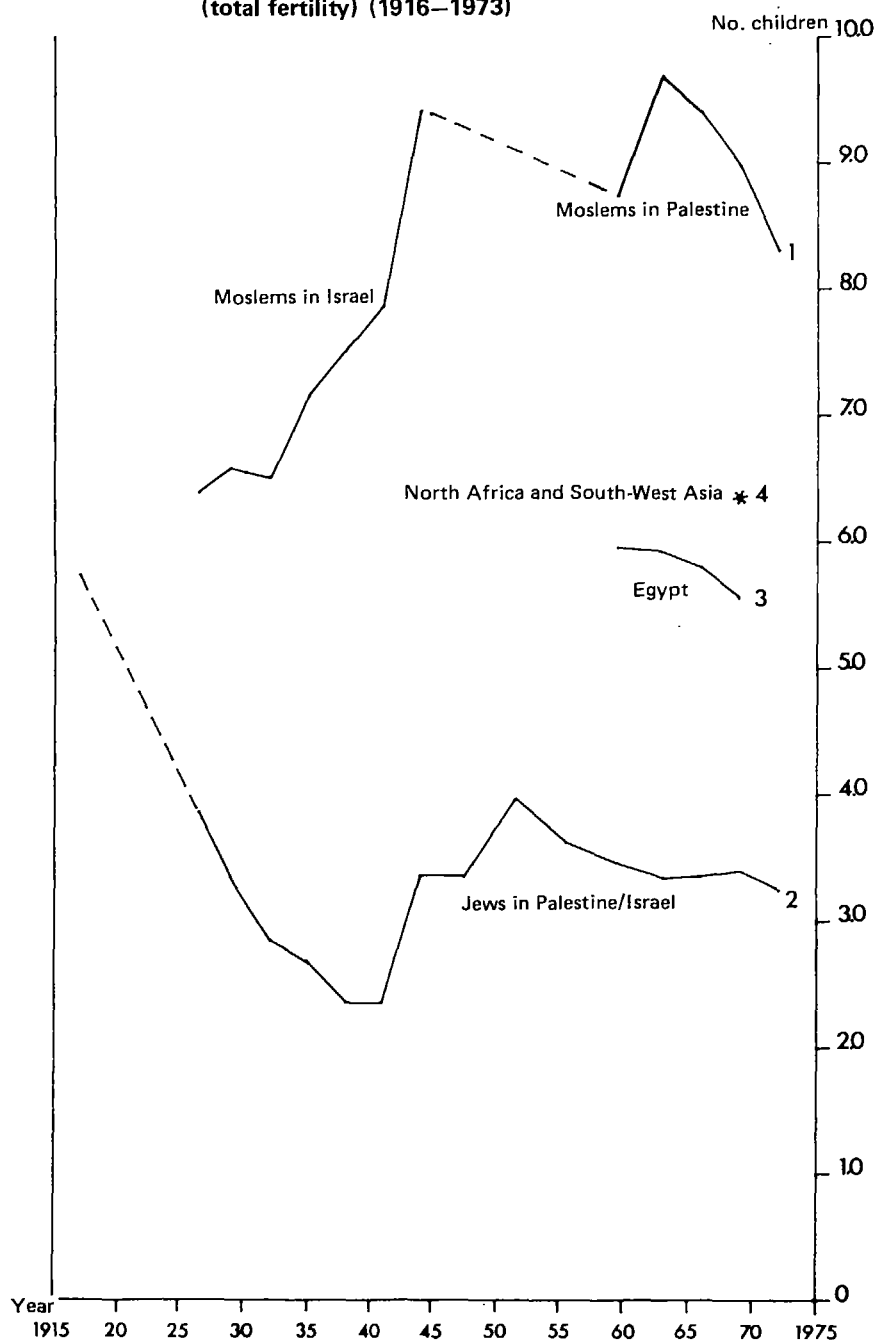
³ 1932–33

⁴ 1938–40

⁵ 1944–45

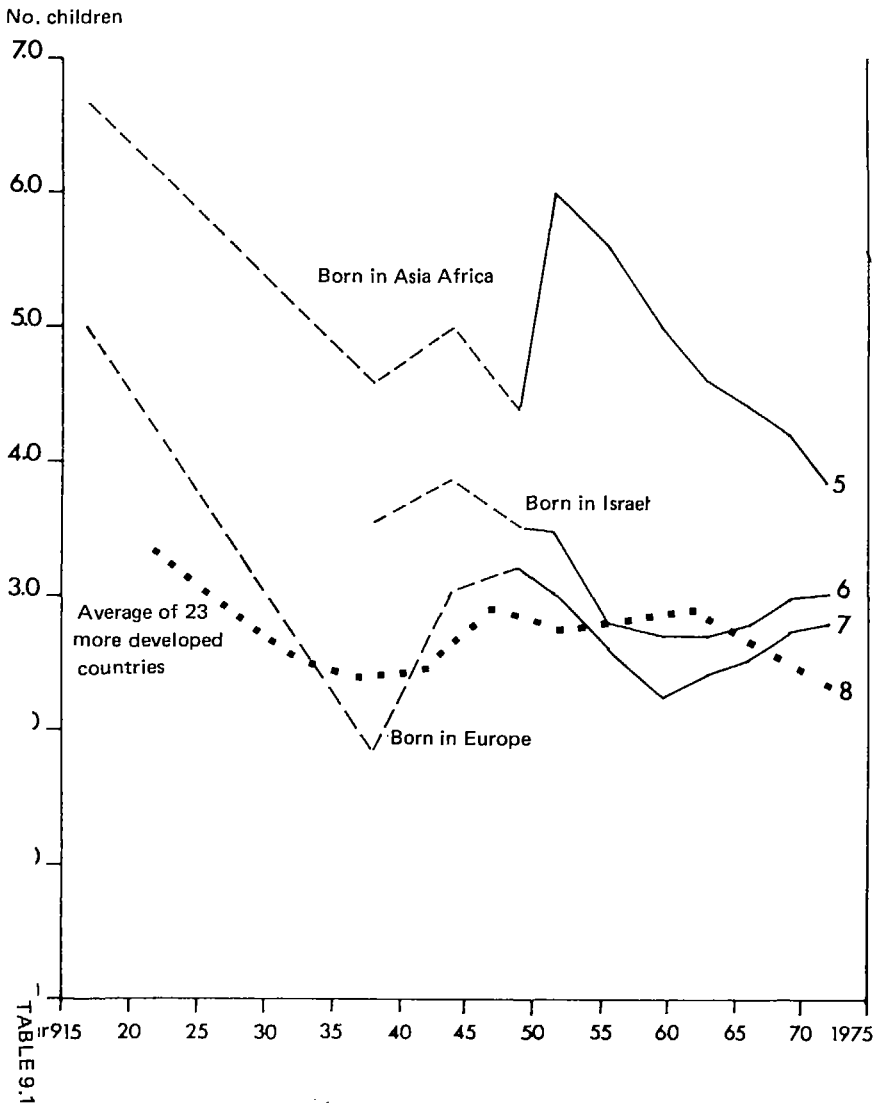
⁶ 1956

Graph 12.1
Average number of children per woman
(total fertility) (1916–1973)



Graph 12.2

Average number of children per woman
(total fertility) — Jews in Mandatory
Palestine and Israel, by origins (1916–1973)



However, already in the middle of the 1920ies the fertility of Jews of European origin in Mandatory Palestine was much lower and tended to decrease quickly. As the majority of the Jewish population during the Mandatory period was of European origin we may consider that line 2 in Graph 12.1 reflects mainly changes which occurred in the course of time among the people of European origin. However levels of fertility of Jews of European origin were actually lower than the averages for the entire Jewish population.

It is seen from the Graph and from Table 12.1 that the decline in fertility was very steep. For the entire Jewish population fertility declined from 3.86 in 1926–27 to 2.84 in 1931–33 and 2.35 in 1937–42. It is known that in the same period a considerable decrease occurred also in the fertility of the Jews in Europe (see Section 7.5). There can be little doubt that the two developments were connected. It can be assumed that an increasing proportion of the Jewish population in Eastern Europe practiced strict birth control (as Central European Jews had done for many decades). The tendency to reduce fertility was in that period very marked also among the general population of Europe.

The analysis of data on Jewish fertility in Mandatory Palestine by individual years shows minor but significant deviations from the general trend. The small increase in total fertility in 1934–35 can be connected with the large immigration wave of these years. The following fall to 2.25 in 1939 and 2.18 in 1941 is probably connected with postponements of births in the years of disturbances and economic crisis (1936–39) and with the psychological effects of the outbreak of World War II and the immediate Nazi menace in the Middle East.

For the period 1938–40 the first evaluation of total fertility rate for the Jews born in Europe is available (1.82) which was well below the replacement level.

In following years a "baby boom" took place, similar to that which occurred in many Western populations, but very strong and prolonged (see Graphs 12.1 and 12.2). It gradually brought the level of fertility of European-born to a maximal level of 3.22 in 1949–51. The boom was probably due to many factors operating together: in the first years, births postponed during the critical period of the late 1930ies and early 1940ies and during the absence of men who fought in Europe in the World War II; later, effects of the massive immigration of 1948–51 and of the short-lived increase in fertility of Jews in Europe in the first years after the Holocaust (Section 7.6). It is an open question whether the prolonged austerity regime (Section 6.5) with limitation of outlets for expenditure of personal income brought about also an anticipation of births in the early 1950ies¹. This is suggested by the fact that fertility was high in that period also among "veteran" European-born and not only among new immigrants.

Breaking down total fertility of women born in Europe by parity shows in this period extremely high numbers of first and second births (in 1949: 1,520 first births per 1000 women; in 1951: 1,180 second births). Clearly such high rates could not be maintained in the long run. Actually in later years a strong decline of total fertility rates of European-born women took place, which continued during all the 1950ies. A minimum level — hardly above replacement — was reached in 1962 (2.33).

¹ See R.Bachi, "La population juive de l'Etat d'Israël", *Population*, July-September, 1952, Vol.7., No.5, pp.438–439, and K.R.Gabriel, "Nuptiality and fertility", etc., op.cit.p.73.

In the 1960ies, the fertility of European-born women oscillated, reaching a new minimum of 2.53 in the years of economic depression of 1966–67. Later, an increase has taken place: in 1969–75 the total fertility of European-born Jews had a level around 2.78. This more sustained rate of fertility among people of European origin in Israel stands in sharp contrast with the general decreasing trend of fertility in “more developed” population, as shown by line 8 in Graph 12.2¹.

B) JEWS BORN IN ASIA AND AFRICA

The evolution of fertility of Jews of Asian and African origin can be followed through line 5 of Graph 12.2. It is seen that:

a) the level of fertility of this population group has been consistently higher than that of other population groups. This is mainly explained by the fact that the proportion of families which do not control fertility has presumably been larger during all the period under survey in this group than among the European-born (see Section 12.8).

b) The scanty evidence available suggests that at the end of the Ottoman period the fertility of the Asian- and African-born was high. A level of 6–7 children is tentatively indicated in Graph 12.2. However, during the Mandatory period a clear trend toward decreasing fertility took place, also among Asian-African Jews, probably due to the increasing influence of contacts with people of European origin.

c) The developments in later periods were more complex. On the one hand by analysing separately fertility for “veteran” and “new” immigrants it is seen that a “baby boom” occurred also among Asian-African veterans (as it did among the immigrants from Europe)². On the other hand, the very sharp rise in total fertility of the Asian-African group from 4.45 in 1949 to 6.31 in 1951 is mainly due to mass immigration. Among people who arrived in that period from Asia and Africa the proportion of persons non using contraception can be assumed to have been much larger than among the people born in Asia and Africa, and residing for a long time in the Land of Israel.

d) The following transition toward lower fertility of this group was extremely rapid. Total fertility decreased from 6.31 in 1951 to 3.75 in 1972–75.

While in the 1950ies the total fertility of Asian-African women was more than double that of European women, in 1972–75 the excess fertility of the first vs. the second group is only 36%.

C) JEWS BORN IN ISRAEL

With regard to fertility of persons born in Israel, Graph 12.2 (line 6) shows the following features:

a) the level of their fertility is intermediate between born in Europe (line 7) and born in Asia-Africa (line 5);

b) their level is nearer to born in Europe;

¹ This line shows simple arithmetic averages of total fertility in 23 “more developed countries”. Unlike this recent divergence of trends, a parallelism can be noted in previous phases, both in the general decreasing trend up to the end of the 1930ies and in the “baby boom” between the fertility of European Jews in Israel and the fertility of “more developed” populations.

² See K.R.Gabriel, *Nuptiality and fertility etc*, op.cit. p.78.

c) total fertility rates of Israeli-born have developed since the early 1950ies in a way parallel to the fertility of European-born.

Feature (a) can be easily understood, if we consider that the Israeli-born are partly of European and partly of Asian-African origin, and that people of second generation are still influenced, although at much lower extent, by the origin differentials existing in the first generation (see Sections 12.3 and 12.4).

Features (b) and (c) are presumably mainly connected with the following facts: high proportions of families actually controlling births are found both among European-born and Israeli-born; the current total fertility rate of the two groups has become rather variable, due to anticipation or postponements of births under the influence of economic, political, and psychological factors. These factors (as described in sub-section A) are mainly connected with developments taking place in Israel. Such developments generally may be expected to have similar influence on European-born and Israeli-born.

D) MOSLEMS

The evolution of total fertility rate of the Moslems, as shown by line 1 of Graph 12.1 is entirely different from that of the Jews.

Despite inaccuracy of the data, especially with regard to the first part of the Mandatory period, there can be little doubt about the following characteristics of Moslem fertility:

a) a very high general level (see Section 12.3). Line 1 of Graph 12.1 shows a level by far higher than those of comparable populations such as those of Egypt (line 3), North Africa and South-West Asia (dot 4);

b) a tendency to steep increase of fertility in the Mandatory period (approximately from 6.4 in 1926—27 to 9.4 in 1943—45);

c) a decreasing trend in the course of the latest decade (from 9.4 in 1961—67 to 8.17 in 1972—75).

Characteristic (a) will be discussed later. With regard to (b) the following explanation can perhaps be offered. In the course of the past half century the Moslem population of Mandatory Palestine and Israel achieved an enormous progress in its health conditions (Chapter 13): strong reduction in mortality of women at reproductive ages, and eradication of malaria, which was formerly widespread in the country, were among the most outstanding features. Moreover a considerable economic improvement took place. These developments occurred in a predominantly rural and tradition-bound society, in which high fertility was greatly esteemed, and the nuclear families were integrated in clans (Section 10.5). These factors brought about an increased fertility.

However, later trends have been mainly directed toward a "modern" evolution. Education levels have risen considerably (Section 15.9), many large villages turned into small towns and the proportion "urban" among the Moslems has increased very rapidly, especially in the last decade: see Section 18.7. The influence of modern way of life is making its impact through increasing contacts with the Jews at work, increasing knowledge of Hebrew (Section 15.4) and increasing influence of mass media of communication. It appears that the decrease of total fertility rates in the last decade is not to be interpreted as a short-term phenomenon but as the beginning of a long-term downward trend.

E) CHRISTIANS

Table 12.1 shows that the fertility of the Christians was much lower than that of the Moslems in the Mandatory period and has remained so in the Statehood period. Taking Moslem fertility rate as 100, the rates of the Christians have been as follows:

1932-33	1934-36	1937-39	1940-42	1943-45
66	58	55	50	46
1958-60	1961-64	1965-67	1968-71	1972-75
51	50	46	43	45

This large difference is probably due to:

(a) the very low propensity to marry among the Christian population. We saw in Section 11.10 that the Christian women remain single for about one-third of their fertile period;

(b) the much higher educational level (Sections 5.3, 15.4, 15.9);

(c) the much higher urbanization (Sections 5.4 and 18.7);

(d) in the Mandatory period, the presumably low fertility of the Non-Arab Christians had a considerable influence in keeping down the average fertility of the Christians. In Israel this factor still persists but to lesser extent.

Whilst in the Mandatory period and in the first years of the Statehood no clear trend could be ascertained in Christian fertility, their fertility rates have been constantly and rapidly decreasing since the early 1960ies (from 4.7 in 1961-64 to 3.66 in 1972-75). There is little doubt that this indicates an increasing tendency to fertility control.

12.3

FERTILITY CHARACTERISTICS OF THE MAIN POPULATION GROUPS

To illustrate recent fertility characteristics of the groups whose fertility evolution was analyzed above, the following material is presented here.

Table 12.2 shows age-specific fertility rates for the main population groups in recent years. As the proportion of illegitimate births is very small in Israel¹,

¹ In 1966-75 the percentages of illegitimate births per 100 live births was 0.74 among the Jews. Among the Non-Jews the proportion is assumed to be even lower. See on this topic: C.Goldscheider, "Out-of-wedlock births in Israel". *Social Problems*, Vol.21, No.4, Spring 1974, pp.550-567. E.F.Sabatello, "Recent Patterns of Illegitimacy in Israel". Paper submitted to the General Conference of the International Union for the Scientific Study of Population, Mexico City, 1977; "Births to never-married Jewish mothers in Israel 1971-73" *Monthly Bulletin of Statistics Supplement*, Jerusalem, Central Bureau of Statistics, June 1977, pp.113-122.

Sabatello has found on the basis of 1971-73 data that the rates of births per 1000 single women rises with the age (from 1.8 per 1000 women aged 17-19 to 8.6 per 1000 women aged 35-39). Standardizing by ages the highest rate of illegitimate births has been found among African-born women, having a rate almost three times as high as that of European and Asian women. Within each origin, illegitimacy is higher among new immigrants than among veteran immigrants and persons of second generation. Standardized rates are higher in large towns than elsewhere. Proportion of births out of wedlock decrease with rising educational level of the mother.

we have also calculated age-specific legitimate fertility rates by referring all births to women of each age to the number of married women of same age, as shown in the Census. These rates are given for 1971–73 and compared for Jewish origin-groups to 1960–62 (Table 12.3).

Rates of Tables 12.2 and 12.3 are shown by Graph 12.3, where the population groups are ranked in order of decreasing fertility.

Table 12.4 shows the average number of children of married women¹ at each age according to the censuses of 1961 and 1972.

Table 12.5 shows the distribution of married women aged 50–54 at the census of 1961, by number of children born to them (Panel A). In Panel B the same information is given under cumulated form, which can be interpreted as follows. Assuming that census data indicate the final fertility performance of a cohort of women, what are the probabilities (per 100 women) to bear at least 1, 2, 3 ... children in the course of their reproductive life. The total of these percentages gives the total number of children born to 100 women and has a meaning analogous to total fertility rate (apart from the source of data).

Table 12.6 summarizes the initial results of a follow-up of fertility of cohorts of marriages², recently undertaken by the Central Bureau of Statistics of Israel.

A glance at Graph 12.3 is sufficient to see the enormous difference still persisting between the fertility of the Moslems and that of all other population groups in Israel.

Moslem women start to bear children early and have a very prolonged fertility. Table 12.3 shows some data for comparison borrowed from a recent paper by A.G.Hill³ on Kuwaiti women. This comparison is of interest because both Kuwaitis and Moslems of Israel have for centuries been influenced by the Islamic attitudes favoring early and universal marriage and high fertility, and have recently and very rapidly improved their standards of living. It is seen that Israeli Moslems have even greater fertility than the Kuwaitis.

Their fertility at the ages 20–34 is comparable to that of the Hutterites and exceeding means of "natural fertility" by Henry. At later ages their fertility is

¹ At census of 1961: only women married for the first time; at census of 1972: all non-single women.

² See: J.Kenvin, *Reproductive behaviour of Jewish Marriage Cohorts in Israel*, Paper submitted to the Seventh World Congress of Jewish Studies, Jerusalem, 1977; and: "The fertility of Jewish marriage cohorts in Israel 1968–1974", *Monthly Bulletin of Statistics, Supplement*, June 1976, Vol.27, No.6, Jerusalem, Central Bureau of Statistics. This follow-up is based on the comparison of births occurred in each calendar year from marriages contracted in year t to the number of marriages contracted in Israel in t. Sample inquiries on fertility, with the view of obtaining data on cohort fertility have been recently carried out by the Central Bureau of Statistics, within the frame of a large study on fertility conducted by D.Friedlander and C.Goldscheider (The Hebrew University of Jerusalem). However, the only publication which appeared until now is a short summary ("Survey of Fertility of Jewish Women in Israel", *Monthly Bulletin of Statistics, Supplement*, March 1976, Vol.27, No.3). We have not utilized here its results, as they do not distinguish between births from marriages contracted in Israel and those contracted abroad.

³ "The demography of the Kuwaiti population of Kuwait". *Demography*, August 1975, Vol.12, No.3, pp.537–548.

TABLE 12.2

FERTILITY RATES BY AGE¹ (1965-75)

Age	Jews -- Total			Jews born in			Non-Jews			Moslems	Christians
				Israel	Asia- Africa	Europe- America					
1965-67	1968-71	1972-75	1971-74	1971-74	1971-74	1965-67	1968-71	1972-75	1971-74	1971-74	
Up to 19	33	29	31	24	49	35	100	93	101	123	41
20-24	197	187	184	168	223	176	355	341	314	387	206
25-29	216	216	196	190	215	186	391	383	362	413	213
30-34	140	154	138	135	159	110	352	331	310	354	154
35-39	64	76	69	75	89	45	243	235	214	269	78
40-44	16	16	15	15	25	7	118	108	85	114	21
45 and over	4	2	1	1	4	0.3	39	35	23	36	1
Total	94	98	100	98	122	72	248	232	220	259	116

¹ Average yearly number of births to 1000 women of each age

TABLE 12.3

BIRTHS PER 1000 MARRIED WOMEN OF EACH AGE (1960-1962; 1971-1973)

Ages	1971-73					Moslems	Christians	1960-62			Kuwait 1970	For comparison	
	Jews born in				Jews born in			Mean of 'Natural fertility' (from Henry)	Hutterites 1921-1930				
	Israel	Asia- Africa	Europe- America	Total	Israel					Asia- Africa		Europe- America	
Up to 19	(422)	(524)	(414)	(449)	539	(479)	(398)	526	(329)	346	—	—	
20-24	360	386	314	359	558	452	280	382	278	427	435	550	
25-29	246	270	236	254	473	328	210	287	169	297	407	502	
30-34	156	183	119	161	403	214	111	220	80	342	371	447	
35-39	81	98	50	80	291	109	57	141	33	246	298	406	
40-44	16	30	7	18	131	28	20	57	7	70	152	222	
45-49	1	5	0.2	2	44	3	4	18	1	19	22	61	
Total	214	167	89	155	381	205	174	221	56	346			

Graph 12.3 Age-specific fertility rates (1971–1974)

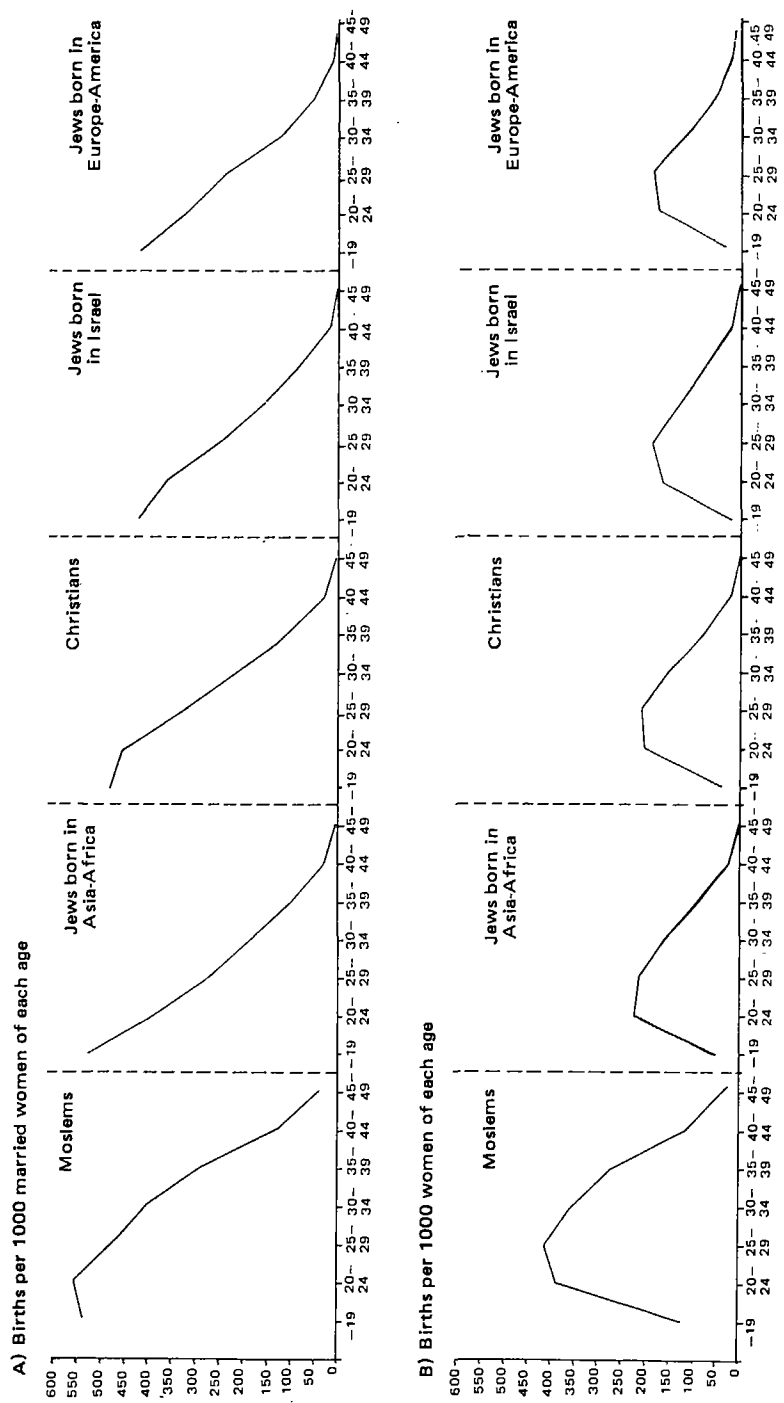


TABLE 12.4

AVERAGE NUMBER OF CHILDREN OF MARRIED WOMEN
BY AGE AND POPULATION GROUP (1961-72)¹

Population group	Census	25-29	30-34	35-39	40-44	45-49	50-54
A) Jews, born in							
Asia-Africa	1961	3.1	4.3	5.2	6.0	6.2	6.3
Asia	1972	2.2	3.4	4.2	4.6	5.0	5.2 ²
Africa	1972	2.5	3.9	5.0	5.7	6.1	5.7 ²
Europe-America	1961	1.7	2.0	2.2	2.2	2.2	2.0
Europe	1972	1.5	2.2	2.4	2.3	2.1	2.0 ²
America	1972	1.6	2.4	2.7	2.9	3.0	3.5 ²
Israel-father of the mother born in							
Asia-Africa	1961	2.0	3.1	3.7	4.1	5.2	5.8
Europe-America	1961	1.5	2.2	2.4	2.6	2.9	3.1
Israel	1961	1.8	2.6	3.4	3.6	3.5	3.9
All born in Israel	{ 1961	1.6	2.5	3.0	3.3	3.6	3.9
	1972	1.6	2.4	2.7	2.9	3.0	3.5 ²
All Jews	{ 1961	2.3	3.0	3.2	3.3	3.1	3.1 ²
	1972	1.9	3.0	3.5	3.6	3.4	3.0 ²
B) Moslems	1961	4.0	6.1	7.5	7.9	8.2	7.8
C) Christians	1961	3.5	4.5	6.0	6.8	7.2	7.2
D) All Non-Jews	{ 1961	3.8	5.5	6.9	7.3	7.6	7.3
	1972	3.6	5.3	7.0	7.8	8.1	8.1 ²
E) All the population	{ 1961	2.5	3.2	3.4	3.6	3.4	3.4 ²
	1972	2.1	3.3	4.0	4.1	3.8	3.3 ²

¹ 1961: Women married for the first time.

1972: (Provisional results): non-single women.

² 50 and over

TABLE 12.5

WOMEN AGED 50-54 BY NUMBER OF CHILDREN BORN TO THEM (CENSUS OF 1961)

Population group	0	1	2	3	4	5	6	7	8	9 or over	Total ¹
A) Percentages of women with given numbers of children											
Moslems	3.2	2.2	2.5	2.9	6.1	6.1	9.7	7.2	13.4	46.6	100.0
Christians	7.1	5.4	3.4	2.7	7.7	9.4	8.1	8.4	10.4	37.4	100.0
Jews born in Asia-Africa	4.7	4.1	6.3	8.6	9.1	10.7	9.9	9.4	9.4	27.7	100.0
Jews born in Israel	2.4	7.5	24.0	24.9	12.3	7.8	6.0	3.9	3.6	7.5	100.0
Jews born in Europe-America	13.1	23.5	35.4	17.7	6.0	2.2	0.8	0.6	0.3	0.4	100.0
B) Cumulated percentages											
Moslems	(100.0)	96.7	94.5	92.0	89.1	83.0	76.9	67.2	60.0	46.6	(780)
Christians	(100.0)	92.9	87.5	84.1	81.4	73.7	64.3	56.2	47.8	37.4	(680)
Jews born in Asia-Africa	(100.0)	95.2	91.1	84.8	76.2	67.1	56.4	46.5	37.1	27.7	(630)
Jews born in Israel	(100.0)	97.5	90.0	86.0	41.1	28.8	21.0	15.0	11.1	7.5	(390)
Jews born in Europe-America	(100.0)	86.9	63.4	28.0	10.3	4.3	2.1	1.3	0.7	0.4	(200)

¹ The total number of children given in panel B is that calculated by the Central Bureau of Statistics by taking into account also the detailed distribution of category "9 and over".

similar to that of Henry's series and larger than that of the Kuwaitis, but smaller than that of the Hutterites. In any event, Israeli Moslems are, or were until a few years ago, among the populations having the highest fertility in the world¹.

TABLE 12.6

NUMBER OF CHILDREN EVER BORN AFTER 5 AND 9 YEARS
OF MARRIAGE TO COHORTS OF 1000 WOMEN (1966-76)

Time since marriage	Age at marriage	Cohorts studied	Place of birth of the mother				
			Asia-Africa	Israel — Her father born		Europe	Total
				Asia-Africa	Europe-America		
5 years	17—19	1966—72	1,985	1,688	1,609	1,409	1,795
5 years	20—24	1966—72	1,890	1,759	1,524	1,388	1,633
5 years	25—29	1966—72	1,957	1,704	1,730	1,362	1,738
5 years	All ages	1966—72	1,924	1,828	1,563	1,390	1,685
9 years		1966	2,713	2,467	2,255	1,955	2,347

The average number of children of the Moslem women continues to rise rather steeply up to the age of 50. This is visible too from census data of Table 12.42. Also Table 12.5 B shows that probabilities to bear additional children remain very high among Moslem women at least up to the 8th parity.

A drastically different picture is presented by the fertility of Jews born in Europe. Here the largest part of child-bearing occurs between the ages of 20 and 35. This is seen from the rates of Tables 12.2 and 12.3 and from Table 12.4. Although the data given in Table 12.4 refer, in each age group, to different cohorts of women, the fact that past the age of 35 the average fertility remains almost constant suggests clearly that there is little addition of children after that age.

Table 12.5 suggests that, according to the 1961 census, 37% of the women aged 50-54 born in Europe had 0-1 children, 53% had 2 or 3, 6% had 4 children and 4% had a larger number. However a comparison with detailed data of Census of 1972 for cohorts aged 40 and over indicates that in more recent times there has been a decrease of percentages of women with a final number of 0-1 children, and an increase of percentages of these with 4 children. The same has occurred among Israeli-born. An increase in fertility of European-born is indicated also by comparing legitimate fertility rates in 1960-62 and in 1971-73 (Table 12.3).

¹ This does not contradict the fact that indicated in Section 12.2 that in last decade or so symptoms of a starting decrease of Moslem fertility have appeared. This decrease is seen also from the fertility rates of Table 12.2 for Non-Jews.

² Decrease in total fertility after ages of 50 resulting from census data, may be due both to higher recall lapses at older ages and to increase of fertility in the Mandatory period.

Between the Moslems and the European-American Jews, the other groups can be distributed more or less as follows by order of decreasing fertility: Christians and Asian-African Jews; Jews born in Israel to an Asian-African father; Jews born in Israel to a father born in Israel; Jews born in Israel to a father born in Europe-America. Within the group Asia-Africa, the Africans have larger fertility (Table 12.4) probably because they have been exposed to the influence of the Israeli environment for a shorter average time. Within the European- and American-born, the American-born have higher fertility. Detailed perusal of Tables 12.2–12.5 may reveal many interesting similarities and dissimilarities between the fertility behavior of the various groups.

Also Table 12.6 which is based on the follow-up of marriage cohorts shows that respectively at the end of the 5th and 9th year after marriage, fertility differentials within the Jewish population rank in the order indicated above (born in Asia-Africa; born in Israel of Asian-African or European-American fathers; born in Europe). However these and other recent data from many sources confirm that the internal differentiation between the various Jewish groups is not now very large and tends to lessen in the course of time.

12.4 FERTILITY CHARACTERISTICS OF THE JEWS IN THE DIASPORA AND IN ISRAEL

We mentioned in Chapter 7 the great transformation which occurred in modern times in the fertility of the Jews and the great variability in levels of fertility of Jewish communities being in different stages of transition. In most Asian-African communities, prior their almost complete dwindling in the past three decades, fertility was still very high. In the European and American communities in the 1960ies and 1970ies it was (and still is) generally very low. To some extent, this low level is connected with the socioeconomic and ecological characteristics of Western Diaspora communities such as high urbanization, comparatively very high educational standard, etc. However, in some studies in which the effects of these factors were removed, a residual lower fertility of the Jews as compared to Non-Jews was found. Various hypotheses have been advanced to explain this specifically Jewish lower fertility. Especially a heated controversy has been aroused by the hypothesis that this may be connected with the consciousness of "minority status" felt by the Diaspora Jews¹. In this connection the question can be raised whether the transition of the Jews from the minority status in the Diaspora to the majority status in Israel has been accompanied by a rise in fertility². A somewhat similar question can also be asked from a political point of view. One of the main reasons for the foundation of the Jewish National Home, from which the State of Israel has evolved, has been to ensure Jewish survival, including the demographic survival. Most Diaspora populations are today decreasing or on the verge of decrease, due, among other reasons, to low fertility

¹ For this hypothesis see: C. Goldscheider, *Population Modernization and Social Structure*, Boston, Little, Brown and Co., 1971, Chapter 10.

² On this problem, see N. Jaffe, "Jewish fertility in Israel: the transition to majority status", *Papers in Jewish Demography 1973*, Jerusalem, Institute of Contemporary Jewry, The Hebrew University, 1977, pp.405–414.

which is under the replacement level. The Jewish population of Israel has developed in the past mainly through immigration. However, in the long run, the decisive factor of its further demographic development will be the fertility level. The problem arises is to what extent is this level likely to diverge from the low level of the Diaspora Jewry.

General comparison between the present levels of fertility of the entire Jewish population of Israel and the Diaspora, even if it were feasible, would not be very meaningful from this point of view¹; the average fertility of the Jews in Israel is still strongly influenced by different levels of different groups, by their different dynamics and by changing composition by origins and generations of the Jewish population in Israel (see Chapter 14).

A more useful analysis can be undertaken by comparing selected groups of people of the same origin, and subject respectively to the effects of Diaspora and Israeli conditions. Two examples of such comparisons are given in the following, albeit without any intention to offer a comprehensive reply to the political question which was mentioned above.

1) Table 12.7 shows some data taken from the Israeli census of 1961 which enables us (subject to limitations which cannot be discussed here) to make such a comparison within the first generation in Israel (foreign-born). Table 12.7 shows (a) fertility abroad of women who reached Israel respectively at ages 30–34 and 45–49 from selected Diaspora countries; (b) fertility of women of the same ages, born in the same countries and who married in Israel.

It is seen that for Jews from Asian-African countries fertility is considerably lower for (b) than for (a). In many of these countries the tendency to use birth control had not started or was only in the beginning, so that the total fertility was at levels ranging between 6 and almost 8. Only in relatively more advanced communities such as Egypt, and Turkey fertility had already been considerably reduced. A great change has occurred in fertility of Asian-African Jews immigrated in Israel. The final fertility performance of Asian-African women married in Israel is only 4.6 as compared to 6.1 for Asian-African women abroad².

A reverse change occurred with regard to immigrants from Europe³. Fertility in communities of origin, as given by (a), is extremely low (generally below the replacement level)⁴. In Israel, European immigrants have tended to increase their fertility. The two opposite movements have greatly decreased the differentials within (b), as compared to those within (a).

Research on the same topic conducted with different types of data brings us to similar conclusions. Also the "geography of Jewish fertility" shown in Ta-

¹ In the long run, if internal differentials in fertility will become smaller, as can be expected, it will be meaningful to speak of a fertility level typical for the majority of the Jewish population of Israel and to compare it to the fertility level typical to the majority of Diaspora Jewries.

² For lack of space we do not discuss here the problem of selectivity of immigration with regard to fertility and to the degree by which immigrants' fertility can be taken to represent fertility in the Jewish communities of origin. In broad lines, we think it can.

³ Excluding Greece; this prevalently Sephardic community was found, also according to past research, to have higher fertility than that of other European communities.

⁴ In some cases this was also due to the negative influence of the period of Nazi persecution on Jewish fertility in Europe.

TABLE 12.7

FERTILITY ABROAD AND IN ISRAEL BY COUNTRY OF BIRTH (1961)

Women's country of birth	Average number of children born			
	Abroad to women aged		To women married in Israel aged	
	30-34	45-49	30-34	45-49
	at immigration		at census	
Asia-Africa	4.1	6.1	2.8	4.6
Morocco Tangier	5.6	7.2	2.7	
Iran	4.8	6.9	3.1	(4.7) ¹
Libya	4.7	7.7	3.5	
Yemen, Aden	4.3	6.8	3.6	(5.7)
Algeria, Tunisia	4.0	6.6	2.9	
Iraq	3.9	6.4	2.4	5.0
Syria, Lebanon	3.4	5.9	3.3	(4.8)
Egypt, Sudan	2.7	4.5	2.1	(4.3)
Turkey	2.4	4.0	2.6	3.2
Europe-America	1.3	1.9	2.0	2.2
Greece	(2.6)	(3.7)	2.2	2.7
Bulgaria	1.7	2.1	1.8	(2.3)
U.S.S.R.	1.5	1.8	2.2	2.3
Poland	1.3	2.3	2.1	2.2
Hungary	1.3	1.7	2.1	(1.9)
Rumania	1.1	1.7	1.8	1.8
Czechoslovakia	1.0	1.9	1.9	2.0
Germany, Austria	1.0	1.9	2.1	2.2

¹ 40-44

ble 12.7 corresponds to findings of other research studies, including those which were carried out during the Mandatory period¹.

2) Another comparison is that between people of the same origin, belonging respectively to the first and to the second generation in Israel.

The data of Tables 12.4 and 12.6 enable us to carry out this comparison. It is seen that if we pass from the first to the second generation, the fertility of people of Asian-African origin decreases, while the fertility of people of European-American origin increases. The evolution appears therefore to be a continuation of the evolution indicated under 1). In the case of the Asian-African communities, it can be mainly interpreted as a further increase in the proportion of families resorting to fertility control (see Section 12.8). In the case of people of European origin, both generations use birth control extensively. Increase in fertility in Israel from the first to the second generation² can thus be interpreted largely as an expression of intentional change. Whether this is due to changes in social norms from one generation to another, to intergenerational improvement in private or societal conditions which enable the families to have a larger number of children, cannot be discussed here.

12.5 FERTILITY BY LEVEL OF EDUCATION

A strong impact of level of education on fertility has been found in many research studies³ and in current data⁴. Here we have selected for presentation some data from the 1961 census which are more handy for statistical analysis.

In order to measure within each population group (by origins, for Jews; by religion, for Non-Jews) the influence of education over fertility, after eliminating the effects of age, the following simple though crude method was used. Let us indicate the average number of children ever born to women of a given age by f for all women together, by f_i for women of educational level i . Then the index number 100 (f_i/f) measures the effect of level i of education over fertility at the given age. We have calculated simple averages of the indices 100 (f_i/f) for the age groups 20–24, 25–29, 30–34, 35–39, 40–44, 45–49. Results of this calculation are given in Table 12.8.

¹ See, for instance, R.Bachi, *Marriage and fertility, etc.* op.cit., pp.153–159, and K.R.Gabriel, *Nuptiality and fertility, etc.* op.cit., pp.220–225.

² This increase, albeit far from being spectacular in size, is of particular interest, in view of the fact that nuptiality habits of the second generation in Israel are less favorable to fertility than those of the first generation (see Section 11.7). Further data and analysis on increase in fertility between the first and the second generation of European origin in Israel are given in the above quoted paper by N.Jaffe.

³ Some of the studies quoted in Section 12.8C have found direct relationship between the level of education and the use of contraceptive methods, and particularly of the more modern ones.

⁴ Data on distribution of births by parity and by age, education and continent of birth of the mother are published currently. The analysis of these data for recent years suggests that most of the findings based on the 1961 census are still valid.

The groups considered are as follows:

- 1) Foreign-born Jewish women classified by age at immigration and number of children born abroad.
- 2) Foreign-born Jewish women married in Israel.
- 3) Jewish women born in Israel, classified according to the continent of birth of their father.
- 4) Moslem and Christian women.

Obviously the indices given respectively under 1), 2) and 3) measure effects of education on:

- 1) the fertility in the community of origin
- 2) the fertility in Israel of foreign-born
- 3) the fertility of people of the second or higher generation in Israel.

It is seen that in all the series of data, fertility decreases greatly with the increasing level of education. In view of this finding, the question may be asked whether the lower fertility of the Jews of European vs. those of Asian-African origin, discussed in previous sections, may depend only upon the fact that the former have a higher average educational level than the latter. In order to verify this hypothesis, we have calculated within each age and educational level index-numbers of fertility of people of European origin, by taking as basis (100) the corresponding fertility of people of Asian-African origin. Simple averages of the index numbers calculated for the age groups mentioned above are shown in Table 12.9.

TABLE 12.8

INDICES OF FERTILITY ACCORDING TO LEVEL OF EDUCATION (1961)

Number of years at school	1) Fertility abroad of Jews born abroad		2) Fertility in Israel of Jews born abroad	
	Asia-Africa	Europe-America	Asia-Africa	Europe-America
0	111	190	121	x
1-4	104	120	116	104
5-8	83	110	92	105
9-10	61	86	71	99
11-12		82		96
13+		76		92

Number of years at school	3) Fertility of Jews born in Israel to father born in			4) Fertility of Non-Jews	
	Israel	Asia-Africa	Europe-America	Moslems	Christians
0	168	141	x	101	108
1-4	145	136	x	91	106
5-8	112	100	110	77	89
9-10	88	62	99		
11-12	79	69	99		
13+	68	55	86		

The reply to our question is a qualified negative. Comparing people on the same educational level it is found that:

- 1) In their countries of origin, European Jews had a much lower fertility than the Jews in Asia and Africa.
- 2) Fertility of the Jews born abroad and married in Israel still shows differentials by origin, although to a much more limited extent than those in 1).
- 3) The fertility of the Jews born in Israel is still influenced by their origin, although to an even lower extent than in group 2, among people with less than 10 years of schooling. However, among people with higher education (11 years or more), the fertility differentials by origin disappear completely, or even indicate a slightly lower fertility among people of Asian-African origin.

TABLE 12.9

INDICES OF FERTILITY OF WOMEN OF EUROPEAN ORIGIN,
AS COMPARED TO THAT OF WOMEN OF ASIAN-AFRICAN ORIGIN (1961)

Number of school years	1) Fertility abroad	2) Fertility in Israel of Jews born abroad, immigrated		3) Fertility of Jews born in Israel
		Up to 1947	1948–1961	
0	52			
1–4	35	60	60	
5–8	41	73	77	80
9–10	} 38	92	90	88
11–12				103
13+				110

12.6

RELIGIOSITY AND FERTILITY

Before "modernization", the daily life of Jewish population in most communities was strongly influenced by Jewish religious norms and traditions (Section 7.3). With regard to conjugal relations, these norms imply the duty of sex and procreation in married life and prohibit certain types of intercourse and of contraceptive methods¹. In particular, they forbid sexual relations during the menstrual period and for a week after it and allow their resumption after a ritual bath. This determines a large concentration of sex contacts in the more fertile part of the menstrual cycle.

The influence of Jewish religious norms and traditions on actual daily behavior of the Jews has weakened in modern times in the Western Diaspora communities and this to a large extent also applies in Israel to the majority of the Jews of European origin since the Mandatory times and to the younger generation of the Jews of Asian-African origin.

¹ See D.M.Feldman, *Birth control in Jewish life*, New York University Press, 1968.

However, there is in Israel a considerable number of people adhering wholly or largely to the traditional religious norms. Part of them tend to concentrate in certain urban areas, or in separate rural colonies, where a degree of isolation from the rest of the population favors collective conservation of the traditional ways of life.

Identification of such areas from a statistical point of view, and even grading them by different degrees of traditionalism¹ is possible — albeit not always easy — through such indirect indicators as the proportion voting for the various religious parties, the proportion of children in the various types of religious schools, etc. Studying birth rates or census fertility data, or age distribution in these areas, it has been found that fertility is considerably larger in the areas in which the majority is identified with the religious population than in the areas in which the majority is secular².

In many sample studies on birth control, quoted in Section 12.8, questions have been asked with regard to the attitudes toward Jewish tradition and the actual observance of religious norms; traditionally-oriented people, and/or actually observant people have been thus identified and their attitudes and behavior with respect to birth control compared to those of secular-oriented people. The results point to a few clear conclusions:

a) the actually observant have a much lower propensity to control fertility and to use contraceptive methods. This applies also to people of European origin and remains true after the impact of educational or other factors is removed³. On the other hand milder traditional orientation without actual observance of ritual bath norms, seems to have little influence on fertility.⁴

b) Procured abortion cases have been noted also among observant women, but the proportion of abortions is much lower in this than in other population groups⁵.

c) The distribution by selected contraceptive methods differs between religious and non-religious users⁶.

d) Under equal age, educational and other conditions, people who follow religious norms are found to have, expect and desire, a higher average number of children than non-observant people⁷.

¹ For instance: strictly orthodox areas in certain towns, such as Jerusalem and Bnei Brak; kibbutzim and moshavim of the workers' wing of the orthodox *Agudat Israel*; kibbutzim and moshavim of the Zionist-religious workers, etc.

² Just as an example: the fertility in different sections of Jerusalem was measured by comparing the number of children aged 0—4 to the number of women aged 15—44 at 1961 census. Effects of age distribution (within ages 15—44), origin and length of stay in the country, were removed by standardization. In comparison with average fertility in the "secular" quarters that of the prevalently "orthodox" was found to be higher by 44% and that of prevalently "religious" by 25%.

³ See the studies by Matras and Bachi, Peled, Friedlander, Harlap.

⁴ See the studies by Matras and Bachi.

⁵ See the studies by Matras and Bachi and Jaffe.

⁶ See the studies by S. Harlap, Peled and Friedlander.

⁷ See the studies by Matras, Bachi, Peled and Friedlander.

e) The main reason given by observant non-planners for not using contraception is religiosity¹. The higher proportion of people who do not use contraception among religious people seems not to be due to ignorance about existence of such methods, but apparently to a purposeful rejection of them. This does not apply to the older generation of immigrants from Asia and Africa.

12.7

ECOLOGICAL DIFFERENTIALS IN FERTILITY

A) JEWISH POPULATION

The various origin groups of the Jewish population have very different geographical and urban-rural distributions (Sections 18.3–18.5). Due to that, to the intergroup differentials in fertility and in age structure, considerable differences in total fertility and birth rates have been found between different types of settlement and geographical regions. In the following a number of examples are given.

a) The crude birth rates (per 1000 population) of the Jews in the "new" southern town of Beersheva are compared below to those of the "veteran" town of Tel Aviv (see respectively for their characteristics, Sections 18.4, A and B).²

Town	1950–54	1955–59	1960–64	1965–69	1970–74
Beersheva	54.4	40.3	32.4	28.8	28.3
Tel Aviv-Jaffa	23.9	18.2	15.8	14.3	16.7

b) Considering size and evolution of birth rates between 1950 and 1974 in all the towns of Israel, even larger differentials are found between individual places than those indicated under (a). However, the variability between towns has tended to decrease rapidly in the course of time.

c) The crude birth rates of rural Jewish vs. urban Jewish population has evolved as follows:

	1954–55	1957–60	1961–65	1966–70	1971–75
Urban	24.5	22.7	21.5	22.6	24.5
Rural	35.7	31.6	26.9	24.4	24.6

For many years birth rate has been much higher in the rural than in the urban sector. Only recently the differentials have disappeared. Birth-rate differentials together with the negative balance of internal migrations in the rural sector (Section 18.3) would at the first sight suggest that comparative urban-rural demography in Israel has common traits with many other countries. However, a deeper analysis reveals a much more complex interplay of various factors involved (see below).

d) Generally speaking it has been found that the "new" towns and "new" rural places have higher birth rates than the "veteran" localities, and that the northern and southern regions have higher birth rates than the central regions. These features are of importance in shifting the geographical distribution of the

¹ See the studies by Peled and Friedlander.

² Beersheva has a much larger proportion of young people and of persons of Asian-African origin than Tel Aviv.

population of Israel (Sections 18.5 and 18.6), from the point of view of differentials in levels of dependency ratios between the various localities or regions, and for other social and even political considerations.

However, from the point of view of fertility analysis the more relevant question is whether within each population group, there are differentials in fertility between different types of settlements.

Some information on this question is given by Table 12.10, which shows for each population group and type of settlement: a) the average number of children according to the 1961 census to women aged 30–34 and 45–49; b) the total fertility rate according to current vital statistics for 1965–68. It is seen from the table that:

1) Differentiation by type of settlement within each origin-group, is considerable, and mainly so within people of Asian-African origin.

2) Let us consider, first, differentials in fertility between the three larger towns within each of the population groups considered. Jerusalem has the highest fertility and Tel Aviv-Jaffa the lowest. The most plausible explanation of the higher fertility of the European Jews in Jerusalem is the large concentration of religious groups of this origin in the Holy Town (see Section 12.6). Low rates for Tel Aviv may hint at somewhat different fertility habits of a possibly more permissive environment.

3) With regard to smaller towns, higher fertility in the "new localities" can be noted in respect to people born in Asia-Africa and in Israel. For the former group this is due mainly to the higher proportion of new immigrants, for the latter to the higher proportion of people of Asian-African origin within the second generation.

4) A particular interest can be attached to the study of fertility in the kibbutz, as in this type of settlement children are raised at the expense of the community.

Research undertaken in the early 1940ies¹ indicated low fertility in the kibbutz, considerably below the replacement level and lower than the average for the Jewish population. The depressing impact of collective economic conditions, which were in that period rather adverse, was shown by the fact that the fertility was lower than the average in the newer kibbutzim, the situation of which was even more difficult. In those days, the main emphasis in the life of the kibbutz was on the need of working in order to establish and develop the settlement. Women participated fully in "productive" enterprises and children were often considered as a burden to the community.

Later, with improved economic and security conditions and due to the decreased attractiveness of the kibbutz for the immigrants (Section 18.3), the attitude toward births changed; among other reasons, children born in the kibbutz were seen as the main hope to secure continuation or even the survival of the kibbutz².

¹ R. Bachi, *Marriage and fertility, etc.*, pp.164–169.;

² On attitudes toward births in the kibbutz, see Y. Talmon-Garber, "Social change and family structure", *International Social Science Journal*, 1963, Vol.13, No.3.

TABLE 12.10

FERTILITY BY ORIGIN AND TYPE OF SETTLEMENT

(a) 1961: average number of children per Jewish married women aged 30–34 or 45–59

(b) Total fertility rate, from current statistics 1965–1968

Selected types of settlement	Born in Israel			Born in Asia-Africa			Born in Europe-America		
	(a) 1961, aged		(b) 1965-68	(a) 1961, aged		(b) 1965-68	(a) 1961, aged		(b) 1965-68
	30-34	45-49		30-34	45-49		30-34	45-49	
Jerusalem	2.9	4.3	3.37	4.7	6.9	4.35	2.1	2.4	3.17
Tel Aviv-Jaffa	2.4	3.2	1.90	3.5	5.3	3.36	1.9	2.0	1.66
Haifa	2.3	3.6	2.45	3.7	5.4	3.68	1.9	2.0	2.40
Other towns:									
– veteran	2.2	3.3	3.01	3.5	6.0	4.34	2.0	2.1	2.64
– new	2.7	x		4.7	6.4		2.1	2.0	
Total urban population ¹	2.4	3.5		4.1	6.1		2.0	2.1	
Villages	x	x	3.13	5.4 ²	7.1 ²	6.52	2.6 ¹	2.3 ¹	2.69
Moshavim	2.4 ¹	x	3.26	5.8 ³	7.1 ³	6.35	2.4 ²	2.5 ²	2.52
Kibbutzim	2.6	3.3	3.31	x	x	3.00	2.5	2.9	3.01
Total rural population	2.6	(4.0)		5.5	6.9		2.5	2.7	
Grand total	2.5	3.6	2.80	4.3	6.2	4.38	2.0	2.2	2.55

¹ "veteran" only² simple average between "new" and "veteran"³ "new" only

Under the impact of this change in attitude, a strong upsurge in fertility occurred. Table 12.10 shows that the kibbutz population which is in its overwhelming of European origin, has the highest fertility (after Jerusalem) among European-born people. Taking into consideration their mainly European origin, also Israeli-born in the kibbutz are found to have a comparatively higher fertility

On the other hand, the small population of Asian-African origin in the kibbutz has the same fertility as the European-born. This situation — which was found also in previous enquiries — accords with the egalitarian characteristics of the kibbutz society.

Paradoxically, it puts this small population at the bottom of the list of Asian-African born, ranked by fertility, while the European kibbutz population is at the top of the population groups of European origin.

Despite the fact that birth rates give a picture of fertility distorted by changes in origin- and age-structure, there may be some interest in comparing the evolution of birth rates in the kibbutz to that of the entire rural population given above.

1951—52	1954—55	1957—60	1961—65	1966—70	1971—75
33.5	27.0	24.6	21.9	26.3	27.9

The rise in birth rates of the kibbutz in recent times is considerable; at present the kibbutzim have the highest birth rates among all types of settlement in Israel.

5) Asian-African born have maximal fertility in more isolated moshavim and villages. A similar phenomenon was found also in the Mandatory period in the Yemenite villages¹.

6) At the 1961 census, the combination of higher fertility in the villages and moshavim among people of Asian-African origin and of higher fertility in the kibbutzim among people of European origin, determined a higher fertility of the rural vs. the urban population. However going back to the Mandatory period an opposite situation can be found: at that time the rural sector as a whole had less fertility than the urban sector².

B) NON-JEWISH POPULATION

It is seen from Table 12.11 that the mixed towns had in 1961 a slightly lower fertility than the purely Arab towns; possibly the rural sector had a somewhat higher fertility but the differences were neither great nor clear.

Bedouins have at present very high current birth rates.

¹ R. Bachl, *Marriage and fertility*, etc., op. cit., pp.180—181.

² Ibid., pp.164—170.

TABLE 12.11

FERTILITY OF THE NON-JEWISH POPULATION BY TYPE OF SETTLEMENT (1961)

Selected types of settlement	Average number of children per woman			
	Moslem, aged		Christian, aged	
	30-34	45-49	30-34	45-49
Mixed settlements, with Jewish majority	5.8	(6.3)	4.3	(6.4)
Arab towns ¹	6.6	(8.2)	4.9	(6.5)
Villages in the northern district	6.0	7.9	4.5	8.4
Villages in Haifa district	6.4	8.3	5.9	x
Bedouins in the Negev	4.9	(8.2)		

¹ Nazareth and Shefar'am.

12.8 INTERPRETATION OF MAIN FINDINGS. EXTENT OF BIRTH CONTROL

A) DEMOGRAPHIC TRANSITION

The main findings of previous sections, can be more easily interpreted if they are viewed within a larger frame, including the evolution of nuptiality (Chapter 11), of mortality (Chapter 13), and of the cultural and economic conditions (Chapters 6, 15, 16). Then, despite the extreme complexity of the Israeli scene (due to the heterogeneity of its population, and the continuous influx of new elements from abroad), it appears that important aspects of the demographic evolution can be presented within the demographic transition scheme.

At the middle of the 19th century all population sectors had presumably traditional nuptiality characteristics (though different between the various groups), low propensity to control fertility and high mortality. The evolution started with control of disease and mortality and developed more quickly among the more dynamic sector of the population — the Jews of European origin. In the first decades this brought to an enormous internal differentiation, but in the end all population sectors evened out on a very low mortality level. Already by the early 1960ies mortality transition was almost complete.

Evolution in age at marriage has also taken the form of a gradual convergence toward patterns closer to those of the European Jews.

Fertility evolution has started later than the mortality evolution, but has followed to some extent along similar lines. European Jews have been the first to use birth control methods. They were followed in increasing proportions by the Jews of Asian-African origin, and the evolution, mainly in the second generation of people of this origin, has been very rapid. In recent years the

transition of the Christians toward lower fertility has been also very rapid. Until recently, among the Moslems, an opposite type of evolution had taken place, and fertility had tended to increase. However, in the last decade there are clear signs indicating an increasing resort to birth control.

It does not mean that in the end a perfectly equal level will be reached. For instance, among the Jewish population, the very different behavior of orthodox groups, due to their profoundly religious orientation, is likely to continue in the future. However the homogenization forces are likely to continue to exert, in the next decades, as strong an impact on natural movements as they have on the educational and other fields (Chapters 15, 16).

As we shall see in the next chapter, the above generalization can be examined on the basis of statistical data with respect to health evolution. With respect to fertility, the official data on the number of children per woman are not sufficient for assessing the determinants of the evolution. However these data can be integrated with the existing information on family planning obtainable from other sources.

In the following we shall deal briefly with two aspects of family planning: legal and institutional (under B), and actual knowledge, attitudes and practice by the population (under C).

B) LEGAL AND INSTITUTIONAL ASPECTS OF FAMILY PLANNING

1) *Abortions*¹. Regulations concerning abortions in Mandatory Palestine were extremely rigid, and reminiscent of the English Act of Offences against the Person of 1861. The Palestine Penal code laid down heavy penalties both for the woman procuring her own miscarriage or for any person procuring it. The changes of the interpretation of Common Law in Great Britain, which somewhat relaxed the severity of legal regulations in regard to abortions, were followed by the courts in Palestine.

In Israel the British law remained in force, but was not applied in practice. In 1966 penalties against the woman were abolished, and those against persons procuring abortions were mitigated. However, growing uneasiness was felt with regard to the discrepancy between written law and the actual practice. Abortions are in fact performed widely (see under C), generally by physicians, but almost without any public control. In 1977 a law was passed (but not yet implemented) declaring abortions performed outside public hospitals to be unlawful and fixing norms for cases in which abortions are permitted in public hospitals.

2) There are no specific regulations regarding *birth control*. All different kinds of contraceptives are available, including oral contraceptives and IUD's. However, the use of certain contraceptives requires a physician's advice. Until recently there has been little development of non-profit services providing family planning advice. In the past few years the Israeli Association for Family Planning has been established and there has been a growing tendency to diffuse knowledge on family planning, by utilizing the large existing network of such health institutions which are in continuous and close contact with the population (see Sections 13.2–13.5).

¹ For sources of statistics on abortions see Appendix 7.3.

C) KNOWLEDGE, ATTITUDES AND PRACTICES BY THE PUBLIC IN FAMILY PLANNING

In the past two decades a considerable number of sample enquiries have been carried out dealing with topics such as: extent of knowledge on family planning; actual accessibility to birth control devices; attitudes of families with regard to number of children expected and desired; policies in regard to abortions and natality; actual use of contraceptives and abortion; reproductive histories of families, etc. Also attitudes of professionals with regard to problems such as birth control and abortions have been investigated.

A selected list of papers is given below¹ in chronological order of appearance. Due to the extensive size of the literature, to its heterogeneity and to the changes in methods and frames used in the various surveys, it is impossible to summarize their results systematically. We shall only offer a few indications:

1) in the first survey (conducted in 1959–60) 27% of the women born in Israel, 31% of those born in Europe and America and 82% of those born in Asia and Africa reported that they never thought about the number of children desired. In the most recent enquiry (1974) only 6% of the women interviewed did not know about the possibility of birth control. Also among the women born in Asia and Africa this percentage was only 8.

2) The actual use of birth control methods is also continuously increasing in the course of time.

In the 1974 enquiry dealing with Jewish urban women under the age of 54, it was found that 81.2% used methods of birth control (including abortions).

¹ R. Bachi and J. Matras, "Contraception and induced abortions among Jewish maternity cases in Israel." *Milbank Memorial Fund Quarterly*, April 1962, vol.40, no.2, pp.207–229.

J. Matras and C. Auerbach. "On rationalization of family formation in Israel." *Milbank Memorial Fund Quarterly*, October 1962, vol.40, No.4, pp.453–480.

R. Bachi and J. Matras. "Family size preferences of Jewish maternity cases in Israel." *Milbank Memorial Fund Quarterly*, April 1964, vol.42, No.2, pp.38–56.

J. Matras and R. Bachi, "Practice of contraception among Jewish maternity cases in Jerusalem (changes in the interval 1960–1967)". *Indian Demographic Bulletin 1968*, Vol.1, No.1, pp.51–59.

Many publications (in Hebrew) by Z. Peled on attitudes and practices in family planning, in general and by middle class young people, on attitudes of women in fertile ages, abortions, attitude of professionals on the problem of family planning were published in the late 1960ies and the 1970ies by the Israel Institute for Applied Social Research in co-operation with the Government Demographic Center.

Studies (in Hebrew) on the attitudes of students toward family life and on the psychological and social factors influencing fertility were published by R. Bar-Yoseph respectively in 1971 and 1972 by the Hebrew University of Jerusalem.

Z. Peled, "Consensus between husbands and wives in the area of family planning". Submitted to the Fourth International Congress for Social Psychiatry. Jerusalem, Israel Institute of Applied Social Research, 1972.

J. Kenvin, "The fertility of Non-Jewish women in Israel 1969." Jerusalem, Central Bureau of Statistics, 1972 (unpublished).

D. Friedlander, "Family planning in Israel: irrationality and ignorance." *Journal of marriage and the family*. February 1973, pp.117–124.

N. Jaffe. *Family Planning in Israel* (Hebrew). The Hebrew University of Jerusalem, 1977.

S. Harlap. *Contraceptive use by Jerusalem mothers*. Paper presented at the Seventh World Congress of Jewish Studies, Jerusalem 1977.

Among European women the proportion was high already in marriage cohorts prior to 1954, whilst among Asian-African women it increased mainly in the past two decades. In the more recent cohorts the differences in percentages according to the continent of origin have declined to a considerable extent.

3) The first enquiries indicated that more primitive methods of birth control (such as withdrawal) were prevalent. Use of more modern methods started to a larger extent among women of European origin and those who had attained a higher educational level. The 1974 enquiry shows that 31% of the European-born women using contraception who married before 1944 still employed withdrawal, as compared to 13% among the 1965–74 cohorts. Use of pills increased correspondingly from 4% in the former cohorts to 66% in the latter. Transition to the more modern methods has been much slower among the women of Asian-African origin.

4) Extensive initial employment of the more primitive methods and persistence of its usage by wide population groups even today is attributed by various scholars to the insufficient knowledge of other birth control methods. This is often taken also as the main explanation of the comparatively large resort to induced abortion.

5) Statistical information on abortions is very limited (see Appendix 7.3). However, some of the studies quoted above have succeeded in reconstructing proportions of abortions in the reproductive histories of the surveyed women. The latest survey (1974) indicates the following percentages of women who had at least one abortion: among religious women 12.3%; non-religious 32.9%; among women with 0–8 years of schooling: 30.5%; among women with 9 or over years of schooling: 26.5%. Among women of European origin and low education, the use of abortion was very frequent in the first cohorts (married up to 1944: 51.3%), but it has continuously decreased. The same has happened among the European women with higher educational level (cohorts of 1965–74: 17.6%). This may perhaps be explained by the increased use of more modern contraceptive methods.

In the first decade under survey, women of Asian-African origin have resorted to the use of abortion with increasing frequency. However, it appears that also among them there is a recent tendency to resort in lesser proportions to abortion.

6) In the Non-Jewish population greater resort to contraceptive methods has been found among the Christians than among the Moslems. Among the Moslems the proportion of people using contraceptives is relatively small, but increasing in the course of time. The methods more frequently used in 1969 were withdrawal and extended breast feeding.

7) In very broad lines, the variables which according to statistics are connected with larger differentials in actual fertility are shown by the studies on family planning to be also the main determinants of differentials in the extent of use of contraceptives and abortions. However the differences in timing, in the frequency of use, in the type of methods used, and in their efficiency are also of importance in determining the actual levels of fertility.

CONSEQUENCES OF EVOLUTION AND DIFFERENTIALS IN FERTILITY

A) NET REPRODUCTION RATES

Table 12.12 shows the gross and net reproduction rates for the main population groups in Mandatory Palestine and in Israel.

TABLE 12.12

GROSS AND NET REPRODUCTION RATES (1926–1975)

Years	Gross reproduction rates			Net reproduction rates		
	Jews	Moslems	Christians	Jews	Moslems	Christians
A) MANDATORY PALESTINE						
1926–27	1.87	3.09		1.42	1.57	
1928–30	1.62	3.18		1.33	1.66	
1931–33	1.38	3.16	2.08 ¹	1.11	1.78	1.50 ¹
1934–36	1.29	3.46	2.02	1.10	2.10	1.49
1937–39	1.14	3.64	2.02	1.02	2.33	1.56
1940–42	1.14	3.80	1.88	1.01	2.32	1.48
1943–45	1.66			1.49		
1946	1.69			1.54		
B) ISRAEL						
1949	1.58			1.53		
1950–53	1.91			1.78		
1954–57	1.76	3.49 ²		1.67		
1958–60	1.68	3.67		1.60		
1961–64	1.63	3.83		1.57		
1965–67	1.63	3.88		1.57		
1968–71	1.65	3.69		1.62		3.45
1972–75	1.51	3.51		1.50		3.27

¹ 1932–33

² 1955–57

It is seen that in the first years surveyed, owing to the still prevailing high mortality, the two rates diverged considerably for the Jews and very strongly for the Moslems. In the 1920ies, despite the large differentials in total fertility, between the Moslems and the Jews as shown by Graph 12.1, the differentials in their net reproduction rates were not large in consequence of the much higher Moslem mortality.

In the course of time the reduction of mortality at ages 0–50 has been so strong (Chapter 13) that today the net reproduction rates are almost identical with the gross reproduction rates.

Net rates for the Jews have continuously decreased between 1926 and 1942. Twice (1939, 1942) they have been below replacement level. Detailed data show that in that period most subgroups of the Jewish population of European origin were well below the replacement level¹.

Later, the trend was reversed. In the early 1950ies the net reproduction rate of the Jews reached its record level of 1.78; since then it has decreased (through some fluctuations) to 1.50 in 1973–75.

The net reproduction rate of the Moslems has increased enormously in the course of time under the joint impact of increasing fertility and decreasing mortality. In Mandatory Palestine it grew from 1.53 in 1926–28 to 2.40 in 1941–42. In Israel it presumably reached a level of some 4.2 in 1965–67 and has later decreased to some 3.7 in 1974–75².

B) EVALUATION OF THE FINDINGS. DEMOGRAPHIC POLICIES

Value judgments of the demographic trends and discussion of demographic policies are not within the scope of this Monograph (see Section 6.3).

We shall only briefly indicate the following points:

1) Low fertility around the late 1930ies and early 1940ies attracted some attention by Jewish public opinion and authorities and some policies were evolved in order to encourage higher fertility among the Jewish population of Palestine.

This was also prompted by the awareness of the demographic consequences of the systematic destruction by the Nazis of the Jewish population in Europe.

2) In the later 1940ies and 1950ies in the enormous growth of the population and the stronger natural increase lessened the public interest in this problem.

3) In the 1960ies, with the great decrease in the volume of immigration and decline in fertility, the Government appointed a committee to investigate the second issue. The report of the committee (1966)³ concentrated mainly on (i) reasons whereby a decline in the natural increase of the population at the present stage of development of Israel was considered undesirable; (ii) on social inequalities in the demographic field. Affluent families were found to have more easy access to birth control, than poor families. The burden of child-raising fell much more heavily upon the poor families, which often brought up their children in adverse economic conditions; (iii) family planning was to a large extent achieved through the use of primitive methods, especially by a widespread resort to abortions, performed without any public supervision and found to have harmful consequences.

Among the many recommendations put forward by the Committee and endorsed by the Government, was the establishment of a Demographic Center at the Prime Minister's Office.

¹ See R. Bachi, *Marriage and fertility, etc.* op.cit., pp.215–227.

² Those are rough estimates only, as no mortality tables reported separately for the Moslems are available. We have used here mortality tables for the entire Non-Jewish population.

³ *Report of the Committee on Natality Problems*. Submitted to the Prime Minister. Jerusalem, 1966 (Hebrew).

The Center started to operate in 1968. Its policy has been mainly directed (i) to influence governmental activities in those spheres which have bearing on natality such as housing, female employment, day nurseries, family welfare, housewives' vacations, etc., in order to create more favorable conditions for child raising and (ii) to foster interest for demographic problems among the population. In the same time many governmental activities have been directed (outside the Center activities) to the problem of improving the conditions of underprivileged children, (born mainly to larger families).

CHAPTER 13

HEALTH AND MORTALITY. NATURAL INCREASE

13.1

THE IMPROVEMENT OF HEALTH CONDITIONS IN THE 20TH CENTURY

In previous chapters, we started by analyzing the statistical data available on the topics discussed, and gave at the end a summary of the main findings. In this chapter, the subjects to be treated are so complex and interconnected, that it appears preferable to follow an opposite procedure. We shall start by giving an overview of the main changes which occurred in the field of health and only afterwards we shall examine some of their aspects: the evolution of health services (13.2-13.4); the growth of medical personnel (13.5); the control of epidemic diseases (13.6); the decrease in mortality, in general (13.7), by sex and age (13.8) and by causes (13.9); the decrease in child mortality (13.10); the differentials in mortality between the various population subgroups and the progress in equalization (13.11). At the end we shall evaluate the effects of the decline in mortality on natural population increase (13.12).

While in the field of mortality we shall mainly analyze statistical data, in the presentation of certain aspects of general health conditions, we cannot follow this method. This is due, on the one hand, to a lack in statistics for certain periods and population groups and, on the other hand, to the impossibility of analyzing here volumes of very heterogenous data (on notification of infectious diseases, on diagnoses of hospitalized morbidity, on diagnoses in outpatient clinics, on findings of investigations carried out in various branches of medical services, etc.), and of conclusions of a very large literature existing in the field of public health. The presentation given here is to be regarded therefore mainly as background information for understanding the enormous transformation which occurred in the status of health, morbidity, and mortality in the 20th century.

The transformation has been dramatic indeed. Until the last decades of the Ottoman rule, no State medical service existed, the number of physicians was extremely small, and the majority of the population did not fight actively against disease. Child morbidity and mortality were high due to lack of proper care. Among infectious diseases: malaria was widespread over the country and caused enormous losses in life and labor force; so was trachoma, due to lack of hygiene and proper care, impairing the sight of those affected and even causing blindness; intestinal diseases were common, owing to poor food hygiene and water pollution; in particular, dysentery and typhoid fever, largely endemic, erupted from time to time into violent epidemics. Bad sanitation caused high morbidity and mortality at least until the last decades of the 19th century even in the largest town, Jerusalem, and presumably also in other cities.

Today the entire population — Jewish, Christian, Moslem and Druze — has reached a state of health comparable to that of the most advanced populations of the world. Malaria, typhoid fever, trachoma and other major infectious diseases have practically disappeared. Almost entire child population is under continuous prophylactic supervision by the health services. The overwhelming

majority of the population is insured in sick funds and subject to continuous health care.

Apart from residuals of problems of the "pre-modern" type, such as still inadequate food hygiene and environmental sanitation, most of the problems which engage health authorities today are of the "modern" type, such as care for mental, chronic and degenerative diseases, care for old people, etc.

Between the two stages described, the country had to withstand many important challenges, due to the deep transformation in size and composition of the population. Jewish immigration in its first phases brought people of European origin into a still very unhygienic Middle Eastern environment, and very poor housing and sanitation conditions.

When the mass immigration of 1948–51 came to Israel, the country had already accomplished great progress in respect of health conditions and services. However, health authorities had to face tremendous problems at that time. The mere fact of doubling the population in three and a half years, caring for sheltering, sanitation and health services for hundreds of thousands of newcomers, constituted a difficult task. Moreover some of the new immigrants brought from their countries of origin in Asia and Africa poor health and hygienic standards and many infectious diseases; persons rescued from the Holocaust had passed through the terrible experiences of Nazi persecutions, ghettos, annihilation camps, further years in displaced persons camps and had often wandered and been deported from country to country. Possible effects of these experiences over health and psychological well-being could not be easily discounted.

The enormous progress accomplished in the health conditions despite the need to face the mentioned above challenges, was probably due to an almost unique combination of factors, such as a) help received from abroad in the first stages of development; b) large immigration of physicians and other medical personnel which brought the country almost abruptly to very high level in availability of such personnel; c) evolution during the Mandatory period of an autonomous Jewish health service, largely based on health insurance which was later extended to almost the entire population; d) continuous improvement in the course of time in socio-economic and educational standards of all the population groups, including Moslems, Christians and Jews of Asian-African origin (see Chapters 6, 15, 16).

An appraisal of the proportional contribution of each of the various determinants to the progress accomplished appears very difficult. In any event, we shall only content ourselves here to describe the operation of each one of them.

13.2 THE GENERAL DEVELOPMENT OF MEDICAL SERVICES

A) At the beginning of the Mandatory period

"Prior to 1918 there was no organized State health service in the country. Municipalities possessed certain powers under the Ottoman law but, apart from municipal medical officers in certain of the larger towns and municipal hospitals in Jerusalem and Nablus, no organized sanitary, public health or medical services existed"¹

¹ *A Survey of Palestine*, Jerusalem, Government of Palestine, 1946, Vol. 2, p. 609.

The little which existed in the field of health services — and had already produced some fruits before World War I (see Section 4.3) — was due to the initiative from abroad. Sanitary control of pilgrim traffic to and from Mecca by the Hejaz railway and a port quarantine service, had been established by the International Constantinople Board of Health.

Religious and missionary bodies had established hospital services in Jerusalem and other towns. The Jewish population which had suffered greatly through the centuries from bad health situation, had also started to set up hospitals and some autonomous health services with the assistance of the Jews from abroad.

B) *During the Mandatory period*

The main developments in this period were in two directions.

1) *Government services.* In the first years the Government Department of Health concentrated its activities mainly on the urgent task to control epidemics and infectious diseases. Later the Department extended its services to general health policy in many fields. Due to the almost complete lack of initiative in the field of health by municipalities (other than Tel Aviv), the Government assumed many functions which in other countries had fall upon the local authorities. Its 18 subdistrict offices took direct care for many medical, sanitary, epidemic, medical legal duties, and for managing outpatients' clinics and in various towns also hospitals.

2) *Jewish services* evolved largely from the initiative of the Hadassah Medical Organization, supported by American Jewry. This organization had come to the rescue of the Jewish population of Palestine immediately after the ravages due to epidemics and malnutrition caused by World War I. In the 1920ies it had managed 5 hospitals, many urban and rural clinics, anti-malaria and anti-trachoma services, and prophylactic services for mothers, children and school pupils. Gradually the Hadassah Medical Organization devolved most of its services to the Tel Aviv municipality and other local bodies. It was able to concentrate more and more on research and teaching activities, which later brought to the establishment of the Hadassah-University Medical Center in Jerusalem, and the opening of the University Schools of Medicine, Dentistry and Nursing.

At the same time there was a considerable growth of mutual health insurance societies. Each society — generally indicated by the name of *Kuppath Holim* (Sick Fund) — received an annual contribution from its members and paid to them and to their families for every kind of medical and nursing care, both domiciliary and hospital, and eventually provided financial help during the illness.

The General Sick Fund connected with the Jewish Labor Federation (the *Histadrut*) was the largest mutual society. The population insured by this fund included a very substantial part of the Jewish population of Palestine. At the beginning, the fund largely utilized services provided by other agencies, but in the course of time it built a large network of hospitals, clinics, maternity and infant welfare centers, etc. Other funds were established for persons who for political or other reasons were not members of the General Sick Fund.

Other hospitals, clinics and various health services were maintained by the Tel Aviv municipality and by benevolent Jewish societies.

TABLE 13.2
DEVELOPMENT OF HOSPITALIZATION (1921-44)

	1921	1925	1930	1935	1940	1944
Number of beds	1,456	1,838	2,119	2,620	3,134	3,280
Number of beds per 1000 population	1.96	2.15	2.14	2.07	2.05	1.91
Admissions to hospitals	22,605	30,328	35,156	51,425	64,418	70,574
Daily number of patients in hospital	847	1,142	1,345	1,880	2,249	2,504
Percentage bed occupancy	58.2	62.1	63.5	71.7	71.8	76.3
Estimated length of stay in hospital (days)	13.7	13.7	14.0	13.3	12.7	12.9
Admissions per 1000 of population						
Moslems	15.7	11.7	15.0	21.6	24.1	23.2
Jews	119.4	125.2	118.8	75.3	72.3	72.9
Christians	52.8	59.3	54.1	65.8	71.8	59.6
Total population (incl. "Others")	30.5	35.4	35.5	40.6	42.2	41.1

TABLE 13.3
HOSPITALIZATION (1948-75)

	1948	1950	1955	1960	1965	1970	1970 with institutions for the mentally retarded	1975 without institutions for the mentally retarded
Number of hospitals	66	83	100	133	135	160	130	129
Number of beds	4,626	7,627	12,218	15,613	18,382	23,727	22,045	23,438
Number of beds per 1000 population								
General	3.2	3.4	3.2	3.1	3.1	3.2	3.3	3.3
Others	2.4	2.2	3.7	4.2	4.0	4.7	3.6	3.5
Total	5.6	5.6	6.9	7.3	7.1	7.9	6.9	6.8
Admissions to hospitals		117,670	169,324	261,745	319,500	402,900		491,000
Percentage of bed occupancy		88.7	90.4	96.7	97.4	96.9		92.7
Average length of stay in hospital (days)		19.3	23.5	20.9	19.9	20.6		16.1
Average length of stay in general hospital (days)		12.0	10.8	9.3	8.9	8.9		7.6
Admissions per 1000 of population		92.9	96.7	123.6	117.2	129.2	129.0	136.4
Percentages of births in hospitals: Jews		94.8	95.9	99.4	99.9	100.0		100.0
Non-Jews				54.5	80.6	91.2		97.0
Percentages of deaths in hospitals: Jews under 1 year of age		87.3	83.5	88.6	91.3	91.8		90.4
other ages		51.3	48.1	59.9	63.2	67.1		70.5
Non-Jews under 1 year of age				46.1	54.0	67.7		66.9
other ages				28.5	34.9	35.5		37.3

3) *Statehood period.* In the State of Israel the Government has taken direct responsibility in many additional fields of health policy; it has largely extended its network of hospitals and clinics; developed maternity and child health centers, and services of mental health, chronic diseases and rehabilitation, etc.

Sick Insurance Funds continued to develop. With the opening of the former General Federation of Jewish Labor (the *Histadrut*) also the Non-Jewish workers, the General Sick Fund started to provide services also to Moslem, Christian and Druze workers' populations. In the meantime other funds continued to develop too, as shown by Table 13.1. Ninety-three percent of the population of Israel is insured in the Sick Funds. For many years, programs are discussed aiming to transform this mutual health insurance into a State health insurance. However such a step is connected with rather difficult political problems.

TABLE 13.1
ACTIVITIES OF SICK BENEFIT FUNDS (1949-1975)

	Population insured	Insured per 100 of the population of Israel	Percentages of insured		Yearly average of visits of insured person	
			By General Sick Fund	Other Funds	in clinics or physicians' surgery	at home
1949	570,000	53.8	83.3	16.7	8.5	1.1
1955	1,218,000	69.6	86.2	13.8	8.6	0.9
1960	1,706,000	80.6	84.4	12.6	8.7	0.7
1965	2,288,000	89.3	81.9	18.1	8.9	0.6
1970	2,653,000	89.2	78.7	21.3	9.1	0.5
1975	3,221,000	93.1	75.0	25.0	9.4	0.5

13.3 HOSPITALS AND CLINICS AND THEIR UTILIZATION BY THE POPULATION

Tables 13.2 and 13.3 show the developments which occurred in the number of hospital beds respectively in Mandatory Palestine (1921-1944) and in Israel (1948-1975).

The absolute number of beds increased largely (from less than 1,500 in 1921 to over 23,000 in 1975); for the Statehood period it is seen from Table 13.3 that this increase depended upon two factors: the growth of general beds in proportion to population growth and considerable extension of other types of hospital beds. Table 13.4B shows that there has been a large shifting toward beds for mental and chronic diseases. Table 13.4A shows that hospitalization is provided in Israel, by many agencies and in an increasing proportion by Government (general and local) and by the Workers' Sick Fund.

TABLE 13.4
HOSPITALS BY OWNERSHIP AND TYPE OF BEDS (1944-75)

A) Percentage of hospital beds by ownership								
Year	Government	Local Authorities	General Workers Sick Fund	American Jewish institutions	Missions	Other non-profit hospitals	Private hospitals	Total
Palestine 1944	30.3	10.9	7.8	9.2	24.5	7.2	10.2	100.0
Israel 1948	14.9	9.7	14.0	9.3	5.8	16.7	29.6	100.0
1960	37.0	5.1	16.9	12.2	2.8	4.3	21.7	100.0
1975	43.1		19.0	7.9	2.4	6.1	21.6	100.0

B) Percentage of hospital beds by type

Year	General	Tuberculosis	Mental diseases and mentally retarded	Chronic diseases	Rehabilitation	Total
1948	57.9	13.5	25.9		2.7	100.0
1960	42.8	3.8	40.1	11.3	1.9	100.0
1975	48.9	0.4	35.0	13.7	2.1	100.0

The average length of stay in hospitals did not change much within each of the two periods covered by Tables 13.2 and 13.3; on the other hand there has been a very large increase in bed occupancy and in the rate of admission. Actually the rate of admission per 1000 of population has increased from 31 in 1921 to 136 in 1975. This is certainly not the result of increasing morbidity but of increased propensity to utilize available health services. This seems to be one of the key factors in explaining the impressive progress in the health conditions of the country and deserves further elucidation. For this purpose, Tables 13.5-13.7 are added here.

TABLE 13.5
HOSPITALIZATION IN 1943¹

	Moslems	Jews	Christians
Patients hospitalized — per 1000 population	25.3	58.1	51.2
— per 1000 urban population	37.2	56.4	53.5
— per 1000 rural population	19.0	60.0	32.7
Maternity cases hospitalized per 1000 confinements	1.7	86.0	21.9
Percentage of deaths in hospitals	6.1	48.1	15.0
Number of males hospitalized per 100 females hospitalized:			
— under one year of age	340	95	209
— all ages	175	78	146

¹ From a special survey of hospitals carried out in 1943. See *General Monthly Bulletin of Current Statistics of Palestine*. Vol. 9, No. 9, September 1944.

TABLE 13.6
ATTENDANCE TO OUTPATIENTS CLINICS (1922-1944)

	1922	1925	1930	1935	1940	1944
New patients per 1000 population:						
Moslems	178	155	218	165	270	244
Jews	1,528	1,610	1,494	1,509	1,520	1,442
Christians	630	431	517	502	424	406
Total population	375	530	465	591	655	620
Malaria	27	9	12	4	3	4
Eye diseases	85	90	78	94	104	96
Average number of attendances per 1 new case	3.2	3.4	3.0	2.9	3.2	2.8

TABLE 13.7
DIVISION OF PATIENTS BY TYPES OF INSTITUTIONS (1944)

	Per 100 patients admitted to hospitals			Per 100 outpatients treated in clinics		
	Government	Jewish institutions	Non-Jewish institutions	Government	Jewish institutions	Non-Jewish institutions
Jewish patients	8.6	69.7	21.6	1.6	97.0	1.4
Non-Jewish patients	53.5	2.4	44.1	54.7	5.2	40.1
Total patients	29.7	38.2	32.1	13.0	77.3	9.7

It is seen from the tables that in the Mandatory period a strong differentiation in the propensity to utilize hospitals and clinics existed between the various population groups.

In the 1920ies and early 1930ies hospitalization rates were very low among the Moslems (Table 13.2). Some increase appears only in the 1930ies and mainly in the 1940ies. Table 13.6 shows a similar picture for attendance at outpatient clinics. Table 13.5 shows that hospitalization was much lower among Moslem villagers than for Moslem town dwellers: the difficulty of travel and lower average cultural level easily explain this difference.

The fact that boys went to hospital much more often than girls, men more than women and that less than 2% of deliveries were hospitalized also indicates a still early stage of utilization of public health services (Table 13.5).

Jews had since the beginning of the Mandatory period a strong tendency to utilize both hospitals (Tables 13.2) and outpatient clinics (Table 13.6). Among Jews, hospitalization was found to be higher in the rural population than in the urban population (Table 13.5); this was largely connected with the fact that every Jewish rural place was under health supervision of the Sick Funds, and cases which would not be treated locally were sent to hospitals.

Attendance at hospitals and clinics of the Christian population was intermediate between that found among Moslems and Jews.

Table 13.7 shows that in the Mandatory period the Jews utilized mainly their own services. Other population groups made largely use of Government and Missionary services.

TABLE 13.8
HOSPITALIZATION BY SEX, AGE AND ETHNIC-RELIGIOUS OR ORIGIN GROUP (1972). PERSONS
HOSPITALIZED PER 1000 IN THE CORRESPONDING POPULATION.

Ages	Jews - born in					Non Jews	Total population
	Israel	Asia	Africa	Europe and America	Total		
Males aged							
0	327.1	x	x	x	330.5	374.0	332.9
1-4	114.6	x	x	118.0	115.2	88.4	105.6
5-14	60.4	57.2	43.5	100.0	61.7	47.4	56.6
15-24	56.5	48.1	49.2	58.1	55.6	57.9	54.3
25-44	58.5	56.0	64.6	69.1	62.6	73.1	62.0
45-64	127.4	114.6	128.1	141.5	142.4	150.0	140.0
65-74	326.6	210.4	205.6	279.5	262.5	198.5	254.1
75 and over	342.0	264.2	210.2	338.2	312.8	192.5	293.9
All ages	88.8	89.3	80.0	145.5	102.7	87.7	98.2
Females (excl. maternity) aged							
0	221.2	x	x	x	223.1	309.6	231.5
1-4	79.5	x	x	54.8	80.2	59.4	73.0
5-14	44.3	51.4	38.5	40.6	44.4	31.5	40.4
15-24	72.5	101.9	96.9	94.6	82.6	83.7	80.3
25-44	128.9	137.7	143.4	132.2	135.9	111.2	129.6
45-64	123.1	110.8	113.8	139.1	129.7	103.9	125.0
65-74	255.1	164.6	170.4	229.8	214.2	185.4	207.2
75 and over	146.3	193.3	170.0	267.7	239.9	75.6	221.6
All ages	83.2	126.3	119.0	145.9	110.7	83.5	104.5

Table 13.8 shows hospitalization rates by sex and age for various population groups in 1972. It is seen from this table that differentials in hospitalization between Jews and Non-Jews and between Jews of different origins have practically disappeared. Hospitalization rates are very similar for the various groups: infant hospitalization appears to be even larger for Non-Jews than for Jews. Only at old age do Non-Jews have a lower propensity to hospitalization.

Also with regard to hospitalization of maternity cases the former differentials are disappearing. In 1975 97% of Non-Jewish maternity cases were hospitalized (Table 13.3) as compared to 1.7% among Moslems in 1943 (Table 13.5). Comparison of Table 13.5 to Table 13.3 reveals also a basic change in hospitalization of Non-Jewish terminal cases between 1943 and 1975.

13.4 PREVENTIVE MEDICAL SERVICES

Preventive medical services, largely developed in the Mandatory period by the Hadassah Medical Organization and other Jewish institutions, served the majority of the Jewish population; those of the Government served a limited part of the Arab population. In the State of Israel they have developed largely among all sectors of the population.

Table 13.8 shows that in 1973 96.5% of the new born babies were under the control of the network of mother and child health centers which are spread throughout all towns and a large proportion of rural settlements. Also the big majority of school children are under medical supervision.

TABLE 13.9
PREVENTIVE SERVICES: MOTHER AND CHILD HEALTH CENTERS (1950-1973)

Year	Centers operating	Average Number of persons under supervision		Per 100 births in the year		Percentage of children vaccinated ¹	
		Pregnant women	Infants and children	Pregnant women admitted	Infants	1st year of life	2nd year of life
1950		7,750	41,140	38.0	64.8		
1955		14,786	88,651	54.5	76.0		
1960	589	16,575	154,945	76.1	86.9		
1965	644	22,238	220,182	67.2	90.1	83	74
1970	707	28,949	275,306	70.2	89.6	86	81
1973	773	34,886	334,306	73.3	96.5	87	79

¹ Including East Jerusalem and Bedouin children. Vaccinations are against tuberculosis (BCG); smallpox; tetanus; diphtheria; pertussis; measles, and poliomyelitis.

13.5

THE GROWTH OF MEDICAL PERSONNEL

Another important determinant of the transformation of health conditions and health services is the enormous growth in the numbers of physicians, dentists etc. This is shown by Tables 13.10 for the Mandatory period and 13.11 for 1948–1975.¹

A) *Mandatory period.* It is known that the number of physicians before the first world war was very small (see also Table 13.10A).

The situation changed completely during the Mandatory period, due to the immigration of Jewish physicians, which was particularly large in the 1930ies: the number of Jewish physicians grew from 109 in 1921, to 392 in 1930, and 1,795 in 1937. The number of Non-Jewish physicians increased too, especially among the Christians. To evaluate the effects of these developments in terms of services to the population, Table 13.10B gives two limiting calculations.

TABLE 13.10

PHYSICIANS, DENTISTS, PHARMACIST AND MIDWIVES (1912–1946)¹

A) Absolute Numbers

Year	Physicians				Dentists				Phar- macists	Mid- wives
	Jewish	Christians	Moslem	Total	Jewish	Christians	Moslem	Total	Total	Total
1912	35									
1921	109	119	21	249				43	99	51
1925	361	226		587	(2)	(2)	(2)	171	168	183
1930	392	159		649*				210	180	332
1934	1,207	187		1,493*				411	318	389
1937	1,795	232		2,027	604 ³	27 ³	10 ³	641 ³	393	513
1942	2,199	256		2,271*	662	48		710	476	474
1946	2,386	187	104	2,677	778	49	15	842	496	507 ⁴

¹ Data taken from the papers by R.Bachi quoted above. Starred figures indicate that information was obtained from different sources, which do not fit exactly between them.

² Out of 202 licensed dentists in 1928, 47 were indicated as Palestinians. This number includes Christians, Moslems and locally-born Jews.

³ 1938.

⁴ 1944.

¹ The data for the Mandatory period are taken from the following: R. Bachi and S. Grossman, *Statistics on Jewish Physicians in Palestine*. Jerusalem. Central Bureau for Medical Statistics, 1948 (Hebrew); R. Bachi and S. Grossman, *Statistics on Jewish dentists in Palestine*. Jerusalem. Central Bureau for Medical Statistics, 1948 (Hebrew).

TABLE 13.10

B) Rate of physicians and dentists per 10,000 population¹

Years	Physicians			Dentists		
	Jewish physicians per 10,000 Jewish population	Non-Jewish physicians per 10,000 Non-Jewish population	All physicians per 10,000 population	Jewish dentists per 10,000 Jewish population	Non-Jewish dentists per 10,000 Non-Jewish population	All dentists per 10,000 population
1912	4.2					
1922-24	23.6	3.0	5.7	10.6	0.1	1.5
1928-30	24.8	2.1	7.2	12.2	0.2	2.3
1934-36	41.9	2.2	15.7	13.5	0.4	4.0
1937-39	45.9	2.5	16.1	14.5	0.4	4.7
1943-46	40.1 ²	2.2 ³	14.8	12.9	0.4	4.5

¹ Rates or evaluations taken from the papers by R. Bachi quoted above.² 1944-46.³ 1946.

a) Supposing that each population group used only its own physicians, in 1937-39 the Jewish population had 46 physicians per 10,000 population and the Non-Jewish had 2.5;

b) supposing that services were given independently of ethnic-religious division, the entire population had 16 physicians per 10,000. This can be compared to the following rates around 1940. Among the countries with highest recorded rates of physicians per 10,000 population: Switzerland 17.0; Hungary 14.2; U.S.A. 12.9; United Kingdom 10.6. Among the countries in the Middle East: Egypt 2.2; Iraq 1.7; Trans-Jordan 0.9; Turkey 0.8; Saudi Arabia 0.1.

Table 13.10 shows that an enormous increase occurred also in the number of dentists, due to Jewish immigration. Toward the end of the Mandate the rates of dentists per 10,000 population were: 0.4 in the Non-Jewish population; 12.9 in the Jewish population; 4.5 in the entire population.

B) *Statehood period.* Table 13.11 shows that the number of physicians, dentists and other licensed personnel in the medical professions continued to grow, and in the last two decades it grew more than proportionally to the population, so that Israel remained one of the countries with higher rates of medical professions in the world.

This development was due both to continued immigration of people in medical professions and to the rapid development of University Schools of Medicine and of Dentistry in Israel.

TABLE 13.11

PHYSICIANS, DENTISTS AND OTHER LICENSED
PERSONNEL IN PRINCIPAL MEDICAL PROFESSIONS (1952-1974)

	1952	1955	1960	1965	1970	1974
Physicians	3,717	3,969	5,225	6,075	7,281	10,066
Dental surgeons	908	937	1,123	1,178	1,444	1,994
Dental practitioners		403	552	599	699	694
Pharmacists		879	1,175	1,479	1,705	2,173
Pharmacists' assistants		86	184	510	639	1,005
Qualified midwives		233	292	423	614	714

Rates per 10,000 population

Physicians	23.1	22.7	24.7	23.7	24.5	29.8
Dental surgeons and practitioners		7.7	7.9	6.9	7.2	8.0
Pharmacists and pharmasists' assistants		5.5	6.4	7.8	7.9	9.4

13.6

THE CONTROL OF EPIDEMIC DISEASES

Recording of infectious disease was compulsory in Mandatory Palestine and it is compulsory in Israel. A large volume of statistical material has been accumulated on this topic during half a century. However the analysis of this material is very difficult, owing to the fact that (mainly during the Mandatory period) the coverage of notification varied enormously in the course of time and between the various population groups: patients belonging to groups with low propensity to use hospitals or clinics or to attend private physicians had much lower probability to be notified to health authorities.

In the following, we shall discuss only a few epidemic diseases which were of particular importance.

Typhoid fever was endemic in Palestine and had from time to time sharp epidemic outbreaks. The average yearly number of cases notified per 10,000 of Jewish population¹ between 1925 and 1942 was 228 with a percentage of fatality of 4.3 per 100 notified cases. Morbidity was found to be larger among population classes with poorer economic and hygienic standards.²

¹ for other population groups, notification was extremely incomplete. Also the rate for the Jews is underestimated.

² I.J. Kligler and R. Bachi, "An analysis of endemicity and epidemicity of typhoid fever in Palestine". *Acta Medica Orientalia*, August 1945, vol. 4, No. 8, pp. 243-61

New immigrants who came generally from environments without that disease and had a high risk of being attacked by it, were vaccinated. This kept their morbidity low in the first years after immigration. In Israel the average yearly number of cases notified per 10,000 population decreased to 5.6 in 1949–52 and 0.5 in 1970–75, due, among others, to very energetic control measures.¹

Dysentery and other infectious intestinal diseases were very frequent in Mandatory Palestine. This may be connected to the fact that, despite progress, sanitation continued to be unsatisfactory in respect to garbage disposal, sewerage, purification of water, infestation of the country with flies, handling of food. In Israel much progress was accomplished, but both bacterial and amebic dysentery are still widespread: in 1970–75 the probably incomplete yearly number of notifications of bacillary dysentery was 12.8 per 10,000 population.

Malaria was considered still at the beginning of the Mandatory period "the principal danger to the health of the people and the gravest obstacle to the development of the country"²: new or recurrent attacks by the disease debilitated large numbers of people and fatality was high. Extensive swamp drainage and other energetic measures reduced it largely. This can be seen through the following percentages.

Locality	Percentage of school-children with enlarged spleens			
	1919	1925	1935	1944
Safad	68.7		1.1	0.2
Jerusalem	44.3		1.3	1.5
All towns of Palestine		5.3	1.7	0.8
Villages		12.0	7.4	4.3

Regions on which Jewish agriculture was initiated during the Mandatory period had at the beginning very high spleen rates (Huleh 1940: 20%; Beisan 1937: 38%; Emek Hefer 1932: 70%). In 1946 the percentages were reduced almost to nil.

However, at the beginning of the Statehood, malaria was still regarded as a danger, despite the strict supervision of water sources, use of D.D.T., and strict control of parasite-carriers, as mosquitoes penetrated from neighboring countries where the disease was widespread, and new immigrants brought it from infested countries. In 1949 the (incomplete) number of cases reported per 10,000 population was 10.3; in 1950 it was 7.1; it fell to 0.5 in 1955; and to 0.1 in 1970–75.

¹ M. Prywes (ed.) *Medical and biologic research in Israel*. Jerusalem, The Hebrew University and Hadassah, 1960, p. 84.

² See *A Survey of Palestine* op. cit. vol. 2, p. 699.

Trachoma (and other infectious eye diseases) were at the beginning of the Mandate very widespread. The Government fought it mainly through curative service (see data on outpatients' clinics in Table 13.6). Some indirect knowledge on reduction of trachoma among the Arab population may be obtained by comparing the percentage of children infected by trachoma among those annually visited in Government schools:

	1921	1925	1930	1935	1939	1944
Town schools	68	57	40	50	37	40
Village schools	75	78	68	62	58	39

Among the Jews trachoma was found in the early years of the Mandatory period mainly in the poorer and less-educated classes, and particularly among people of Asian-African origin and of the very orthodox town districts. Besides curative treatment also wide preventive and educational work was carried out. Among children in the schools supervised by Hadassah,¹ which included a considerable proportion of underprivileged classes, the percentage of children with trachoma changed as follows: 1918–19: 34; 1922–25: 14; 1925–26: 10; 1930–31: 7; 1935–36: 4; 1943: 2.

Tuberculosis constituted in Mandatory Palestine a very serious health problem,² fought among the Jews by the Anti-Tuberculosis League, but largely neglected in other population groups. Among new immigrants of 1948–51 about 20,000 cases of tuberculosis including 4,000 active cases were discovered.³ The general morbidity rate among the population largely increased.

However the situation has rapidly improved later. Screening of mass immigrants on arrival enabled the authorities to hospitalize the infected individuals. Since 1951 an extensive BCG vaccination was implemented. New therapy methods have largely reduced the dangers involved in the disease.

The number of new active tuberculosis cases per 10,000 population fell from 10.7 in 1952–53 to 5.4 in 1956, 2.9 in 1965 and 1.4 in 1975.

Table 13.4 shows that the percentage of hospital beds which were used for tuberculosis has decreased from 13.5 in 1948, 3.8 in 1960 and 0.4 in 1975.

Measles was in the Mandatory period, and still is, one of the important infectious children's disease, with epidemic outbreaks from time to time. In the past decades its average incidence has decreased. Among the Jews, the lethality of this disease was low already in the Mandatory period. Among the Moslems measles recurred generally in 3-year cycles, and often complicated by pneumonia took in the Mandatory period a high toll of children's lives.

¹ Hadassah Medical Organization, *Twenty years of Medical Service to Palestine 1918–1938*. Jerusalem, 1939.

² In the Jewish population, Yemenites were found particularly susceptible to this disease. Presumably Yemenite Jews have not inherited the particular resistance to this disease, which is typical for many other Jewish populations.

³ A large incidence of tuberculosis was found among people who immigrated from Europe after the Holocaust. See M. Prywes, *op. cit.*, p. 85.

13.7 THE REDUCTION OF MORTALITY IN THE LAST HALF CENTURY

In order to give a general overview on the evolution of mortality in the last half century, the following tables and graphs are presented.

Table 13.12 shows crude death rates (as compared to birth-rates), from 1923 to 1975 for Jews, Moslems and Christians and for the entire population of Mandatory Palestine and Israel. Table 13.13 shows expectation of life at birth, for various periods between 1926 and 1975. Graphs 13.1 and 13.2 show the evolution of death rates as compared to that of birth rates respectively for Moslems and Jews. Graph 13.3 shows the evolution in expectation of life at birth.

In perusing mortality data, their quality should be considered. This problem is discussed in detail in Appendices 6.4, 7.1 and 7.3. The main conclusions reached there are that:

a) coverage of Jewish deaths was probably already fair a few years after the starting of the vital statistics system in Palestine (1922) and became good rather early. Also quality of death statistics is generally speaking satisfactory.

b) Coverage of Moslem death statistics in Mandatory Palestine was less good. However it is presumably sufficient to give an acceptable basis for evaluating the order of magnitude of mortality, with the following exceptions: (i) the first year or years after the introduction of the registration; (ii) the years 1943–1947 in which many deaths were concealed. This was due to the fact that village heads, who were responsible for death reporting were also made responsible for distribution of the food rations and had an interest in inflating the number of inhabitants; (iii) the years 1936–38 in which, due to the disturbances, vital reporting was incomplete.

In the Appendices corrections have been introduced to death statistics of the Mandatory Government for re-evaluating the population. However, here we use the uncorrected official rates: years (i) and (ii) are eliminated from the Tables 13.12 and 13.13, while years (iii) are starred. A glance at the graphs and the tables is sufficient for grasping the following points.

1) The expectation of life of the Jews (Graph 13.3 line 1) is higher than the average of the "more developed" world population (line 3)¹

However in the beginning, the advantage of the Jews was very large and the increase in their life expectation was very steep. Since the 1960ies the Jews have reached a plateau of about 72: extrapolation prepared by the U.N. (line 3) suggests that the more developed populations will reach too, although later, an analogous plateau. Therefore, barring unexpected changes of trends, a convergence of the Jewish mortality with that of more developed countries is in sight.

2) Line 2 of Graph 13.2 shows in a similar way that the Jews had made much progress in reducing their mortality already in the first years of the Mandatory period, and continued to reduce it during this period at a proportionally great speed. In 1945–47 the crude rate was 6.4 per 1000 as compared to 13.7 in 1923–24.

¹ *The population debate: dimensions and perspectives*. New York, U.N. 1975, p. 193.

TABLE 13.12

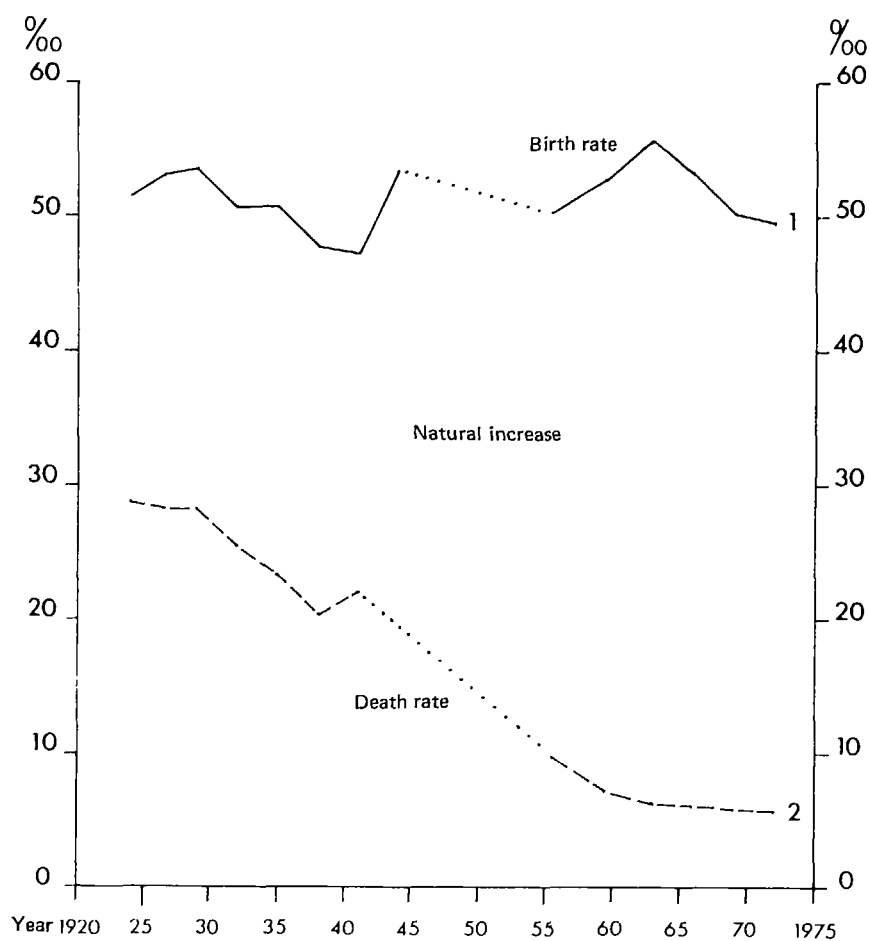
CRUDE RATES OF BIRTHS, DEATHS AND NATURAL INCREASE PER 1000 POPULATION (1923-1975)

Year	Crude Birth Rate				Crude Death Rate				Crude Rate of Natural Increase			
	Jews	Moslems	Christians	Total population	Jews	Moslems	Christians	Total population	Jews	Moslems	Christians	Total population
A) Mandatory Palestine												
1923-24	37.3	51.7	37.9	48.1	13.7	28.6	16.2	25.1	23.6	23.1	21.7	23.0
1925-29	34.3	53.0	38.3	48.3	12.7	29.2	18.5	25.3	21.6	23.8	19.8	23.0
1930-34	30.7	50.5	36.3	45.3	9.5	25.6	15.4	21.5	21.2	24.9	20.9	23.8
1935-39	27.2	49.9	34.2	41.9	8.2	20.9*	12.9*	16.5*	19.0	29.0*	21.3*	25.4*
1940-44 ¹	23.3	47.3	29.3	38.0	7.9	22.0	11.8	16.8	17.4	25.3	17.5	21.1
1945-47	29.1				6.4				22.7			
B) Israel												
1948-49	28.2			32.0	6.7			6.9	21.5			25.1
1950-54	31.0		34.3	27.9	6.5	8.8	7.3	6.2	24.5	42.2	27.0	21.7
1955-59	25.7	51.0		25.4	5.9	6.8	6.9	6.0	19.8	16.6	27.9	19.4
1960-64	22.5	55.1	34.8	25.4	5.9	6.2	6.1	6.6	15.8	45.9	24.9	18.7
1965-69	22.5	52.1	31.0	25.3	6.7	6.2	7.1	7.1	17.1	43.8	19.1	20.4
1970-72	24.4	50.0	26.2	27.5	7.3	5.4	6.9	7.1	17.1	42.5	20.2	20.3
1973-75	24.5	47.9	27.1	27.4	7.4							

¹ For Moslems, Christians and total population 1940-1942.

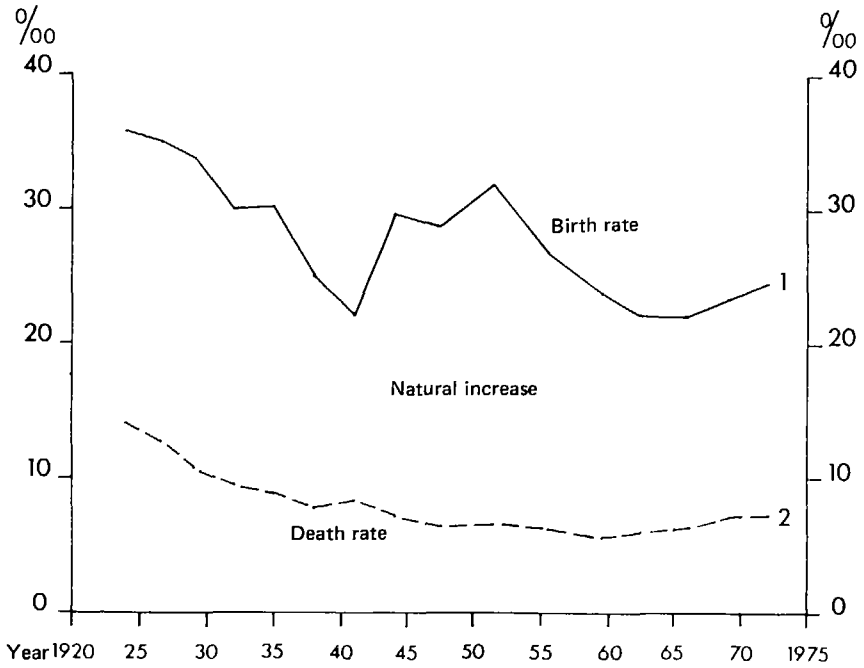
Graph 13.1

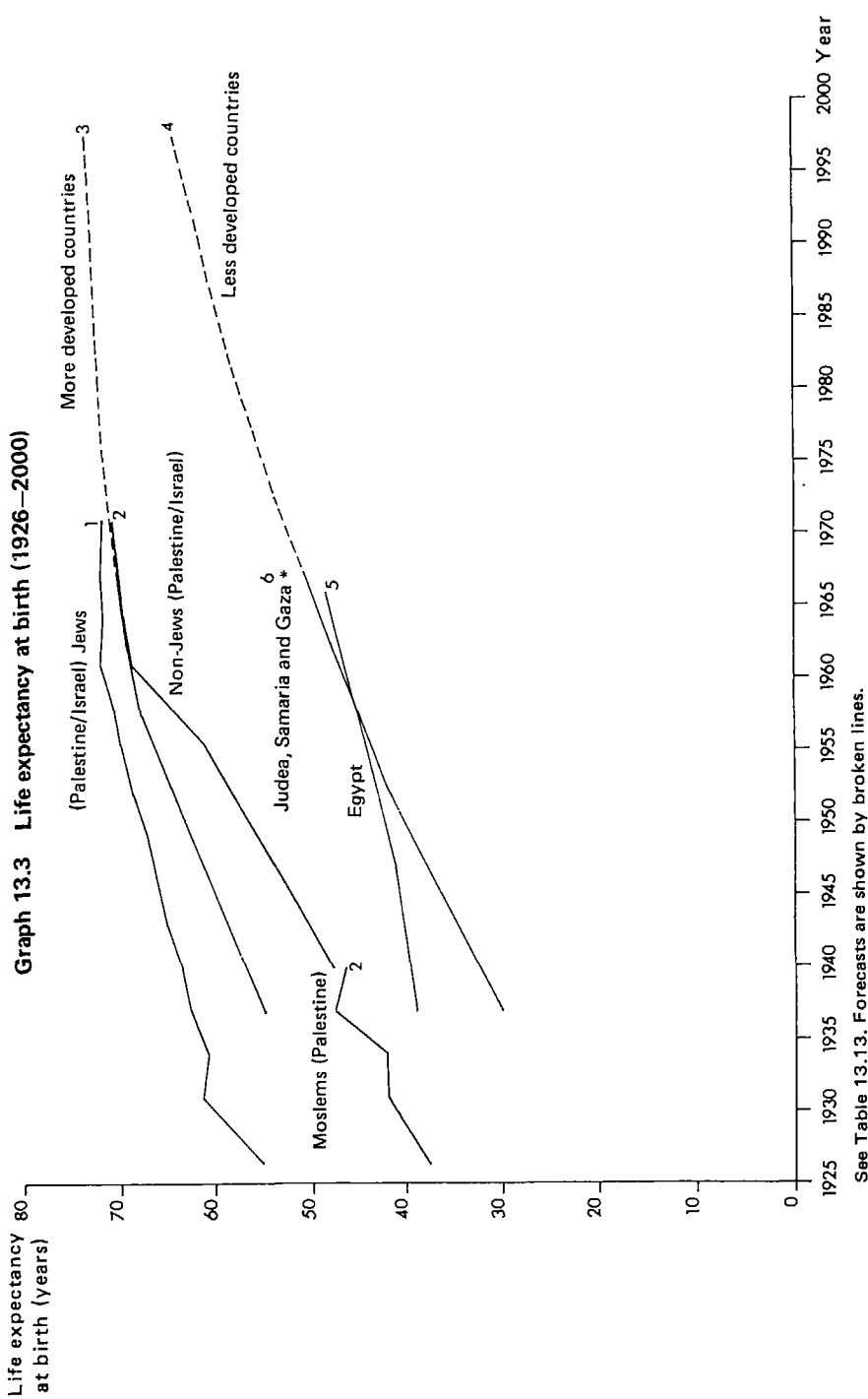
Birth and death rates among the Moslems in
Mandatory Palestine and Israel (1923–1973)



Graph 13.2

**Birth and death rates among the Jews in
Mandatory Palestine and Israel (1923–1973)**





However the rate of 6.4 was inconsistent with length of life in the same period and was largely affected by favorable age structure.¹ In the first period of Statehood the crude rate increased slightly, for the reasons explained in Section 13.1. Later the decrease started again and the rate reached the record low level of 5.5 per 1000 in 1960. However since then it has increased, reaching 7.4 per 1000 in 1973–75. This is basically not due to a worsening of age-specific mortality, but to progressive ageing of the Jewish population.

3) The length of life of the Moslems (line 2 in Graph 13.3) in 1926–27 was of the order of magnitude of 37.5 or almost 18 years less than that of the Jews. However this level indicated already some progress. It may be recalled for example, that in a very tentative way a rough order of magnitude of expectation of life of 24.5 was mentioned for a group of Palestine Bedouins in the 18th century (Section 3.6) and that for the 19th century Moslem population a level of some 30.5 was suggested (Section 4.5). In Egypt (line 6) a level not very dissimilar from 37.5 was attained some 10 years after 1926–27 and in the average of “less developed” world populations (line 4) this level was presumably reached some 20 years later.

TABLE 13.13
LIFE EXPECTANCY AT BIRTH (1926–1975)

Years	Jews		Christians		Moslems	
	M	F	M	F	M	F
1926–27	54.1	54.7			37.1	37.9
1930–32	59.9	62.7			41.5	42.3
1933–35	59.5	61.8	52.6	54.2	42.0	42.0
1936–38	60.8	64.6			46.7*	48.5*
1939–41	62.3	64.5	57.2	59.4	46.1	46.8
1942–44	64.1	65.9				
1949	65.2	67.9				
1950–54	67.2	70.1			Non-Jews	
1955–59	69.0	71.8				
1960–64	70.6	73.1				
1965–69	70.2	73.4			69.3	71.7
1970–72	70.4	73.5			69.1	72.6
1973–75	70.7	73.6			68.7	72.0

¹ For a discussion of age structure, see Section 14.5.

4), The progress of the Moslems of Mandatory Palestine was very rapid: their expectation of life has grown by 9 years in 13.5 calendar years (between 1926–27 and 1939–41), and their advantage over Egypt has increased. Considering in later periods "Non-Jews" (line 2), the progress between 1939–41 and 1973–75 is very remarkable.¹ They have now an expectation of life of over 70, only slightly lower than that of the Jews. Graph 13.3 suggests that they have passed from the rank of "less developed" to that of "more developed" populations.

5) Crude death rates of the Moslems as given by Table 13.12 show a spectacular decline in mortality from a level of almost 30 per 1000 at the beginning of the Mandatory period to 5.4 per 1000 in 1973–75. The last rate is much smaller than that of the Jews.

However this is to a considerable extent due to the fact that the proportion of aged people is proportionally very small in the Moslem population.

6) In the Mandatory period the Christians had expectation of life intermediate between those of Moslems and of Jews but nearer to the latter. It is likely that a similar development has occurred also in Israel.

13.8

MORTALITY BY SEX AND AGE

Table 13.14 compares mortality rates of the first and last life tables available (Jews: 1926–1927 and 1975; Moslems of Palestine 1926–27 and Non-Jews of Israel 1973–1975).

The rates for Moslems in 1926–27 are very inaccurate due to poor quality of basic material. This applies especially to mortality rates for old people, which were possibly underestimated. Therefore we shall not take in consideration rates for Moslems aged 65 or 70 in 1926–27. The comparison of "Moslems of Palestine" vs. "Non-Jews of Israel" also adds some inaccuracy.

However the changes resulting from the data are so drastic, that on broad lines they can be taken as indicators of the actual facts. It is found that:

- 1) Mortality distributions in 1926–27 were of the U-type, with extremely high child mortality for Moslems and more moderate child mortality for Jews.
- 2) Mortality of children was high in 1926–27 among Moslems not only at ages 0–5 but also at ages 5 to 10.
- 3) Mortality was much higher in 1926–27 for Moslems than for Jews at all ages up to 50.
- 4) Decrease of mortality between 1926–27 and 1975 (or 1973–75) has been substantial for Jews and Moslems at all ages both for males and females.

¹ The last life table calculated by the Mandatory Government for the Moslems in 1942–44 cannot be trusted due to underregistration of deaths. On the other hand life tables in Israel have been calculated only for Non-Jews. In order to link the data for Moslems in Palestine to those of Non-Jews in Israel we have calculated for 1941 both expectation of life of Moslems and Non-Jews (see line 2 in Graph 13.3).

TABLE 13.14

QUINQUENNIAL PROBABILITIES OF DEATH BY SEX AND AGE (1926-1975)

(Persons dying before reaching age x +5 out 1000 persons aged x)

Age	Jews						Moslems					
	Males			Females			Males			Females		
	1926-27	1975	% decrease	1926-27	1975	% decrease	1926-27	Non-Jews 1973-75	% decrease	1926-27	Non-Jews 1973-75	% decrease
0	194	24	-87.8	185	20	-89.2	385	52	-86.5	396	45	-88.6
5	12	2	-83.3	12	2	-83.3	50	4	-92.0	57	3	-94.7
10	12	2	-83.3	5	1	-80.0	29	4	-86.2	27	2	-92.6
15	12	7	-41.7	8	2	-75.0	28	6	-78.6	23	4	-82.6
20	17	9	-47.1	12	2	-83.3	30	8	-73.3	22	4	-81.8
25	20	6	-70.0	28	2	-92.9	51	7	-86.3	45	5	-88.9
30	15	6	-60.0	12	4	-66.7	38	9	-76.3	42	7	-83.3
35	18	9	-50.0	23	5	-78.3	58	14	-75.9	50	7	-86.0
40	32	12	-62.5	22	8	-63.6	49	18	-63.3	36	10	-72.2
45	40	21	-47.5	31	15	-51.6	90	29	-67.8	59	17	-71.2
50	63	34	-46.0	55	26	-52.7	66	40	-39.4	54	28	-48.1
55	94	56	-40.4	62	43	-30.6	85	68	-20.0	61	51	-16.4
60	135	94	-30.4	106	67	-36.8	136	100	-26.5	130	81	-37.7
65	191	147	-23.0	155	113	-27.1	(120)	156	(+30.0)	110	118	(+6.8)
70	280	234	-16.4	225	184	-18.2	(162)	211	(+30.2)	154	192	(+19.8)

- 5) The decreases are especially large: at children's ages; for women in maternity ages.
- 6) Decreases are generally larger for women than for men, both among Jews and among Moslems.
- 7) For men, decreases are larger among Moslems than among Jews.
- 8) Most differentials of mortality between Jews and Non-Jews have today almost disappeared. Important residuals of these differentials remain only among children and young females.

The enormous transformation in mortality by age which took place in the last half a century, together with changes occurred in the age structure of the population, determined a very large transformation in the age distribution of deaths, as shown by Table 13.15. The proportion of children has decreased from 35% to 7% among the Jews and from 67% to 42% among the Moslems; the proportion of aged 45 and over has increased among the Jews from 45% to 85%, among the Moslems from 15% to 45%.

TABLE 13.15
PERCENTAGE DISTRIBUTION OF DEATHS BY AGE (1930-1975)

Population group	Year	Ages					
		0-4	5-14	15-29	30-44	45-59	60 and over
Jews Palestine	1930	34.7	3.3	8.3	8.3	10.3	35.1
	1945	19.9	2.1	4.7	10.1	13.5	49.7
	Israel 1960-62	12.6	1.7	3.2	4.8	17.8	59.9
	1975	6.9	0.8	3.7	3.1	12.0	73.4
Moslems Palestine	1930	67.3	5.0	6.2	6.1	4.9	10.5
	1942	60.1	5.2	5.8	6.0	5.1	17.8
	Israel 1960-62 ¹	42.8	4.5	5.2	4.1	7.3	36.1
	1974	41.6	4.1	5.5	3.9	7.7	37.2
Christians Palestine	1930	49.6	2.9	5.5	5.8	8.1	28.1
	1942	35.2	3.7	5.9	6.2	9.2	39.8
	Israel 1974	11.8	2.0	3.9	5.7	12.0	64.6

¹ Non-Jews

The large variation in age distribution of deaths in the last half century, has been accompanied by a great change in the relative importance of different causes of death. Despite inaccuracy of comparison,¹ an overview of such changes can be obtained from Table 13.16, which shows the distribution of deaths by causes in 18 towns of Palestine in 1930 and in the State of Israel in 1975.

Three groups of causes have decreased very largely their share: infectious diseases, diarrhoea and enteritis, pneumonia and bronchitis. Taken together they have passed from 59% to 8%. These are the causes more sensitive to the improvement in public health, in hygienic conditions, in patients' care and in therapeutic methods.

On the other hand, the proportion of cancers and tumours has increased from about 3% to 18% and that of circulatory and heart diseases from 11% to 46%. These are largely old-age disease. An increase is noted too in relative importance of accidental and violent deaths.

TABLE 13.16
DISTRIBUTION OF DEATHS BY CAUSES (1930–1975)

Causes of death	18 Towns of Palestine 1930	Israel 1975
Enteritis and other diarrhoeal diseases	23.6	1.1
Other infectious diseases	9.3	1.5
Pneumonia and bronchitis	25.7	5.4
Cancers and tumours	2.8	18.3
Heart, cerebrovascular and circulatory diseases	11.2	46.4
Causes of perinatal mortality	8.7	6.5
External causes	4.2	8.2
All other causes	14.5	12.5
Total of specified causes ²	100.0	100.0

¹ For the Mandatory period official statistics show only deaths by causes in towns, as causes indicated by village heads in Arab villages were unreliable. However, also part of diagnoses for urban deaths were presumably rather inaccurate. Moreover the ethnic-religious structure in Palestine and in Israel are different.

² Unspecified causes, symptoms, ill-defined causes (such as "senility") are excluded.

For the Jewish population of Israel detailed rates of mortality by causes are available. A short summary of these rates is given by Table 13.17. Table 13.18 shows rates for selected causes standardized by ages.¹ It is seen from the tables that:

- 1) Whilst crude death rates have increased during 1960–1974, when age structure is kept constant, the mortality does not change.
- 2) Mortality due to infectious diseases has largely decreased.
- 3) Malignant neoplasms have largely increased as a component of crude rate of death. However, when effects of ageing of population are eliminated, their increase appears as very mild.
- 4) Ischaemic heart disease has very largely increased both by considering crude rates and by considering standardized rates. The increase has been large for both sexes. However the mortality due to this disease is much higher for men.
- 5) Cerebrovascular heart disease has also largely increased; however the increase appears to be largely connected with ageing of population.

TABLE 13.17
DEATHS PER 100,000 OF THE JEWISH POPULATION
BY CAUSES (1950–1974)

Causes of death	1950–54	1955–59	1960–64	1965–69	1970–74
Infective and parasitic	66.9	26.3	13.7	8.5	10.4
Malignant neoplasms	85.3	94.6	106.2	118.1	131.4
Heart diseases	137.1	164.7	184.3	216.3	249.1
Cerebrovascular disease	63.5	66.0	67.5	89.1	100.0
Causes of perinatal mortality	54.0	45.9	38.7	36.5	38.8
Other diseases and illdefined conditions	183.4	149.5	140.1	152.0	153.6
All external causes	55.8	46.3	37.7	48.7	52.7
Total	646.0	593.3	588.2	669.1	736.0

¹ The rates are taken from *Causes of death 1974* (Jerusalem, Central Bureau of Statistics, Special Series No. 522). The standardization was carried out, by using the destination of world population, by ages as given by R. Doll, C. Muir, and J. Waterhouse, *Cancer incidence in five continents*. Berlin, Springer Verlag, 1970.

6) External causes have increased as cause of death since the early 1960ies. In 1970–74 the percentage distribution of external causes of death was as follows: due to motor vehicle accidents 33.4; to other accidents 33.8; suicide 12.1; others 20.7.

TABLE 13.18
MORTALITY RATES STANDARDIZED BY SEX, FOR SELECTED CAUSES (JEWS)
RATES PER 100,000 population

Year	Infectious diseases	Malignant neoplasms	Pneumonia	Ischaemic heart disease	Cerebrovascular diseases	External causes	All Causes
M A L E S							
1950–54	49.2	112.0	23.1	149.4	95.2	80.7	894.8
1955–59	22.5	115.3	17.4	187.0	88.2	66.7	804.0
1960–64	15.0	114.0	16.1	187.8	73.2	49.6	740.7
1965–69	11.4	120.8	13.2	221.3	92.6	67.8	789.2
1970–74	9.5	125.6	12.6	247.6	90.8	68.4	787.6
F E M A L E S							
1950–54	39.2	116.4	20.4	71.7	103.1	41.5	747.4
1955–59	15.8	117.9	18.2	101.5	96.3	36.7	670.2
1960–64	10.2	115.0	15.0	108.3	83.3	32.1	624.9
1965–69	8.0	119.3	11.8	127.8	103.0	34.5	636.7
1970–74	6.7	121.9	11.9	166.2	104.6	38.3	651.5

13.10

INFANT AND CHILD MORTALITY

Table 13.19 shows rates of mortality in the first year of life and in the first five years of life, by religion, from 1924 to 1975. Graph 13.4 shows infant mortality by religion.

It is seen that:

1) Among the Jews infant mortality has continuously decreased from 116 per 1000 in 1924–26 to 30 per 1000 in 1946–47. At that time this rate was among the lowest in the world.

2) The mass immigration from Asia and Africa caused a sharp increase in infant mortality which reached 52 per 1000 in 1949. However, in the following years the decreasing trend started again. In the 1970ies a comparatively low rate of 18–19 per 1000 has been reached.

3) Child mortality has had among the Jews a similar development to that of infant mortality but at a somewhat higher level. In recent years the difference between the two rates is small due to the low mortality at ages 1–4; in the past it was much higher.

4) Infant and child mortality of the Moslems had still a very high level in 1927–30: in that period almost 40% of their children died before reaching the age of 5. Children mortality of Non-Jews is reduced today to less than 5%. Triennial oscillations in infant and child mortality in the Mandatory period, shown by Graph 13.4, were largely due to triennial cycles of measles epidemics (Section 13.6).

Graph 13.4 Yearly infant mortality rates (per 1000) by religion (1924–1975).

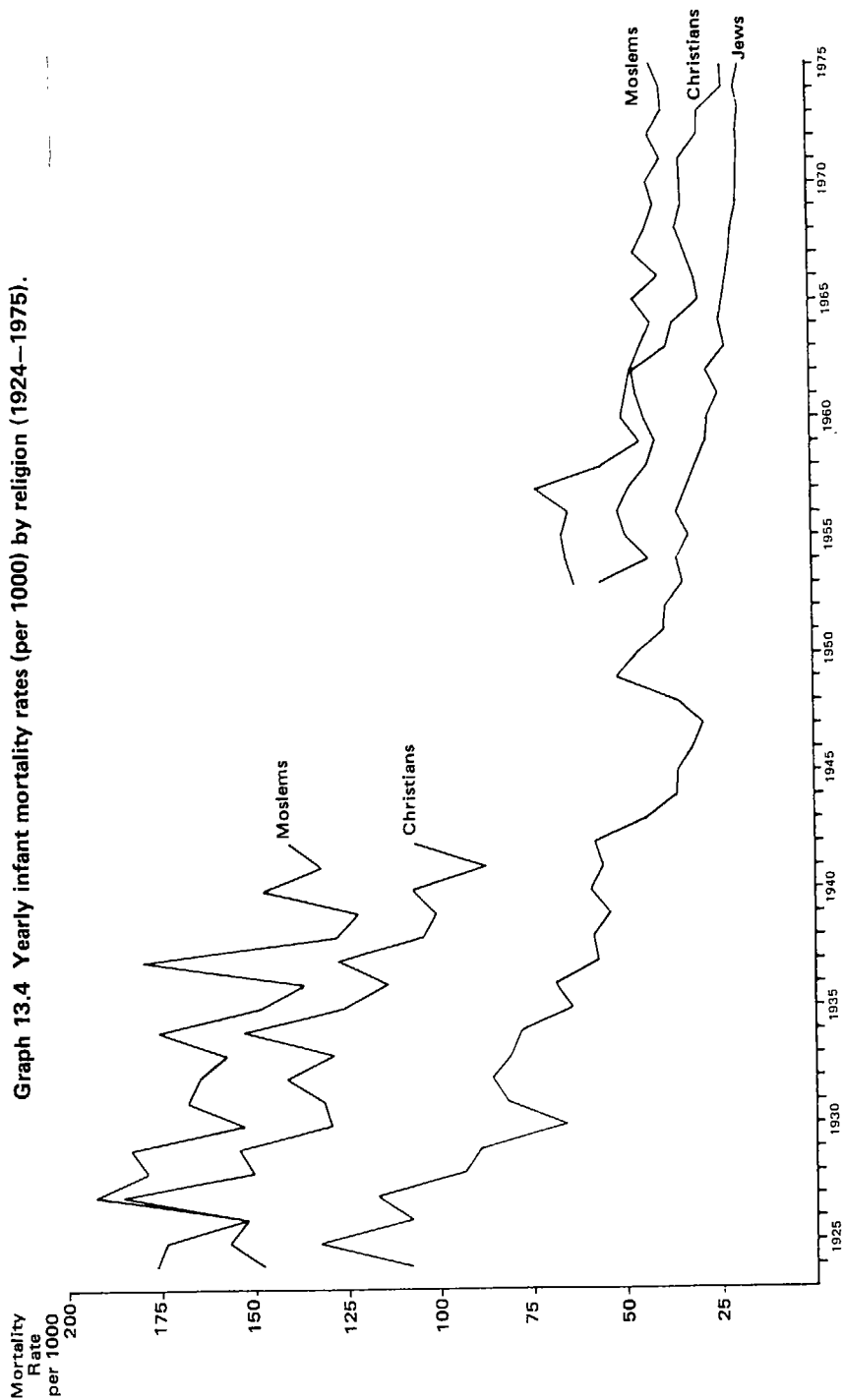


TABLE 13.19
INFANT AND CHILD MORTALITY BY RELIGION (1924-1975)

Years	Infant mortality rates per 1000				Child mortality rates up to age 5 (per 1000)			
	Jews	Moslems	Christians	Total (incl' others)	Jews	Moslems	Christians	Total (incl. others)
Mandatory Palestine 1924-26	116	167	152	160				
1927-30	91	177	155	164	147	393	267	353
1931-33	83	163	134	151	121	351	209	311
1934-36	70	153	131	137	119	314	204	277
1937-39	57	143	111	124	79	275	164	231
1940-42	58	140	100	122	79	303	151	251
1943-45	39				52			
1946-47	30							
Israel 1948	36							
1949	52				69			
1950	46				61			
1951	39			41	51			
1952-53	37	65 ¹	43 ¹	41	48			
1954-56	34	64	52	39	42			
1957-59	31	58	44	35	36			
1960-62	26	49	45	31	31			
1963-65	23	44	35	28	27			
1966-68	21	43	33	26	25	55 ³		
1969-71 ²	19	36	32	24	24	} 48		
1972-73 ²	18	40	29	24	23			
1974-75 ²	19	40	23	23	23	49 ⁴		

¹ 1953

² Since 1970 includes East Jerusalem

³ 1967-69

⁴ 1973-75

13.11

DIFFERENTIALS IN MORTALITY BETWEEN POPULATION SUB-GROUPS

In the preceding sections comparisons were given between the mortality of the main ethnic-religious groups of the population. It appeared from all of them that while in earlier periods the differentials were very large, they have tended to shrink in the course of time. This is mainly due to the fact that mortality evolution had a different timing and pace in the population groups considered: it started earlier and was at the beginning much quicker among the Jews, later among Christians, latest among the Moslems. However in the past decades, the extent of decrease has been extremely strong among the last group. The effects of general improvement in environmental health conditions, the possibility of utilizing the very advanced medical service created in earlier stages by the Jews, the advancement in educational and socio-economic conditions of the Moslems themselves, well explain the recent revolutionary fall in Moslem mortality. Comparison with data on mortality of the Moslem population of Judea, Samaria and Gaza¹ seems to confirm this interpretation.

¹ See Appendix 8.

Analogous developments generally appear when more detailed population sub-groups are studied. Sub-groups in better socio-economic and educational conditions, and having a larger propensity to utilize medical services, are found to have decreased their mortality earlier.

When comparisons between sub-groups' mortality are carried out in intermediate transition periods, the differentials appear large; in later stages they are smaller. However, this interpretation is valid in broad lines only and is mainly connected with the reduction of mortality from infectious diseases and other diseases eliminated by means of better treatment. This does not mean that at the end of mortality decline all sub-groups may be expected to have perfectly equal mortality and equal distribution by causes.

Differentials in mortality between population sub-groups have been studied rather extensively in Israel. As the statistical documentation on this topic is bulky and complex, only a summary of some findings will be given below, with some indication of the sources.¹

A. Differentials in mortality within the Jewish population

1) *Child mortality.* In Mandatory Palestine no official statistics were available on child mortality by origin of the mother.

However, data of Health Welfare Centers of the Hadassah Medical Organization show that while in the 1930ies there was a large difference in infant mortality between children of Asian-African origin and those of European origin, in 1945–46 both groups had strongly decreased their mortality and the gulf between them was much smaller.²

After mass immigration, the differentials between infant mortality of the two groups of children again increased but afterwards rapidly declined. This is shown both 1) by data according to type of settlement, which indicate in the first years after the establishment of the State a very large excess of mortality in localities with large concentrations of new immigrants of Asian-African origin; 2) by a research in which in infant death cards were linked with those of their respective mothers:³

Mortality rates per 1000 infants of mothers born in		
	Asia-Africa	Israel or Europe-America
1952	47.9	28.3
1960–63	27.0	23.7

¹ Differentials between pathology of the Jews and Non-Jews and of various Jewish groups have been the object of a wide literature. For a bibliography, see O. Schmelz and F. Keidan-ski, *Jewish Health Statistics World Bibliography*, Jerusalem, The Hebrew University, 1966.

² *Palestine's Health in Figures*. Compiled by the General Council of the Jewish Community of Palestine, for the information of the United Nations Special Committee on Palestine, Jerusalem, 1947, p. 11.

³ *Late Fetal and Infant Deaths in Israel, 1948–1972*, Jerusalem, Central Bureau of Statistics, Special Series, No. 453.

2) *Adult mortality.* A very detailed research on adult mortality by sex, age, country of origin, length of stay in Israel during 1950–67 has furnished a wealth of information on the evolution and levels of mortality of the various population groups.¹

While the differences in general levels of mortality between the various groups are not large, considerable differentials are found with regard to the propensity for certain groups of diseases.

For example, the Jews of African origin have much higher death rates from vascular lesions of the central nervous system than people of other origins.

The European Jews have higher mortality from malignancies, especially among women. They also have higher mortality from ischaemic heart disease among men. The Asian Jews have comparatively low rates for malignancies and ischaemic heart disease and medium rates for vascular lesions of the central nervous system. The Yemenites, who had very high mortality abroad and in the first decades of the 20th century in Israel have turned now in Israel into a group with an especially low mortality.

Among European-born Jews in Israel a remarkable similarity in mortality patterns was found between the persons who experienced — and survived — the Nazi persecution in Europe and those who immigrated prior the Holocaust. This is an important finding in view of the difficult conditions in which many of the former found themselves at the end of the war (see Section 13.1).

B. Differentials in mortality among the Non-Jewish population

Child mortality rates as those quoted in Table 13.19 were calculated during the Mandatory period for individual towns and for rural areas by sub-districts. From these data it appears that: a) in 1927–29 Moslem child mortality was very high almost everywhere; b) progress was achieved in all localities during the period 1927–41; c) however, the measure of progress varied so that a considerable geographical differentiation in mortality appeared. Possibly many factors were in operation, among which the following were suggested: differences in economic conditions, availability of hospital facilities, work of health welfare centers, degree of contact with the Jewish population.²

From data on child mortality (up to five years) at the census of 1961 it appeared³ that: a) mortality decreased with rising educational level of the mother and father; b) the children of farmers had higher mortality; c) mortality was higher among the Bedouins, intermediate in villages, lower in towns; d) among urban dwellers, those living in towns with a Jewish majority had lesser mortality.

¹ E. Peritz, F. Dreifuss, H.S. Halevi, U.O. Schmelz. *Mortality of Adult Jews in Israel, 1950–1967*, Jerusalem, 1973, Central Bureau of Statistics, Special Series 409.

² See *A Survey of Palestine*, op. cit., pp. 711–715 and R. Bachi and G. Kallner, "The decline of Child Mortality in Palestine," *Acta Medica Orientalia*, Vol. 4, no. 1, January 1945.

³ For an analysis of these data see U.O. Schmelz, "Infant and early childhood mortality among the Non-Jewish population of Palestine and Israel," In *Late Fetal and Infant Deaths in Israel*, op. cit.

In the Mandatory period, higher child mortality for girls than for boys was reported both among Moslems and among Christians. It has been found again in the statistics of Non-Jews in Israel until recent years. Possibly this feature was due to lesser care bestowed on girls. The recent reversals may indicate a change of attitude.

13.12

EFFECTS OF REDUCTION OF MORTALITY ON NATURAL INCREASE

Graphs 13.1 and 13.2 enable us to appreciate the effects of mortality changes over the natural increase of the Moslems and Jews in Mandatory Palestine and in Israel. Table 13.12 gives the same information in numerical form for quinquennial periods, and shows also rates of births, deaths and natural increase for the Christian population and for the entire population of Mandatory Palestine and Israel.

1) *Moslems*. Their birth rate has oscillated in the period under survey around a very high level of about 50 per 1000. At the beginning the death rate was near to 30 per 1000 and natural increase a little over 20. With the rapid decline of the death rate since the 1930ies the natural increase has continuously grown until it reached a record size of 48 per 1000 in 1960–64, which is very high also by international standards. Only in the last few years after that did death rates reach a plateau and birth rates started to decline, some beginnings of decline in natural increase has also appeared.

2) *Jews*. During the Mandatory period the decrease in the death rate was insufficient to compensate for the decline in the birth rate: until the "baby boom" of the 1940ies the natural increase has declined continuously. A similar feature appeared again after the early 1950ies, and until the late 1960ies; since then, the birth rate has been more sustained, but the crude death rate is also slowly increasing. Therefore the natural increase has changed little and has remained in 1970–75 around 17 per 1000; this is by far lower than the natural increase of the Moslems.

3) *Among the Christians* the absolute decrease of birth rate in the past decade has been much stronger than the decrease of the death rate and their natural increase is now nearing that of the Jews.

Effects of natural increase over total population growth, as compared to effects of migratory increase have been examined in Section 9.10.¹

¹ For an analysis of effects of pure forces of fertility and mortality on population growth, independently of effects of age structure, see: R. Bachi, "La population juive de l'Etat d'Israël". *Population*, Vol. 7, No. 2, July–September 1952, pp. 448–500.

CHAPTER 14

ETHNIC AND DEMOGRAPHIC STRUCTURE OF THE POPULATION

14.1 THE ETHNIC-RELIGIOUS STRUCTURE OF THE POPULATION OF ISRAEL

Table 14.1 shows the distribution of the population of Israel according to the four major ethnic-religious groups: Jews, Moslems, Christians, and Druzes (including "Others") at various dates between 1948 and 1975.

The Jews have constituted the large majority of the population since the establishment of the state; at that time they formed 80.6%. Due to the mass immigration of 1948–51 their percentage reached 89.0% in 1951. Between 1951 and 1964 their proportion was subject only to minor fluctuations, but since 1964 it has slowly but constantly declined. In 1967 it was 88.0% and after the inclusion into Israel of East Jerusalem — 85.9%. In 1975 it was 84.7%. This trend is due to the facts 1) that their natural increase is much lower than that of the Non-Jews; 2) their rate of net migratory increase is insufficient to compensate for the lower natural increase.

The proportion of the Moslems has increased from 7.5% in 1951 to 11.8% in 1975 due both to their comparatively strong natural increase and to the inclusion of East Jerusalem into Israel.

The proportion of the Christians has had minor fluctuations around levels of 2.2–2.5%. However it tends slowly to go down due to their declining rates of natural increase.

The proportion of the Druzes and Others has oscillated around 1.0–1.2% with a slow tendency to grow, due to their comparatively strong natural increase.

Within each major ethnic-religious group there are sub-groups. The size and evolution of some of them can be measured statistically. We shall consider at greater length in Section 14.2–14.3 the main sub-groups of the Jewish population. A few words will be added below on the composition of the Christians and "Others".

The Christian population of Israel is formed by a large number of different Churches¹. Their identification through the declaration of Christian denomination made at the censuses by the persons enumerated is not easy and very far from accurate. Despite this, some idea on the distribution by main denominations in 1972 can be derived from Table 14.2, from which it emerges that the

¹On the development of the Christian Churches, see: Saul P. Colbi, *Christianity in the Holy Land. Past and Present*, Tel Aviv, Am Hasefer, 1969. Detailed statistical data are given in the chapter on Religion by the *Report of the 1931 Census of Palestine*, Vol.1, op.cit.

TABLE 14.1

STRUCTURE OF THE POPULATION OF ISRAEL BY ETHNIC-RELIGIOUS GROUPS (1948-75)

(thousands)

End of year	Jews	Moslems	Christians	Druzes and Others	Total	Percentage			Druzes & Others
						Jews	Moslems	Christians	
Not including East Jerusalem									
1948 (15.5)	649.6	(156.0)			805.6	80.6	7.5	2.5	1.0
1951	1,404.4	118.9	39.0	15.5	1,577.8	89.0			
1954	1,526.0	131.8	42.0	18.0	1,717.8	88.8	7.7	2.4	1.0
1957	1,762.8	146.9	45.8	20.5	1,976.0	89.2	7.4	2.3	1.0
1960	1,911.2	166.3	49.6	23.3	2,150.4	88.9	7.7	2.3	1.1
1964	2,239.2	202.3	55.5	28.6	2,525.6	88.7	8.0	2.2	1.1
1967	2,383.6	232.8	59.6	32.0	2,708.0	88.0	8.6	2.2	1.2
Including East Jerusalem									
1967	2,383.6	286.6	70.6	33.1	2,773.9	85.9	10.3	2.5	1.2
1971	2,636.6	343.9	77.3	37.3	3,095.1	85.2	11.1	2.5	1.2
1975	2,959.4	411.4	80.2	42.2	3,493.2	84.7	11.8	2.3	1.2

three main groups are: the Greek Orthodox, Greek Catholics and Roman Catholics (Latins). A reconstruction (not given here) of the evolution of the Christian population both over the territory of Mandatory Palestine and of Israel, from 1922 to 1972 suggests that the percentage of Greek Orthodox per 100 Christians has tended to decline, while that of Catholic (both Greek and Roman) has tended to increase in the course of time. The share of the other churches has largely decreased between 1931 and 1972, which may be due, among other factors, to large emigration of European Christians at the end of the Mandatory period.

Demographic statistics by religions compiled both in Mandatory Palestine and in Israel include besides Jews Moslems and Christians, a category of "Other religions". Detailed analysis of this category in censuses of 1922, 1931, 1961 shows that their great majority are Druzes¹. In the 1961 census among small other groups the following were found: a) Bahais-156; b) Karaites-332; c) Samaritans-158. Probably part of the Karaites did not specify their special denomination and were included among Jews. The 158 Samaritans constituted a group of this population which came to live in the State of Israel. The original group remained in Nablus (according to the 1967 census: 139). Their total number according to the two censuses taken together (297) is possibly somewhat understated. However, it is larger than the numbers found at previous censuses (1922: 163, 1931: 182). Later estimates suggest some further increase. The Samaritans, as remarked in Sections 2.3, 2.6, 3.4, are a very old community, which presumably was quite populous in ancient times, but at the first decades of the 20th century was reduced to a very small size and seemed to be on the verge of extinction².

TABLE 14.2
THE CHRISTIAN POPULATION BY DENOMINATIONS
(Census of 1972)³

Denominations	Catholic or Orthodox			Protestants
	Catholics	Orthodox	Not specified whether Catholic or Orthodox	
Greek	22,018	23,732	14	Baptists — 144
Roman (Latin)	16,907			Anglicans — 127
Maronite	2,992			Lutherans — 124
Armenian	124	792	771	Adventists — 39
Syrian	150	23	31	Church of Scotland and
Coptic	21	61	272	Presbyterian — 6
Rumanian		78		
Ethiopian		50		
Russian		37		
Chaldean	12			
Not specified	935	649		Not specified — 1,158
Total	43,159	25,422	1,088	1,598

Christians, denomination not specified: 864
Grand total: 72,131

¹In 1972 the Druzes were 36,563 out of 36,889 "Druzes and Others".

²For some recent statistical data and bibliography on this community, see: "Samaritans" in *Encyclopaedia Judaica*. Jerusalem. Keter, 1971, vol.14, pp.735-738, 757-758.

³*Population and Housing Census 1972 Series* Jerusalem, Central Bureau of Statistics, Vol.10, p.308.

14.2

THE JEWISH POPULATION BY ORIGINS AND NUMBER OF GENERATIONS IN ISRAEL

Socioeconomic, cultural and demographic conditions differ between the various groups of Jewish communities from which the Jews of Israel originate. The effects of these differences may be expected to be stronger on the immigrants themselves, mainly if they have a short length of stay in Israel. They can be expected to decrease and perhaps to wane if we pass to the generations of the children and grandchildren of the immigrants. We have already seen that many sets of statistics in Israel enable us to study separately people of the "first generation in Israel" (foreign-born) according to their origin and the "second generation" (born in Israel), according to the origin of their father. Table 14.3 shows the proportion of people of first and second generation by origins on the basis of the census of 1972 and adds also a rough estimate of the people of "third generation" by origins¹.

The percentages of Jews belonging to the various generations is thus found to have been as follows in 1972, as compared to other dates:

	Percentages of Jews belonging to				Total
	1st	2nd	3rd	4th and over	
	generation in the country				
1916-18 ²	41.7		58.3		100.0
1931	58.0		42.0		100.0
1948	64.6		35.4		100.0
1951	75.5		24.5		100.0
1961	62.2	32.3		5.5	100.0
1967	57.2	36.0		6.8	100.0
1972	52.6	39.0	6.3	2.1	100.0
1975	49.1	40.6		10.3	100.0

¹People born in Israel to a father born in Israel can be considered to belong to "third or higher generation" in the country. For these people no direct information is available, as no questions are asked in censuses or surveys on place of birth of grandfathers. At the census of 1972, Jews born in Israel to an Israel-born father (third or higher generation in Israel) numbered 225,846: 64.2% out of them were aged 0-14; 20.3% were aged 15-29 and only 15.5% 30 or more. At the same census it was found that households whose head was born in Israel had 146,048 children aged 0-17 divided as follows according to the continent of origin of the father as the head of the household.

	(a) Asia (out- side Israel)	(b) Africa	(c) Europe- America	(d) Israel	Total
Percentage	29,002 19.85	3,776 2.59	76,190 52.16	37,080 25.39	146,048 100.00

Groups (a), (b), (c) belong to third generation in Israel, Group (d) belongs to fourth or higher generations. Taken together they form 64.7% of these generations. We have assumed that all the 225,846 born in Israel to an Israeli-born father are divided by origins according to the above percentages.

² Percentages obtained from the census of the Jewish population taken during World War I (see Appendix 6.12). The percentages do not include Jerusalem.

At the beginning of the Mandatory period a little over 40% were foreign born. The percentage of persons of first generation in the country increased during the Mandatory period. After mass immigration (1948–51) it reached the comparatively enormous proportion of over 75%. Since then, with slowing down of net immigration rates, this percentage has decreased, and today is a little less than 50%. Most of the people born in the country belong to the second generation. Only recently third and higher generations have started having some substantial weight. From the detailed estimates for 1972, it appears that this is due mainly to third generation. Fourth and higher generations account only for 2% of the Jewish population.

The information by continents of origin given in Table 14.3 for 1972 is enlarged by regions of origin by Table 14.4, indicating for 1961–1972 the distribution of first and second generations and for preceding dates the distribution of the first generation.

It is seen that in the course of time far reaching changes have occurred in these distributions. During the Mandatory period 64%–76% of foreign born were Poles, Russians and other Eastern Europeans.¹ In that period also the proportion of people of German, Austro-Hungarian and other Central European origin increased. At the same time the share of Asian-African people decreased, and the proportion of those born in other countries was very small.

In the Statehood period, the proportion of people of all European origins went down and people of Asian-African origin² came to constitute almost half of the foreign-born population.

These changes are, in broad lines, what could be expected as a consequence of immigration streams analyzed in Sections 8.5–8.11. However, by comparing cols. 2 and 8 of Table 14.4 it is seen that also other factors have been in operation. The proportion of Asian-African born in the population (Group 1) is considerably higher than corresponding proportion in the immigration, while the contrary is true for Eastern European countries and Western countries. Presumably this is due both to differentials in propensity to emigrate and to the fact that mortality has reduced to a larger extent the groups of foreign-born who arrived in the Land of Israel at earlier periods.

The proportion of people of each origin in the second generation (cols. 9–10) is greatly influenced by the differential fertility of the various groups. For instance, the proportion of people of Asian-African origin in 1972 is larger in the second (58.2%) than in the first generation (47.1%), while the proportion of people of Eastern European origin is reduced from 29.3% among the foreign born to 21.9% in the second generation.

On the other hand, the rather high proportion of people of European origin in the third generation which is shown by Table 14.3 is due to the very high proportion of the Europeans which prevailed among the immigrants in the generation of their grandfathers.

Due to the relatively small numerical weight of the third generation, the distribution by origins of the first three generations (and presumably of the entire

¹ We consider here the group 2, as given at the bottom of Table 14.4 including the USSR, other East European countries and the Balkans.

² Group 1 at the bottom of Table 14.4.

TABLE 14.3

JEWISH POPULATION OF ISRAEL, BY ORDER OF GENERATION IN THE COUNTRY AND ORIGIN (1972)

Generation in Israel	Born	Europe & America	Origin		Total	Percentages by generations
			Asia	Africa		
1st	Abroad	749,389	316,129	348,850	1,414,368	52.6
2nd	In Israel to a father born abroad	437,646	339,792	269,049	1,046,487	39.0
1 + 2		(1,187,035)	(655,921)	(617,899)	(2,460,855)	
3rd	In Israel to a grandfather born abroad (rough estimate)	117,802	44,853	5,849	168,504	6.3
4th and over					57,342	2.1
1 + 2 + 3	Total origin known	1,304,837	700,774	623,748	2,629,359	
4 and over	Origin unknown				57,342	
1 - 4 and over	Grand total				2,686,701	100.0

Percentage distribution by origins					
1st	Abroad	53.0	22.4	24.6	100.0
2nd	In Israel to a father born abroad	41.8	32.5	25.7	100.0
3rd	In Israel to a grandfather born abroad	69.9	26.6	3.5	100.0
1 + 2		48.2	26.7	25.1	100.0
1 + 2 + 3		49.6	26.7	23.7	100.0

TABLE 14.4

COUNTRIES OF ORIGIN OF THE JEWISH POPULATION (1916-1972)

Regions	Immigrants	Foreign-born, by region of birth							Israeli-born by region of birth of their father		Foreign-born and Israeli-born by origin	
	1919-1972	1916-18	1931	1948	1952	1961	1972	1961	1972	1961	1972	
1	2	3	4	5	6	7	8	9	10	11	12	
Asia	20.0	19.5	17.2	12.5	27.7	24.7	22.4	30.3	32.5	26.6	26.7	
Africa	21.9	3.2	2.4	2.6	10.1	18.5	24.7	15.7	25.7	17.5	25.1	
Balkans	3.6	1.3	2.9	5.2	6.0	4.7	3.4	3.7	3.2	4.4	3.3	
U.S.S.R.	6.3	71.6	27.1	7.0	3.3	9.9	7.2	12.7	6.2	10.8	6.8	
Other Eastern European countries	33.7		45.5	51.7	39.9	30.6	29.3	25.9	21.9	29.0	26.1	
Central Europe	8.2	1.5	3.1	18.5	11.0	9.1	7.6	9.7	7.9	9.3	7.8	
Western and Northern Europe	2.6	0.7	0.9	1.9	1.9	1.7	2.4	1.3	1.5	1.5	2.0	
North America	1.9	2.0	0.7	0.4		0.9	1.2	0.6	0.4	0.8	0.9	
Latin America	1.7	0.1	0.1	0.1			1.6		0.7		1.2	
Oceania	0.1	0.04	0.04	0.01			0.06		0.03		0.05	
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	
1) Less developed regions	41.9	22.7	19.6	15.1	37.8	43.2	47.1	46.0	58.2	44.1	51.8	
2) Intermediate	43.6	72.9	75.5	63.9	49.2	45.2	39.9	42.3	31.3	44.2	36.2	
3) More developed	14.5	4.4	4.9	20.9	12.9	11.7	12.9	11.6	10.5	11.6	12.0	

population) and that of the first two generations are very similar (see the last lines of Table 14.3). Therefore we may consider the analysis given above on the changes that occurred in the origins of the first two generations as having general validity for the entire Jewish population.

Data on the distribution by individual countries of origin (not given here) show that variety of origins has continuously and very largely increased in the course of time. In 1916–18 64.1% of the foreign-born originated from one country only (Czarist Russia). In 1972, no country had a predominant position. The more important sources of first and second generation Jews in Israel had the following percentages: Morocco: 15.4; Poland: 14.7; Rumania: 11.5; Iraq: 9.7; U.S.S.R.: 6.8; Yemen: 6.0.

From each of these countries over 100,000 Jews of Israel originated. Besides them, there were 35 other countries (in all the continents) from which 1000–1000,000 originated (see below) and 30 (or more) from which minor groups derived.

This astounding variety of origins of the Jewish population of Israel shows the wide impact of the Zionist aspiration of the "Ingathering of the Exiles" on many communities of the Diaspora.

COUNTRIES OF ORIGIN DISTRIBUTED BY NUMBER OF JEWS
OF FIRST AND SECOND GENERATION IN ISRAEL (1972)

Number of persons originating from each country	Continent .				Total
	Europe	Asia	Africa	America and Oceania	
Up to 1,000	8	7	3	12	30
1,000–10,000	6	5	1	5	17
10,000–50,000	5	2	1	2	10
50,000–100,000	3	2	3	—	8
100,000–400,000	3	2	1	—	6
Total	25	18	9	19	71

14.3 THE JEWISH POPULATION BY LENGTH OF STAY IN THE COUNTRY

Table 14.5 shows partition values of the distribution of foreign born Jews according to length of stay in the country, as it appears from various censuses and surveys.

These values have changed considerably in the course of time mainly under the impact of changes in volume of immigration in times preceding the census or survey considered.

The shortest median of length of stay was attained around 1953. At that time, 75% of the Jewish population (and well over 90% of the adults)¹ were foreign-

¹ In 1955 the percentages of Jews foreign-born were: among aged 30-44: 93%, 45-65: 95%; 65 and over: 96%.

born and half of them were in the country for less than 5 years. The variety of origins of the immigrants and of their cultural and socioeconomic conditions created an enormous heterogeneity of the Jewish population. Had the conditions in Israel been different from those prevailing at that time and had not a considerable part of the foreign-born strongly identified themselves with the new country, a highly unstable society would have probably emerged.

TABLE 14. 5

FOREIGN-BORN JEWS BY LENGTH OF STAY IN THE COUNTRY

Year or continent	1st quartile	Median	3rd quartile
	(in years)		
1918	7	11	21
1948	2.5	12.2	15.5
1953	3.2	5.1	14.8
1961	9.7	11.7	13.6
1972	10.8	21.1	23.7
Of them:			
Born in Europe	13.3	22.8	29.4
Asia	19.8	21.3	23.1
Africa	9.3	15.3	20.0
America	1.7	4.1	9.7

Since then the conditions have greatly changed. Over half of the Jewish population are now Israeli-born and among foreign-born the median of stay in the country has reached 21 years (among European-born 23).

14.4 SEX DISTRIBUTION OF THE POPULATION

Table 14.6 shows the percentage of males in the population of Mandatory Palestine and Israel from 1922 to 1975.

In broad lines, the sexes have generally been rather well balanced in this population despite the large influence of migratory increase on its development. This has been due to the fact that the most important migratory movement, the Jewish immigration, has also been, in general, well balanced by sexes (Section 8.9).

However some minor oscillations in the proportions of males have occurred in the course of time.

In the Jewish population, the relatively high masculinity in 1922 can be explained by the large proportion of males in the pre-war immigrations and in the first post-war immigration waves. Oscillations in 1926–1931 and 1936 correspond well to what could have been expected from alternative influence of emigration, high masculinity in the immigration of 1924–1931 and later larger influx of females in 1932–38. The later increase in masculinity up to 1948 corresponds too to high masculinity of immigration during and after World War II. Since then a continuous decrease in the proportion of males has occurred which is to be connected mainly with the change in the balance of sexes of immigration in the Statehood period (analyzed in Section 8.9).

The following percentages of males indicate the proportion of sexes within each of the groups of the Jewish population obtained by classifying it by order of generations in the country and by continent of origin (1972).

Percentage of males among Jews originating from				
	Europe and America	Asia	Africa	All origins
First generation (foreign-born)	48.45	49.90	49.66	49.07
Second generation	51.21	51.00	51.45	51.20
Third and higher generations				51.42
All generations and origins				50.10

The growing masculinity with increasing order of generations is due to their different age structure: children and very young people with higher proportion of males predominate in the second and higher generations.

TABLE 14.6

PERCENTAGE OF MALES IN THE POPULATION (1922–1975)

End of year or census	Jews	Moslems	Christians	Total population (inc. Others)
Mandatory Palestine ¹				
Census of 1922	52.34	50.95	49.97	51.13
1926	50.31	50.81		
Census of 1931	50.45	50.81	48.95	50.57
1936	49.96	50.86	49.64	50.49
1940	50.49	50.85	50.16	50.67
1945	51.06	50.93	51.35	51.01
Israel				
Census of 1948	51.67			
1952	50.81			
1955	50.78	51.52	50.12	50.82
1957	50.72	51.63	49.52	50.77
Census of 1961	50.70	51.51	49.49	50.75
1964	50.52	51.45	49.73	50.60
1968	50.34	51.55	49.60	50.47
Census of 1972	50.10	51.26	50.11	50.25
1975	49.94	51.04	49.63	50.08

¹ According to official statistics of Palestine Government (not revised).

While in the entire population and in classes by continent of origin the sexes are well balanced, some irregularities are found within certain population groups – and mainly smaller population groups – formed by people of first and second generations classified by countries of origin.

Even larger are the sex imbalances found in certain specific origin- and age-groups.

The Moslem population has shown a very remarkable stability in sex proportions: in Palestine the proportion of males ranged between 50.81 and 50.59, in Israel between 51.04 and 51.63. However since 1957 there is a slight but continuous tendency to decline of this proportion. As migratory movements have not had here any important influence, the changes which occurred are probably connected with increasing proportions of children and very young ages classes (which may produce increases in the proportion of males) and strong declines in mortality (which may produce increases in the proportion of females).

Among the Christians of Palestine the low proportion of males in the first part of Mandatory period may be connected with emigration of Arab Christians while later increases in proportion of males may be connected with immigration of European Christians (see Section 9.8). In Israel the proportion of males among Christians has oscillated between 49.5 and 50.1%.

14.5 AGE DISTRIBUTION OF THE JEWISH POPULATION

The age distribution of the entire population of Israel (Section 14.7) subsumes the distributions of many different groups, with dissimilar type of evolution in the course of time. For instance, on the one hand, the distribution of the Moslem population (Section 14.6) practically depends on natural factors only, such as the distribution of the initial population, ageing, and age specific fertility and mortality. On the other hand, the age distribution of the various groups of the Jewish population has been continuously changed by immigration from abroad and by various emigration streams.

With respect to immigration we saw already in Section 8.11 that its composition by age depends upon (a) the age distribution of the Jewish community of origin and (b) the selectivity of immigration by ages. Both (a) and (b) have greatly varied from community to community and from period to period, and consequently the age distribution of immigrants has considerably varied from wave to wave.

With respect to emigration the limited knowledge available on its age distribution (Section 9.5) is sufficient to show that it is subject to some selectivity by age.

It would be very interesting to isolate and measure separately the effects of the factors influencing the evolution of the age distribution of each of the groups composing the Jewish population of Israel.

However such a study would far exceed the limits of this Monograph. In the following we shall only describe some aspects of the transformation of the age distribution of the Jewish population and of its main sectors, taking into account the parallel findings on age distribution of the immigrants, as described in Section 8.11. To facilitate this comparison, Graph 14.1 showing changes in the age distribution of the total Jewish population in the course of time and Graph 14.2 showing age distribution in 1972 of the main groups of the popula-

TABLE 14.7

AGE DISTRIBUTION OF THE JEWISH POPULATION (1926-1975)

Ages	1926	1931	1936	1940	1945	1948	1952	1955	1957	1961	1964	1968	1972	1975
0-4	14.0	13.5	10.8	10.9	11.8	12.2	13.8	13.6	12.6	11.1	10.7	10.5	11.1	11.5
5-9	8.9	11.5	8.6	8.5	9.5	8.0	10.7	12.2	12.7	11.7	10.8	9.9	9.4	9.7
10-14	8.9	7.7	8.4	8.0	7.6	8.5	7.4	8.1	10.0	11.7	11.6	10.2	9.2	8.7
0-14	31.8	32.8	27.9	27.4	28.9	28.7	31.9	33.9	35.3	34.5	33.1	30.6	29.7	29.9
15-29	36.3	31.9	30.1	25.9	23.2	26.3	24.2	22.3	21.2	21.6	23.1	25.8	27.5	27.6
30-44	16.0	19.7	26.0	29.0	28.4	26.0	22.4	20.7	19.7	18.7	18.4	17.0	15.8	15.6
45-64	11.8	11.4	12.1	13.2	14.7	15.0	17.3	18.4	19.1	19.9	19.6	19.8	19.2	18.2
65 and over	4.1	4.2	3.9	4.5	4.8	4.0	4.3	4.5	4.7	5.3	5.8	6.8	7.8	8.7
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Median age ¹	21.9	24.2	26.9	28.5	28.5	27.1	26.3	25.8	25.5	25.9	25.0	24.6	25.2	25.7
Dependency Ratio ²	56.0	58.7	46.6	46.8	50.8	48.6	56.5	62.9	66.7	66.1	63.7	59.7	60.0	62.9

¹ 1926-1945, Average between medians for males and females.

² $100 [(aged\ 0-14) + (aged\ 65\ and\ over)] / (aged\ 15-64)$.

Graph 14.1

Age Distribution of the Jewish Population
(1926–1975).

Data of Table 14.7

	Ages				
	0–14	15–29	30–44	45–64	65 and over
1926					
1931					
1936					
1940					
1945					
1948					
1952					
1955					
1957					
1961					
1964					
1968					
1972					
1975					

tion of Israel have been drawn according to the same method¹ used in Graphs 8.2–8.4 for describing the age distribution of immigrants.

Table 14.7 and Graph 14.1 show the evolution of the age distribution of the Jewish population from 1926 to 1975. The main phases of this evolution were as follows:

1) In the first stage of the Mandatory period the large influx of young people – indicated in tables and graphs of Section 8.11 – determined a swelling of the population first (1926–36) at the ages 15–29, and later (1940–48) at the ages of 30–44.

As fertility was decreasing, the proportion of children declined from 1926 to the period of the “baby boom” in the second half of 1940ies.

Although the Jewish population as a whole was rather young, a very clear process of ageing occurred, which determined an increase of the median age from 21.9 in 1926 to 28.5 in 1945.

2) As mentioned in Section 8.11 mass immigration of 1948–51 brought to Israel: (i) almost entire Asian-African communities with “pre-modern” age distribution; (ii) survivors of the Holocaust with a large proportion of small children and young people (Table 8.12).

This and the strong increase in fertility of the Jewish population which occurred in the early 1950ies changed radically the age distribution of the Jews. It became more regular and the proportion of children (aged 0–14) increased from 28.7% in 1948 to 35.3% in 1957.

3) Later, decrease in Jewish fertility has again reduced the proportion of children to 29.7% in 1972. In the same time, there has been a continuous increase in the percentage of old people. The proportion of persons aged 65 and over has increased during the Statehood period from 4.0% in 1948 to 8.7% in 1975.

In order to understand better the characteristics of the age distribution of the Jewish population, it is desirable to study separately the age distribution of its various components. As explained in Section 14.2, the census of 1972 has enabled us to divide (although only in an approximate way) the Jewish population by “generations” and origins. Taking together the first three generations (foreign born, their children and grandchildren), almost the entire Jewish population is included.

Table 14.8 and Graph 14.2 show the distribution by age of people originating from each continent in the aggregate of the first three generations in 1972. For preceding periods it has not been possible to obtain a separate evaluation for the third generation. Therefore in order to have some information on past evolution, estimates are given in Table 14.8 on the age distribution of people originating from each continent in the two first generations at the censuses of 1961 and 1972.

¹ Each percentage is given by a Graphical Rational Pattern proportional to it. For detailed explanation see Appendix 10.

TABLE 14.8

AGE DISTRIBUTION OF THE JEWISH POPULATION BY CONTINENTS OF ORIGIN 1961-1972)

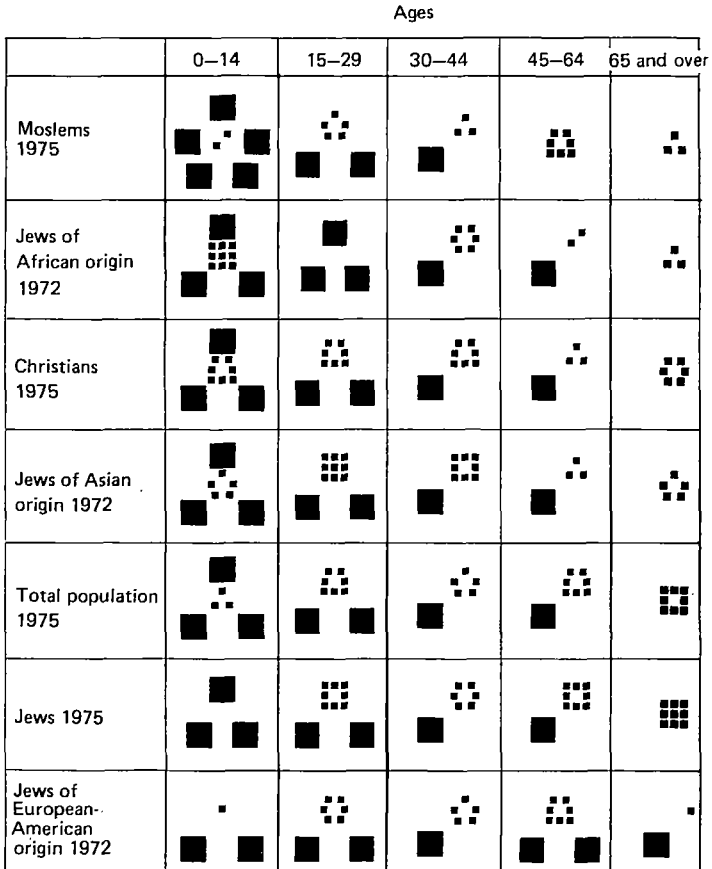
AGES	First and second generation together										First, second and third generation together			
	1961					1972					1972			
	Europe and America	Asia	Africa	All origins	Europe	Asia	Africa	America Oceania	All origins	Europe America Oceania	Asia	Africa	All origins	
1	2	3	4	5	6	7	8	9	10	11	12	13	14	
0-4	6.3		14.6	10.2	5.1	11.0	13.2	12.8	8.9	7.8	12.3	13.4	10.8	
5-9	8.7		15.1	11.6	4.7	10.6	12.8	11.3	8.4	6.3	11.2	12.8	9.4	
10-14	11.2		11.7	11.5	5.9	11.0	13.2	10.9	9.2	6.7	11.1	13.2	9.5	
0-14	26.2	39.0	45.1	33.3	15.6	32.5	39.1	35.0	26.5	20.8	34.6	39.4	29.6	
15-29	17.3	26.2	25.0	21.0	25.8	29.7	29.6	32.4	27.9	25.6	29.1	29.6	27.3	
30-44	22.1	17.2	16.8	19.7	15.6	18.6	15.8	20.6	16.6	15.3	18.0	15.7	15.9	
45-64	27.8	13.2	10.6	20.7	30.0	13.7	12.0	9.9	20.7	26.9	13.1	12.0	19.4	
65 and over	6.6	4.5	2.4	5.3	13.0	5.5	3.4	2.0	8.3	11.3	5.2	3.3	7.7	
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	
Median age	35.0		19.6	26.7	38.8	22.4	19.3	21.9	27.0					
Dependence ratio ¹	48.8	77.0	90.5	62.9	46.6	61.3	73.9	58.7	53.4	47.3	66.1	74.5	59.5	

¹ See Table 14.7

Graph 14.2

Age Distribution of Various Population Groups

Data of Tables 14.7, 14.8, 14.11, 14.12, 14.13



It is seen that the Jewish population is formed basically by two types of components.

1) People of Asian-African origin who have an age distribution typical of population with high fertility, and high percentage of children — although clearly decreasing from 1961 to 1972.

For instance, the distribution of African Jews in Israel, as given by the column 13 of Table 14.8 is rather similar to some of the distributions of type 1 ("pre-modern") in Table 8.11 (see lines 2 and 4 of this table). The distribution of Asian Jews (who have been in Israel on an average for a longer time than the Africans) shows some characteristics similar to those of type 2 (communities in transition: compare for instance col.12 in Table 14.8 to line 7 of Table 8.11). Systematic comparison of Table 14.9 and 8.11 also indicates some other similarities of the same type.

2) The distribution of Jews of European origin in Israel (Table 14.8, col.11) shows:

(i) a very low and decreasing¹ proportion of children due to the rather low fertility. However the proportion of children is higher than that found in many Western Jewish communities (lines 12–18 of Table 8.11).

(ii) a strong swelling at ages 45–64, which is largely due to ageing of the comparatively large number of European people who arrived at young age in the Mandatory period (Table 8.15).

(iii) a minor swelling at ages 15–29 largely due to recent immigration of young people. This can be seen for instance by comparing the age distribution of immigration from U.S.A. and Argentine (Table 8.14) to distribution of first and second generation of people of American origin in Israel (Table 14.8, col.9).

Within these two basic types there is a considerable differentiation by country of origin. This is shown by Table 14.9, which gives the distribution by ages of the aggregate of first and second generations broken down by selected countries. These countries are ranked according to increasing age medians. Young or very young age distributions are found among people originating from North Africa (excluding Egypt). People from Asian countries such as Iran, Iraq, and Yemen, have comparatively somewhat smaller proportion of children. Egypt and Turkey are in an intermediate position between Asian-African and European countries. All populations of European origin have very low proportions of children and high proportions of old people. Very high proportions of old aged are found among people of Russian, Rumanian and Polish origin. This can be connected with the age structure of immigrants from those countries in certain periods (see, for instance, Table 8.13, lines 6, 14, 15).

The strong differentiation of age structure of people of various origins and generations is reflected also by the variability in the composition of the various age

¹ The decrease is shown by comparing col.2 to 6 and 9 together. However, the distribution of the first two generations only, understates considerably the actual number of children in the population of European-American origin.

TABLE 14.9

AGE DISTRIBUTION OF THE FIRST AND SECOND GENERATION TOGETHER BY SELECTED COUNTRIES OF ORIGIN (1972)

Ages	Morocco Tangiers	Libya	Algeria Tunisia	Iran	North America	Iraq	Latin America	Yemen	Egypt	Turkey	Austria Germany	Czecho- slovakia	Bulga- ria Greece	Hungary	USSR	Ruma- nia	Poland
0-4	13.7	13.0	13.0	11.2	12.9	12.1	12.7	10.0	10.6	8.9	4.7	4.1	6.8	5.8	4.6	6.5	3.0
5-9	13.5	12.8	12.3	11.0	12.7	11.3	10.2	10.7	9.3	8.3	4.0	4.3	6.1	5.8	3.2	5.6	3.5
10-14	13.8	13.0	13.1	12.2	11.3	11.0	10.6	11.9	10.0	8.8	6.3	7.4	6.6	7.2	4.0	6.0	5.5
0-14	41.0	38.8	38.4	34.4	36.9	34.4	33.5	32.6	29.9	26.0	15.0	15.8	19.5	18.8	11.8	18.1	12.0
15-29	29.5	30.4	29.0	30.9	31.9	28.6	32.8	31.5	30.3	27.6	33.1	31.0	23.5	26.4	24.8	21.5	26.9
30-44	15.3	15.7	16.6	18.1	17.2	19.0	23.3	17.6	17.5	19.3	12.8	11.5	18.4	14.5	18.8	16.4	13.8
45-64	11.2	11.4	12.1	11.8	11.3	12.4	8.9	13.6	18.1	19.2	27.4	33.6	25.5	27.8	27.7	29.9	34.8
65 and over	3.0	3.6	4.0	4.7	2.7	5.7	1.5	4.6	4.2	7.9	11.7	8.0	13.0	12.5	16.8	14.1	12.5
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Median age	18.4	19.2	19.7	20.9	21.2	21.9	22.3	21.3	24.1	27.2	32.4	35.9	36.2	36.9	40.4	40.8	42.3
Depen- dence ratio ¹	78.6	73.7	73.5	64.3	65.6	66.8	54.0	59.3	51.7	51.3	36.4	31.3	48.2	45.6	32.5	47.5	32.5

¹ See Table 14.7.

classes by origins and generations. This is shown clearly by Table 14.10. Let us consider, for instance, columns 2–5, which show the proportion of generations within each age class. It is seen that among children (0–14) almost 3/4 belong to second generation (children of foreign born); among aged 15–29 about half are of second generation and 44% are foreign born. At higher ages the great majority are foreign born. The proportion of third generation (col.4) and fourth or higher generation (col.5) decreases rapidly with increasing ages.

With regard to known origins (cols. 6, 7), the Europeans are about 1/3 among the children as compared to 2/3 among aged 45–64 and 72% among old people¹.

The differentials in composition have far-reaching influence on many educational and socioeconomic problems and on policies concerning schooling, labor, social security, etc.

TABLE 14.10
PERCENTAGES OF GENERATIONS AND ORIGINS
WITHIN EACH AGE CLASS OF THE JEWISH POPULATION (1972)

Ages	Per 100 in each age class						
	belong to ... generation in Israel				belong to first 3 generations in Israel and originate from		
	First (foreign born)	Second	Third	Fourth or higher (Israel born grand- father)	Europe and America	Asia and Africa	Total
		Born in Israel to foreign-born father	grand- father				
1	2	3	4	5	6	7	8
0– 4	2.7	72.7	18.4	6.2	35.1	58.6	93.7
5– 9	7.6	74.7	13.2	4.5	32.7	62.8	95.5
10–14	16.8	71.8	8.5	2.9	34.3	62.8	97.1
0–14	8.7	73.1	13.6	4.6	34.1	61.3	95.4
15–29	44.4	49.3	4.7	1.6	45.5	52.9	98.4
30–44	77.0	18.2	3.6	1.2	46.5	52.3	98.8
45–64	94.0	3.8	1.6	0.6	67.4	32.0	99.4
65+	96.1	2.3	1.2	0.4	72.0	27.6	99.6
Total	52.6	39.0	6.3	2.1	48.6	49.3	97.9

14.6 AGE DISTRIBUTION OF THE NON-JEWISH POPULATION

Table 14.11 shows the age distribution of Moslems in Mandatory Palestine and in Israel at various dates between 1926 and 1975.

¹ These percentages can be compared to proportions of origins among immigrants given in Section 8.11 under 6).

TABLE 14.11

AGE DISTRIBUTION OF THE MOSLEM POPULATION OF MANDATORY PALESTINE
AND ISRAEL (1926-1975)

Ages	Mandatory Palestine						Israel				
	1926	1931	1936	1940	1944	1955	1961	1965	1970	1975	
0-4	19.9	18.7	18.1	17.8	18.8	19.6	21.8	23.2	21.2	20.8	
5-9	9.6	14.6	14.2	13.2	14.0	14.0	16.1	17.0	18.0	16.9	
10-14	8.0	8.2	12.6	13.1	10.8	14.3	10.7	12.5	13.5	14.4	
0-14	37.5	41.5	44.9	44.1	43.6	47.9	48.6	52.7	52.7	52.1	
15-29	29.5	24.8	20.4	21.1	23.6	24.7	26.1	23.9	23.9	25.0	
30-44	17.7	18.1	18.6	18.3	16.2	12.0	12.3	11.8	12.5	12.5	
45-64	10.9	11.2	11.8	12.2	12.5	10.0	9.0	7.7	7.5	7.2	
65 and over	4.4	4.4	4.3	4.3	4.1	5.4	4.0	3.9	3.4	3.2	
Median age	21.0	20.9	18.6	17.9	17.8	15.8	15.6	13.8	13.8	14.2	
Dependency ratio ¹	72.1	84.8	96.9	93.9	91.2	114.1	111.0	130.4	127.8	123.7	

¹ See Table 14.7.

TABLE 14.12

AGE DISTRIBUTION OF THE CHRISTIAN POPULATION OF MANDATORY PALESTINE AND ISRAEL (1931-1975)

Ages	Mandatory Palestine				Israel					
	1931	1936	1940	1944	1955	1961	1965	1970	1975	
0-4	14.2	13.8	13.5	12.7	14.9	15.2	15.4	12.7	12.9	
5-9	13.0	11.3	11.1	11.6	12.2	13.5	13.2	13.1	12.0	
10-14	8.3	10.8	10.4	9.5	11.3	11.0	11.8	11.4	12.1	
0-14	35.5	35.9	35.0	33.8	38.4	39.7	40.4	37.2	37.0	
15-29	27.4	25.5	24.4	24.6	27.5	25.9	25.3	25.7	27.0	
30-44	18.3	20.5	22.4	23.3	14.0	15.8	17.0	18.1	17.4	
45-64	13.4	13.2	13.4	13.8	14.2	13.5	12.1	13.1	12.7	
65 and over	5.4	4.9	4.8	4.5	5.9	5.1	5.2	5.9	5.9	
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	
Median age	22.9	24.2	24.3	24.1	20.4	20.5	20.0	21.5	21.2	
Dependency ratio ¹	69.2	68.9	64.6	61.1	79.5	81.2	83.8	75.7	75.1	

¹ See Table 14.7.

The age distribution of the Moslem population has generally been rather regular¹ and very young, with high and rapidly increasing proportions of children and low and decreasing age medians. This is in line with its high fertility and decreasing child mortality and very limited influence of migratory movements. In 1965–1970 the proportion of children reached the very high level of 52.7%².

Table 14.12 shows the age distribution of the Christian population. During the Mandatory period this population included a majority of Arabs and a considerable minority of Non-Arabs. The age distribution of Non-Arab Christians is not known. However some indirect information is given by the following distribution of Christians who were foreign citizens, as shown by the census of 1931:

	0–10	10–20	20–45	45 and over	Total
Males	9.3	13.5	61.4	15.8	100.0
Females	13.0	12.7	44.0	30.3	100.0

It may be inferred from those data that Non-Arab Christians had high proportions of young people and mainly of young men, and rather low proportions of children. Both those features had considerable effects on the age and sex distribution of the total Christian population.

With the departure from Palestine of most of the European Christians (Section 9.8 and Appendix 6.8), the age distribution of the Christian population in Israel has become much more regular with a considerably enlarged basis. However since 1965 the proportion of children began to decline under the impact of declining fertility.

14.7 THE AGE DISTRIBUTION OF THE POPULATION OF ISRAEL

Table 14.13 shows the age distribution of the entire population of Israel at selected dates between 1955 and 1975, which is largely influenced by the Jewish population. However, the proportion of children is considerably greater than in the Jewish population under the impact of the very large percentage of the Moslems. On the whole, the basic structure of the total population of Israel has not changed greatly between 1955 and 1975. The proportion of children has oscillated between 33% and 36%. The proportion of old people has been constantly increasing, from 4.8% in 1955 to 7.9% in 1975.

Implications of the age distributions in terms of labor force will be discussed in Chapter 16.

¹ This is better seen by considering detailed distributions by quinquennial age classes. Only in the first decades after World War I irregularities due to birth postponement during the war period were discernible. The large Arab exodus from Palestine at the end of the Mandatory period did not cause strong irregularities in the age distribution (probably because the population which remained in Israel consisted largely of the entirety of all the residents of certain zones).

² This proportion of children can be compared with the 1970 estimates for Western South Asia (43.1%) and Northern Africa (44.4%) given by the U.N. See *The population debate: dimensions and perspective*, New York, United Nations, 1975, p.180.

TABLE 14.13

AGE DISTRIBUTION OF THE TOTAL
POPULATION OF ISRAEL (1955-1975)

Ages	1955	1961	1965	1970	1975
0— 4	14.2	12.2	11.8	12.1	12.7
5— 9	12.1	12.4	11.2	10.7	10.7
10—14	8.5	11.5	11.4	10.2	9.5
0—14	34.8	36.1	34.4	33.0	32.9
15—29	23.1	21.7	23.9	26.4	27.2
30—44	19.8	18.1	17.4	15.8	15.2
45—64	17.5	18.9	18.3	18.0	16.7
65+	4.8	5.2	6.0	6.8	7.9
Total	100.0	100.0	100.0	100.0	100.0
Median age ¹		24.2	23.3	23.4	24.1
Dependency ratio ¹	65.6	70.4	67.8	66.1	69.0

¹ See Table 14.7.

CHAPTER 15

LINGUISTIC AND EDUCATIONAL DISTRIBUTION OF THE POPULATION

15.1 HETEROGENEITY OF IMMIGRANTS AND HOMOGENIZATION OF THE POPULATION

In the first years after the establishment of the State, the great majority of the population consisted of new immigrants (14.2, 14.3) who brought from their countries of origin a great variety of linguistic, cultural, educational and socio-economic characteristics. Heterogeneity was further enhanced by the differentials between Jews, Moslems, Christians and Druzes. Since then a speedy process of homogenization of the Israeli society has taken place, under the impact of mutual influences of the various population groups, increased length of stay in the country of the foreign-born, increasing proportion of second and later generations in the population, and policies pursued by the Government and other institutions. While a systematic study of these processes is outside the scope of this Monograph, we have singled out for discussion some of their aspects as revealed by changing linguistic (Sections 15.2–15.4) and educational (Sections 15.5–15.9) population distribution.

Linguistic evolution in Israel is an example of rapid and comprehensive homogenization, and has been due in its initial stages to systematic policies prompted by ideological motivation, while later has become a spontaneous process responding to direct needs of the individuals.

Educational evolution has had a strong influence on the socioeconomic development of Israel. Educational and socioeconomic changes are both closely connected with some of the basic aspects of demographic transition in Israel as outlined in preceding chapters.

15.2 LINGUISTIC DISTRIBUTION OF THE JEWISH POPULATION

In the following we shall analyze statistics relating to a) use of languages in daily life¹, b) knowledge to read and write the official languages of the country by Jews (Sections 15.2–15.3) and Non-Jews (Section 15.4).

¹On this topic see: R.Bachi, "A statistical analysis of the revival of Hebrew in Israel", in: *Scripta Hierosolymitana*. Vol.3. Jerusalem, The Hebrew University, 1956, pp.178–247; U.D.Schmelz and R.Bachi, "Hebrew as everyday language of the Jews of Israel – Statistical appraisal", in: *S.W.Paron Jubilee Volume*. American Academy for Jewish Research. New York, Columbia University Press, 1974. Vol.2, pp.745–786.

Data for 1914 quoted below are reconstructions based on the 1916–18 censuses (see Appendix 6.12). Data for 1948, 1961, 1972 are taken from official censuses. The estimate for 1930 is based on a survey of Tel Aviv (1927) quoted by A.Ruppin (*Soziologie der Juden*. Berlin, Jüdischer Verlag. Vol.2, p.130). Those for 1954 and 1966 are taken from sample surveys carried out by the Central Bureau of Statistics of Israel. In earlier censuses or surveys each individual was classified by one language only. Starting from 1948, persons enumerated are asked to indicate languages used by them and to rank them; a classification of Hebrew as only, first or additional language is thus obtained; assigning weights to each category an "index of use of Hebrew" can be computed.

Table 15.1 shows the evolution, in numbers and percentages, of Hebrew speakers among the Jewish population of Israel between 1914 and 1972. To assist the reader to understand the meaning of these data, some background information is given below.

At the beginning of modern Jewish immigration to the Land of Israel (1880ies) Hebrew was used by a considerable part of the Jewish Diaspora population as the language of prayers. Jews of Eastern Europe, forming then some 75% of the Jewish Diaspora, used in their great majority Yiddish as their domestic language, and also in their daily contacts with fellow Jews; Yiddish was used too for literary and cultural purposes. Among Sephardic Jews, Ladino underwent a similar evolution. Following the mass overseas emigration and growing assimilation of the Jews at the end of the 19th century and the first decades of the 20th century, there was a considerable increase in the use of languages of the country of residence. As time went by, use of Yiddish dwindled in the second and third generation in overseas countries. After the almost complete destruction of Eastern European Jewry during the Holocaust, Jewish languages are used today only by a small minority of Diaspora Jews.

Jews who immigrated to the Land of Israel in the last decades of the 19th century from Eastern Europe and constituted the majority of the Jewish population, used mainly Yiddish, while the Sephardic Jews spoke Arabic and to a considerable extent Ladino; Jews from Asia and Africa used Arabic or special Arabic-Jewish dialects. In contacts with the local Arab population Arabic was largely used, and some Turkish in contacts with Government officials. French and other European languages became more and more important in cultural life of the country.

The idea of giving the immigrants to the Land of Israel the old Biblical and national language — Hebrew, as a common language, was championed by Eliezer Ben Yehuda (1858–1922) and a few enthusiastic followers, in spite of opposition from many quarters, and was later adopted by the Zionist movement. Initially it was due more to national idealism than to the immediate urge to solve practical needs. In the beginning many technical difficulties had to be overcome because of the insufficiency of the vocabulary for the manifold necessities of modern life and differences in pronunciation.

Table 15.1 shows that at the turn of the century, i.e. some 30 years after the beginning of the movement for the revival of Hebrew, some 40% of the Jewish population in Palestine spoke this language. Their absolute number was about 34,000, or some 0.25% of the World Jewry at that time. Data not given here show that diffusion of Hebrew had been wider among the younger generation and in more modern localities, such as Tel Aviv and the rural colonies than in towns in which the ultra-religious groups, opposed to the use of Hebrew for non-religious purposes, predominated.

During the Mandatory period, Hebrew — together with English and Arabic — was acknowledged as one of the official languages of the country. It greatly improved from the technical point of view and developed speedily as a language well adapted to cope with all cultural and practical needs. Used as the only medium of teaching in schools maintained by the Jewish community in Palestine, it was also extensively taught in modern Jewish schools in Poland and the Baltic countries, and learnt by prospective immigrants while they prepared themselves to come to the Land of Israel. This explains the enormous increase

TABLE 15.1

NUMBER AND PERCENTAGES OF JEWS SPEAKING HEBREW AS ONLY OR FIRST LANGUAGE

	Around 1914	Around 1930	1948	1950	1954	1961	1966	1972
Number among aged 2 or more	about 34,000 ¹	about 100,000	511,000 ³	679,000	861,100	1,391,400	1,725,000	2,150,000
Percentage among aged 2 or more	about 40.2	about 60	75.1 ⁴	about 60	60.9	75.3	77.0 ⁷	82.0 ⁷
Percentage among aged 2-14	53.7		93.4	80.3	83.9 ⁵	92.0		
Percentage among aged 15 and over	25.6		69.5	52.0	52.8 ⁶	67.4	71.0	77.5 ⁶

¹ All ages² All ages over 1³ Persons aged 2 or more multiplied by 75.1% (percentage of Hebrew speakers among all persons stating use of language)⁴ See previous note⁵ Aged 2-13⁶ Aged 14 and more⁷ Estimate

both in absolute terms and in percentages in daily use of Hebrew in this period. In 1948 some 70% of Jewish adults and 93% of Jewish children spoke Hebrew as their only or principal language, and the total number of Hebrew-speakers in Israel exceeded the 1/2 million mark.

The position of Hebrew in *public life* was further strengthened after the establishment of the State. English was no longer an official language, though it remained the most widely learnt foreign language. With the change in numerical proportions between Jews and Non-Jews, political and administrative activities of the country, in Non-Arab localities, have been conducted almost exclusively in Hebrew, and this language is also extensively used in business. Also in education and culture, Hebrew maintained or gained a predominant position: in Jewish schools, from kindergartens to institutions of higher learning, book publishing, newspapers, broadcasting, theater, public meetings, etc.

However, an opposite process took place in the first years of independence with regard to the position of Hebrew as the language of daily *private life*. Among mass immigrants who came between 1948 and 1951, the proportion of people who became accustomed to speak Hebrew before coming to Israel was much smaller than among previous immigration waves. As a consequence, the proportion of Hebrew speakers in Israel fell from 75% in 1948 to 60–61% in 1950–54. Only in 1961 it again reached 75%, and increased speedily since then to about 82% in 1972.

In absolute numbers, there were about 2,150,000 Jews in Israel speaking Hebrew as their only or principal language in 1972. Adding the increase which occurred between 1972 and 1977, and the number of persons who consider Hebrew as their mother-tongue in the Diaspora (101,686 in the U.S.A. alone, according to the 1970 census), Hebrew has become today the language of presumably some 20% of the World Jewry, and, after English, the second language used by the Jews.

Table 15.2 allows us to follow the changes which occurred in the position of Hebrew as the only, first or additional language used daily by the Jews in Israel. It is seen that 1) among children, Hebrew is dominant; 2) among adults, largely prevailing; 3) however, a considerable measure of plurilinguism is found, mainly among the adults.

TABLE 15.2
HEBREW AS PRINCIPAL OR ADDITIONAL LANGUAGE
AMONG THE JEWS OF ISRAEL

Per 100 in each group use Hebrew in daily life as:	Aged 2–13			Aged 14 and above			
	1948 ¹	1954	1961 ¹	1948 ²	1954	1961 ²	1972
a) Only language	81.5	59.6	61.9	45.3	17.3	20.0	
b) First language (among others)	11.9	24.2	30.8	24.1	35.4	47.4	
c) Principal language (a+b)	93.4	83.8	92.7	69.4	52.7	67.4	77.5
d) Additional language	1.8	10.7	5.2	6.1	22.9	15.3	10.9
e) Total (c+d)	95.2	94.5	97.9	75.5	75.6	82.7	88.4

¹ 2–14

² 15 and over

Table 15.3 enables to follow up changes which occurred in the course of time in the use of languages other than Hebrew. Yiddish which at the beginning was predominant among Non-Hebrew speakers, has constantly declined. Arabic has decreased in the Mandatory period, then increased with mass immigration from Asian-African countries (1948–1951), but afterward has lost some ground. Linguistic heterogeneity of Non-Hebrew speakers has been the dominant characteristics during the Statehood period, being the direct consequence of heterogeneity of immigrants by origin (Section 14.2).

We cannot discuss here the use of Hebrew for cultural purposes. However, the following percentages can give some indication on ability to reading and writing in this language as compared with other languages:

	1961		1972 ¹	
Per 100 literate Jews, read or write				
a) Hebrew only	18.3	79.5	25.0	87.5
b) Hebrew and other language	61.2		61.5	
c) Only other languages		20.5		12.5

¹ Provisional data.

15.3 FACTORS OF DIFFERENTIAL USE OF HEBREW

A large quantity of available data enables us to analyze the differentials in use of Hebrew by various population groups and to identify the channels through which this language has become dominant in Israel in the course of time¹. Some of the findings are quoted below.

1) *Israeli-born and foreign-born*

Other conditions being equal, Israeli-born are generally found to have higher indices of use of Hebrew than foreign-born. According to the 1961 census, 95–99% of Israeli-born of either sex, aged between 2 and 49, speak Hebrew as their only or first language. Acquiring Hebrew by Israeli-born, either of foreign or Israeli-born parents, occurs mainly through three channels: at home²; in kindergartens and primary schools; from other children with whom they meet and play.

Among foreign-born, knowledge of Hebrew is principally acquired in the following three ways (which complement each other): a) learning Hebrew abroad, as a consequence of religious upbringing or systematic study; b) study in Israel (in the case of immigrants who came to Israel as children, mainly in schools, as adults – in special courses and so-called “ulpanim”³; c) casual picking up of Hebrew at work, through social contacts, mass communication media, through children, etc.

¹ See the studies by Bachi and Schmelz quoted in Section 15.1.

² Research on uses of Hebrew in different social settings cannot be analyzed here. However, it may be indicated that in two inquiries it was found that foreign-born used it in the following descending order: at work; with one's children; with friends; with one's spouse; with parents.

³ Providing facilities, mainly to people with secondary of higher education, for very intensive study of Hebrew lasting several months, usually under boarding conditions.

TABLE 15.3

USE OF LANGUAGES OTHER THAN HEBREW PER 100

	Aged				
	1+	2+	14+	15+	14+
	1916-1918 ¹	1948 ²	1954 ²	1961 ²	1972 ²
Yiddish	59.1	46.8	27.8	24.0	18.8
Ladino ³	6.8	4.8	5.7	5.4	6.6
Arabic	30.2	6.6	28.2	21.6	21.6
German	0.1	16.9	7.0	6.7	5.9
Rumanian		3.9	7.8	9.3	13.0
Hungarian		4.1	3.3	4.8	4.7
English	0.2	1.7	0.7	1.6	4.8
French	0.9	2.6	2.5	5.3	7.4
Other European languages	0.7	9.7	10.8		
Other non-European languages	2.0	2.9	6.2	21.3	17.2
Total	100.0	100.0	100.0	100.0	100.0

1 Only one language is indicated in the census for each person. All Palestine excl. Jerusalem.

2 Used the language as only or first language.

3 Incl. Spanish.

2) Age at immigration and length of stay in Israel

Both cohorts' analysis (which cannot be quoted here) and study of persons characterized by their length of stay in the country, bring to the following conclusions: (i) use of Hebrew increases very rapidly in the first years after immigration, and more slowly later, until it tends to reach a sort of plateau. (ii) The final attainment in percentage of Hebrew speakers is very high among people who immigrated at young ages and decreases systematically with increase of age at immigration.

Graph 15.1 shows, as an example of this type of research, indices of use of Hebrew, calculated on the basis of 1961 census data, for immigrants classified by length of stay and age at immigration¹.

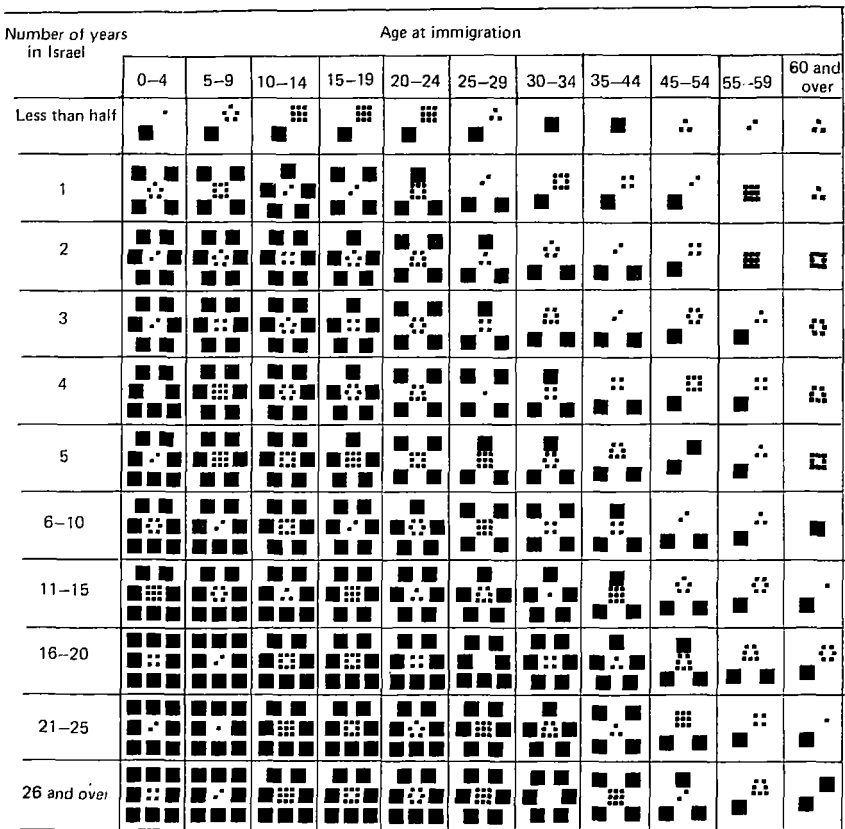
3) *Age*. The proportion of persons using Hebrew declines with age due to larger proportions in higher age classes of foreign-born and of people who reached the country when they were already middle aged or old.

4) *Sex*. Indices of Hebrew speaking are generally found to be higher for men than for women. However, this is mainly due to lower indices of Hebrew spea-

¹ The indices are weighted percentages of persons using Hebrew as the only, first or additional language (see above). These percentages are represented by Graphical Rational Patterns (see Appendix 10).

Graph 15.1

Index of Hebrew Speaking among Foreign-Born Jews by Length of Stay in Israel and age at immigration (1961).



kers among people who do not participate in the labor force. Under equal conditions, e.g. participation in the labor force, life in kibbutz¹, etc. sex difference in the use of Hebrew tends to disappear.

5) *Education.* There is a positive association between the level of formal education attained and the extent of Hebrew speaking.

6) *Country of birth and period of immigration.* Large differences with respect to use of Hebrew have been found between various immigration waves. For example, during the Mandatory period, high indices of use of Hebrew were found among Yemenites, and other natives of Arabic-speaking countries, and natives of Eastern Europe. Low indices were found for those born in Germany, Austria, Hungary and Turkey. After 1948, the Jews from Arabic-speaking countries have continued to occupy comparatively high ranks, while the rankings of the East Europeans went down. Apparently, the differential extent of transition from previously spoken languages to Hebrew is connected with many factors, such as: monolingualism or plurilingualism in the country of origin; extent of use of Jewish languages; cultural prestige of previous language; affinity of previous language with Hebrew (as it happens with Arabic), etc.

7) *Labor force participation.* Persons participating in the labor force have higher indices of Hebrew than other persons in the population.

8) *Occupation.* Indices of Hebrew speaking differ greatly between different occupations. Among occupations with higher indices are those in which Hebrew is required for professional purposes (e.g., management, clerical occupations, liberal professions, and especially teaching). The index is low, among other, for unskilled workers.

15.4

LINGUISTIC DISTRIBUTION OF NON-JEWS

Table 15.4 shows that the overwhelming majority of Moslems and Druzes speak Arabic as only or first language. Among the Christians the percentages are slightly lower. However, Hebrew too is gaining ground among Non-Jews, especially among young males (Table 15.5) which suggests that it is mainly used at work where contacts with Jews are increasing.

A similar development has taken place in the use of language for reading and writing (Table 15.6). A large majority of literate Non-Jews use Arabic, but knowledge of other languages is widespread and quite a sizeable proportion of literate persons know Hebrew; the highest proportion is found among young male Christians.

15.5 EDUCATIONAL STRUCTURE OF THE POPULATION. AN OVERVIEW

Table 15.7 gives an overview of some of the main statistical indicators of educational level of the adult population² and of their changes in the course of time.

¹ In the kibbutz indices of use of Hebrew are higher than in any other type of locality of residence, probably due to ideological reasons and to comparatively more frequent contacts, within the framework of communal life, of recent immigrants with people who were born in the country or are in the country for a long time.

² The data used in this section are taken from population censuses and from *Standards of education of the population (June 1954)*. Jerusalem, Central Bureau of Statistics, Special series, No.66. Following the method adopted in official statistics, data are given here for people aged 14 and over. As part of them may still attend school at the time of census, they may increase the total number of years of study over those registered at census. Medians of number of years at school are given as in official statistics (some minor discrepancies are due to the fact that in 1961 "0 years of school" was interpreted in those statistics as meaning 0-0.99, while in 1972 it was interpreted as "no school at all").

TABLE 15.4
PERCENTAGES OF NON-JEWS USING ARABIC AS ONLY OR FIRST LANGUAGE

	1961			1972
	Males	Females	Both Sexes	Both sexes
Moslems	98.7	98.6	98.6	94.7 ¹
Christians	93.3	88.9	91.1	
Druzes	96.2	96.7	96.4	
Total Non-Jews	96.8	95.8	96.5	

¹ Including users of Arabic as additional language—97.0

TABLE 15.5
PERCENTAGE OF NON-JEWS OF EACH AGE AND SEX
SPEAKING HEBREW AS ADDITIONAL OR PRINCIPAL LANGUAGE (1961-72)

Age	1961			1972
	Males	Females	Both sexes	Both sexes
2-14	7.5	5.4	6.5	
15-19	39.5	10.3	25.8	
20-24	46.8	8.8	28.7	
25-29	40.9	7.5	24.5	
30-44	30.0	6.4	17.8	
45-64	10.3	2.9	6.5	
65+	3.1	1.6	2.3	
Total	21.2	6.1	13.8	25.6
Moslems	17.3	2.8		
Christians	31.7	14.7		
Druzes	21.3	5.4		

TABLE 15.6
PERCENTAGES OF LITERATE NON-JEWS ACCORDING TO LANGUAGES
IN WHICH THEY READ AND WRITE (1961-72)

	1961 (aged 14 and over)		
	Males	Females	Both sexes
Arabic only	50.5	50.4	50.5
Arabic and another language	39.2	25.0	35.0
Another language only	10.3	24.6	14.5
Per 100 literate in each group were literate in Hebrew			
Moslems, total	38.4	26.8	36.2
Moslems, aged 14-29	49.6	28.1	44.7
Christians, total	43.8	28.8	37.1
Christians, aged 14-29	64.4	43.2	54.6
Druzes, total	48.1	24.0	41.6
Druzes, aged 14-29	66.4	24.9	53.1
All Non-Jews:			
1961	41.6	28.5	37.7
1972	58.8	43.3	52.9

It appears that at the time when the State of Israel was established (1948), the *Jews* had reached a very high level of literacy, exceeding considerably that already attained in 1931 (see Section 5.3B). In particular, the difference between male and female illiteracy which still existed in 1931, was largely reduced by 1948. Mass immigration from Asia and Africa in 1948–1951 brought to a high and abrupt increase in the percentage of illiteracy, mainly among females. However, since 1954 a continuous improvement in the educational standard of the population has again taken place. Not only the proportion of illiteracy has decreased, but the proportion of persons with 9–12 or over 13 years of schooling has grown considerably between 1961 and 1972, and so has the median number of years at school. Educational differences between men and women have largely decreased; also the distribution of the two sexes according to the last type of school attended appear to be rather similar.

The *Non-Jews* have also accomplished enormous educational progress. Their percentage of illiteracy has decreased from 81.4% in 1931 (in Mandatory Palestine) to 34.5% in 1972 (in Israel). Between 1961 and 1972 the percentage of those who have attended school for over 9 years has grown considerably. The median number of years at school has increased in that period from 1.1 to 5.6. Despite this, the general level of education of Non-Jews is still much lower than of the Jews and the gulf between the attainments of men and women is still large.

In the following we shall discuss separately the reasons of the development which occurred among the Jews (Section 15.6–15.8) and the Non-Jews (Section 15.9).

15.6 EDUCATION RECEIVED ABROAD BY ADULT IMMIGRANTS

In order to study the factors influencing the educational level of the Jewish population of Israel, it may be convenient to divide it into three main groups:

- a) those who received their education abroad;
- b) those who received their education partly abroad and partly in Israel;
- c) those who received their education in Israel.

It is not easy to identify these groups directly; however, we may attempt to do so indirectly by assigning respectively to a) persons born abroad who immigrated to Israel when they were already above school age; to b) persons who immigrated at school age or in early childhood; to c) persons born in Israel. This group will be discussed in Sections 15.7–15.8.

a) *People educated abroad*

Here we shall analyze the information given in Tables 15.8–15.10. In Tables 15.8 and 15.9 percentages of illiteracy and medians of years of study are given for foreign-born classified by *age at immigration*. We may take in a somewhat arbitrary way ages 15 or 20 as a dividing line between a) and b), and consider that those who reached Israel over that age were mainly influenced by education received abroad.

In Table 15.10 medians of years of study are given for people classified according to *age at census*. However, for persons classified by continent of birth, the indication is also given of *period of immigration*. Here we may assume that

TABLE 15.7
EDUCATIONAL STRUCTURE OF THE POPULATION AGED 14 AND OVER
(1931-1972)

Years		Jews			Non-Jews			Total
		Males	Females	Total	Males	Females	Total	
A) Percentages of illiterates								
Palestine 1931		5.7	22.5	14.1	70.3	92.3	81.4	68.0
Israel 1948 ¹		3.2	9.6	6.3				
1954 ²		8.2	21.7	15.0	35.9	79.0	57.2	
1961		7.2	17.1	12.1	32.0	71.5	51.7	15.9
1972		5.9	12.9	9.2	22.2	51.2	34.5	12.4
B) Percentages by number of years at school of persons attending or who have attended school								
1961	1- 4	8.0	9.2	8.6	25.9	30.6	27.3	9.7
	5- 8	39.3	41.7	40.5	56.8	49.0	54.6	41.2
	9-12	39.8	39.6	39.6	14.4	16.8	15.0	38.3
	13+	12.9	9.5	11.3	2.9	3.5	3.0	10.8
1972	1- 4	4.1	4.8	4.4	14.5	17.5	15.7	5.4
	5- 8	31.9	33.1	32.5	54.3	57.2	55.3	34.5
	9-12	47.5	46.6	47.0	24.7	21.3	23.4	45.0
	13+	16.5	15.6	16.1	6.4	4.0	5.6	15.1
C) Median number of years of school (incl. persons who did not attend school)								
Israel 1961		8.9	7.9	8.4	5.2	0.7	1.1	8.0
1972		10.0	9.5	9.8	6.7	2.1	5.6	9.3
D) Percentages by type of last school of persons attending or who have attended school (1972)								
Elementary ³		34.3	35.9	35.1	64.0	68.2	65.7	43.8
Intermediate classes ⁴		7.4	3.8	5.7	10.0	10.9	10.3	
Vocational or agricultural		21.5	14.1	17.9	4.7	1.3	3.4	16.7
Secondary		19.1	27.0	22.9	14.7	14.6	14.7	22.2
Teacher training or other postsecondary		2.1	8.0	5.0	1.7	2.7	2.1	4.7
University ⁵		11.0	7.5	9.3	4.0	1.4	3.0	8.8
Other		4.7	3.5	4.1	0.9	0.9	0.9	3.8

¹ 15 and over ² Did not attend School ³ Incl. traditional schools (Heder, Kutab)

⁴ Incl. traditional school (Yeshiva, Midrassa, Diniyya).

people who arrived in Israel after 1948 and were aged over 30 at the census of 1961 were also mainly influenced by education received abroad. This applies too to data for people over 30 at census who were born in countries from which most of the immigrants came to Israel with mass immigration in 1948–1951, or afterwards, such as Yemen and North Africa. For other countries it may be convenient to consider, say, people aged 45 and over as indicating in a clear-cut way the effects of education abroad.

The analysis of these data shows that the immigrants can be divided into two broad classes:

1) Those who have received their education in Asian and African countries are characterised by rather high rates of illiteracy of men; very high rates for women; comparatively low medians of years of study of men; very low medians for women.

TABLE 15.8

PERCENTAGE ILLITERATES, AMONG FOREIGN-BORN AGED 14 AND OVER

Age at immigration	Asia-Africa, immigrated in				Europe-America		Total	
	1948–1954		All periods		M	F	M	F
	M	F	M	F				
0–14	4.8	12.4	4.8	13.2	0.7	1.0	3.1	7.8
15–29	15.7	44.9	15.4	42.8	0.7	1.5	6.3	16.7
30–44	27.4	68.8	28.2	64.8	1.9	3.8	10.8	25.3
45–59	40.3	82.3	40.5	78.5	3.7	7.7	16.3	34.1
60+	47.5	90.5	47.7	87.6	7.4	20.8	23.6	46.8
All ages	17.8	44.5	18.3	43.6	1.7	3.9	8.4	20.0

TABLE 15.9

MEDIAN OF YEARS OF STUDY OF FOREIGN-BORN AGED 14 (1961 CENSUS)
WHO IMMIGRATED BEFORE 1948

Age at immigration	Born in						Total	
	Asia & Africa		Eastern Europe and Balkans		Other countries of Europe-America		M	F
	M	F	M	F	M	F		
0– 4	8.0	7.3	10.6	10.6	11.1	11.4	9.8	9.6
5– 9	7.7	6.3	10.6	10.3	11.3	11.3	9.9	9.5
10–14	7.3	4.9	10.2	9.4	11.0	10.2	9.6	8.7
15–19	7.4	1.7	10.1	9.2	10.8	10.1	9.9	9.1
20–24	7.3	0.9	10.3	9.5	11.3	10.6	10.3	9.4
25–29	6.5	0.8	10.0	9.1	11.4	10.7	10.0	9.2
30+	5.8	0.7	9.6	7.9	11.6	10.1	9.5	8.0
All ages	7.2	3.6	10.1	9.2	11.2	10.4	9.9	9.0

For instance, Table 15.8 indicates that 70%–90% of women who immigrated in 1948–1954 and were aged over 30 at immigration were illiterate, and Table 15.10 indicates medians of school years near 0 for women aged 45 or over at census.

The most acute situation is found among Yemenites. Medians near 0 for women over 30 indicate a set up in which women did not receive any formal education, whilst men were educated mainly in schools of the traditional religious type. Also in countries, such as Libya and Morocco, women over 30 had almost no schooling. In other countries in Asia and Africa, Iraq, part of Turkey, Algeria and Tunisia, and especially Egypt, signs of educational progress accomplished in the course of time by the Jewish communities appear clearly from Table 15.10. However, old women who immigrated to Israel from these countries had almost no formal education.

2) Those who immigrated from Europe and America. It appears from Table 15.8 that among these immigrants some residuals of illiteracy were found only among old women, whilst Table 15.9 shows that medians of years of study attained were already very high among people born before World War I who immigrated at age over 30 prior to 1948.

Also among the European-born there are some differentials, e.g., it is seen from Tables 15.9 and 15.10 that people born in Eastern Europe and Balkans in general, and specifically in countries such as Greece, Rumania and Poland, had somewhat lower educational attainments. These countries are classified as "intermediate development" in Section 8.8. It is also seen from Tables 15.9 and 15.10 that in older age groups women from these countries had a considerably lower educational achievements than men.

In Central, Western and Northern Europe, and notably in countries like Germany, and even more so in America, educational attainments of the Jews were very high and there was no trace of difference in this respect between men and women.

These findings suggest that in the Mandatory period, when most of the immigrants arrived from Europe, the educational standards brought by them from abroad were high. After 1948, the comparatively low educational level of the immigrants from Asia and Africa lowered for a time (as we saw in Section 15.5) the general educational standard of the Jewish population of Israel.

Activities were developed in Israel to teach illiterate adult immigrants to read and write, but it is not easy to measure the effects of this action.

b) People born abroad and presumably educated in Israel

Let us now consider people born abroad who arrived in Israel as children or youngsters, and who presumably received most or all of their education in this country, such as persons aged 0–14 at immigration in Tables 15.8 and 15.9.

1) Let us first take into consideration women of Asian and African origin. Among them, illiteracy was much lower than that found among women of the same origin, presumably educated abroad (Table 15.8), and the median years of study much higher (Table 15.9). A clear break exists which separates those who arrived in Israel below the age of 15, and those who came here aged 15 and over,

TABLE 15.10

MEDIAN YEARS OF STUDY OF JEWS AGED 14 AND OVER (1961)

	Males					Females				
	14-29	30-44	45-64	65+	All ages	14-29	30-44	45-64	65+	All ages
1	2	3	4	5	6	7	8	9	10	11
Total	9.4	8.6	8.6	7.4	8.9	9.1	7.7	7.3	3.9	7.9
a) Total born in Israel	10.9	10.1	9.3	8.5	10.7	10.8	9.7	7.3	1.0	10.4
Born in Israel — father born in Israel	10.5	9.6	9.2	7.8	10.1	10.2	8.9	7.0	0.8	9.4
Born in Israel — father born in Asia and Africa	8.6	7.6	7.4	6.1	8.3	8.7	7.0	5.4	0.8	8.0
Born in Israel — father born in Europe and America	11.4	11.4	10.5	10.9	11.4	11.5	11.3	8.6	5.9	11.4
Total foreign-born	8.4	8.4	8.6	7.3	8.4	7.8	7.5	7.3	4.0	7.3
b) Born in Asia and Africa	7.7	6.8	5.5	2.5	6.9	6.7	1.4	0.7	0.6	3.7
of whom: immigrated up to 1947	8.2	7.6	6.6	4.2	7.2	7.7	5.6	0.8	0.6	3.6
immigrated in 1948-1954	7.6	6.8	5.2	2.2	6.9	6.6	1.0	0.7	0.6	3.3
immigrated in 1955-1961	7.7	6.2	5.0	1.3	6.8	6.7	1.2	0.7	0.6	5.0
c) Born in Europe and America	9.9	9.4	9.5	8.4	9.5	9.8	8.8	8.7	6.4	8.8
of whom: immigrated up to 1947	10.6	10.2	10.6	9.9	10.4	10.6	9.7	9.7	7.6	9.6

		immigrated in 1948-1954 immigrated in 1955-1961									
Selected countries of birth											
Asia:	Yemen	9.8	8.6	8.0	7.2	8.6	9.7	8.2	7.4	5.3	8.0
	Iraq	9.9	9.0	8.4	7.8	8.9	10.1	8.7	7.9	6.4	8.6
	Turkey	7.3	4.5	3.9	1.2	6.0	5.9	0.6	0.5	0.5	0.8
		7.9	8.0	6.1	2.2	7.4	6.7	2.2	0.6	0.5	2.9
Africa	Morocco, Tangier	7.3	6.6	5.9	4.6	6.6	6.8	5.9	1.4	0.7	5.3
	Libya	7.5	5.8	1.4	0.8	6.5	6.4	0.8	0.6	0.5	2.3
	Algeria, Tunisia	7.0	5.8	2.9	1.0	6.1	6.1	1.0	0.7	0.5	2.3
	Egypt, Sudan	7.6	7.1	5.3	4.1	7.0	7.0	5.1	0.8	0.5	5.5
		9.5	9.8	8.5	6.9	9.3	8.7	8.1	6.9	0.9	8.0
Europe	Greece	8.5	7.7	7.3	6.7	7.5	8.3	7.2	5.9	0.9	6.6
	Rumania	9.3	7.9	7.5	5.8	7.9	9.2	7.4	6.7	4.2	7.2
	Poland	9.8	8.8	9.0	8.9	9.0	9.7	8.6	8.6	6.6	8.6
	Germany, Austria	9.7	10.9	11.6	10.9	10.9	9.7	10.3	10.8	9.8	10.3
	Western and Northern Europe	10.1	11.1	11.3	10.3	10.5	10.3	10.6	10.8	9.5	10.5
America and Oceania		11.7	13.2	12.4	5.0	12.2	11.8	12.8	12.0	7.7	12.1

1 Males: 9.9; females: 9.4

2 1972: males 10.8, females 10.5

suggesting that the education received in Israel was much better than that received by women of the same origin abroad.

Similar breaks are also clearly visible in all series of medians for women of Asian and African origin in Table 15.10.

2) No similar development is discernible in the data for immigrants of European origin. The educational results obtained in Israel appear to be similar to that obtained abroad.

15.7 DEVELOPMENT OF THE EDUCATIONAL SYSTEM IN ISRAEL

Before discussing the educational level of the Jews born in Israel (Section 15.8) and of the Non-Jews (Section 15.9), we shall give here some background information on the development of the educational system in Israel. In the last century or so, Jewish education in the Land of Israel has passed through four main phases:

a) before modern immigration, schools of the traditional religious character were established, mainly for boys;

b) in the last decades of the Ottoman rule a considerable number of modern schools was established, both for boys and girls;

c) during the Mandatory period there was a systematic development of the autonomous Jewish educational system, acknowledged and subsidized also by the Government. We saw (Section 5.3) that toward the end of the Mandatory period the Jewish school network succeeded to provide some sort of formal education to almost all Jewish children, despite the fact that education was not compulsory. Besides elementary schools, secondary and other types of schools existed, and in 1925 the Hebrew University was opened in Jerusalem;

d) during the Statehood period the educational network has been greatly extended. Education is now compulsory and freely provided to all children between the ages of 5 and 14, and in fact given to the overwhelming majority of the children¹.

In addition there is a widespread attendance of children below the age of 5 in kindergartens, as well as of young people above the compulsory schooling age in secondary, agricultural, vocational, post-secondary and academic institutions of various types. Table 15.11 provides some information on the development of educational institutions in Israel, their teaching staff and number of pupils. The rate of growth has been by far greater than that of the population.

The growth of the institutions of higher learning has been of particular importance in the life of the country. There are at present seven major academic institutions (5 fully-fledged universities, a polytechnical school, and an institute for higher scientific research).

¹ E.g., the percentage of pupils in schools per 100 Jewish children of each age in the school year 1975-76 was as follows:

aged				
6-13	14	15	16	17
98.5%	96.3%	81.5%	65.3%	54.0%

TABLE 15.11

THE DEVELOPMENT OF THE EDUCATIONAL SYSTEM OF ISRAEL

Language of teaching and type of school	School year						
	1948-49	1950-51	1955-56	1960-61	1965-66	1970-71	1975-76
<i>Hebrew education</i>							
Institutions	1,286	2,201	3,371	3,392	4,627	5,385	6,884
Teaching posts	6,283	10,344	18,179	26,357	36,359	43,326	64,870
Pupils	29,105	214,043	393,622	546,782	652,631	718,219	787,450
<i>Arabic education</i>							
Institutions	46	107	123	165	202	334	356
Teaching posts	186	601	999	1,615	2,022	4,414	6,933
Pupils	11,129	29,720	35,893	51,818	72,096	116,888	153,280
<i>Pupils in both systems together</i>							
Kindergartens	26,530	50,365	74,512	83,091	96,358	121,858	161,710
Primary education ¹	101,124	170,452	305,794	422,090	474,176	505,340	564,365
Post-primary education	10,232	18,583	39,974	79,730	126,043	162,373	150,766
Teaching training colleges	713	1,062	2,585	2,853	6,394	5,449	12,399
Academic institutions	1,635	3,301	6,650	10,836	21,756	40,087	51,500
<i>Total educational system and academic institutions²</i>	140,234	243,763	429,515	598,600	724,727	835,107	940,730

¹ Incl. intermediate schools.² Not incl. "Other institutions" (in 1975-76: 93,600 pupils).

Some numerical indicators of this development are given below:

	1948–49	1974–75	1975–76
Students	1,635		51,500 ¹
Recipients of first degree	135	6,638	
Recipients of second degree	48	1,233	
Recipients of third degree	10	273	
Professors and lecturers	118		about 4,300

The great increase in the number of recipients of academic degrees, together with the inflow of immigrants with academic degrees², has put Israel among the countries with proportionally large academic population. Some information on this point is given by Table 15.12C which summarizes the results of two sample inquiries on the academic population conducted in connection with the 1961 and 1972 census.

The formation of a comparatively large number of people with academic training of various kinds, liberal professionals and scientific workers, has had a strong impact on many aspects of the development of Israel with regard to industry, agriculture, health services, security, research, etc. However, we cannot discuss these problems here, neither the momentous issue of future demand and supply of academics which, in turn, is connected with future development of the country, higher educational policies, future rates of immigration and emigration of people with academic education, etc.

15.8 EDUCATIONAL LEVELS OF JEWS BORN IN ISRAEL. DIFFERENTIALS ACCORDING TO ORIGIN

Let us consider first in Table 15.10 those *born in Israel to an Israeli-born father*: in the 1961 census medians of 9–10 years of schooling are found among this population group for men aged 14–64 and women aged 14–44, and a median of 7.0 for women aged 45–64. This shows that children born in the 20th century in the Land of Israel have reached generally a good, or at least a fair, educational level; this corresponds to the phases b), c) and d) in the evolution of the educational system in this country, as mentioned in Section 15.7. Considering persons aged 65 and over, the medians of 7.8 for men, and 0.8 for women, indicate that for persons born in the 19th century, the educational standards corresponded to phase a).

When we consider children *born in Israel to a foreign born father*, the following main characteristics are shown by Table 15.10.

1) Children born in Israel to a father born in Europe and America have even better educational achievements than those born in Europe and America, and up to the age of 45 men and women show equal educational attainments.

¹ Of them; 37,150 study for the first degree, 8,870 for the second, 2,500 for the third, 2,980 for diplomas and at special courses.

² From the sample inquiries quoted in Table 15.12C, it emerges that for 100 persons with a university degree:

	1961	1974
Graduated in Israel	29.3	56.7
Graduated abroad	70.7	43.3

Part of those who graduated abroad are students from Israel who have completed their academic training outside Israel.

TABLE 15.12

**DIFFERENTIALS IN POST-PRIMARY AND ACADEMIC EDUCATION
ACCORDING TO ORIGIN AND SEX (1951-1976)**

A) Percentage of school attendance by Jewish children aged 14-17					
School year	Boys	Girls	Total	Asian- African	European American
				origin	
1951-52	43.0	42.7	42.8		
1961-62	59.6	61.4	60.5		
1966-67	58.2	66.1	62.0	51.2	73.4
1969-70	63.1	70.7	66.8	54.9	81.5
1975-76	68.2	80.3	74.1	66.3	83.2

B) Percentage of students in academic institutions per 100 aged 20-29 in the Jewish population			
Students per 100	Academic year		
	1964-65	1969-70	1972-73
Men	5.42	7.02	7.87
Women	2.82	5.65	6.25
Total	3.79	6.35	7.04
Born in Asia-Africa	0.79	1.61	2.03
Born in Israel, father born in Asia-Africa	1.58	2.46	2.76
Born in Israel, father born in Israel	5.24	7.46	8.75
born in Europe-America	5.35	9.76	9.32
Born in Israel, father born in Europe-America	10.74	12.62	13.80

C) Percentages of Jews aged 20 and over with academic or post-secondary education				
Had academic or post-secondary education per 100 aged 20 and over	Persons with academic degrees		1974	1974
			Persons with post- secondary or academic education	Total
	1961	1974		
1	2	3	4	5
Men	4.83	7.06	5.31	12.36
Women	1.59	3.98	9.13	13.12
Both Sexes	3.22	5.50	7.24	12.74
Born in Asia-Africa	0.60	1.20	2.84	4.05
Born in Israel	3.42	7.72	4.93	19.66
Born in Europe-America	4.75	7.81	8.22	16.02

2) Children born to a father born in Asia and Africa have much better educational levels than persons born in Asia and Africa. However, they are at a lower level than children born in Israel to a father born in Europe.

This finding is one out of many symptoms of a problem which has attracted wide attention in Israel, viz. that educational differentials do not disappear in the second generation (that of native-born of foreign-born parentage). Poor educational and socioeconomic parental environment influence to a certain extent the educational opportunities of the children, and in turn they may influence the socioeconomic conditions of the children when they grow up.

School attendance of the children at the compulsory education ages has practically been solved. The main concern is to improve their actual educational achievements in primary schools and their chances to continue studies in vocational and secondary schools, and eventually at a post-secondary level. It is argued that the inequalities of these chances are at the root of the still persisting socioeconomic inequalities between different population groups.

In this context some rates are given in Table 15.12 on differentials by origin and by sex on participation in post-primary and university education, and in academic-trained population. At secondary and vocational schools levels (Panel A), the differentials are not large. At university level (Panel B), and in academic-trained population (Panel C) they are very considerable. However, the progress made by people of Asian and African origin appears to be rapid. Percentages in Panel C are influenced both by differentials in educational attainments in Israel and abroad.

15.9 EDUCATIONAL STRUCTURE OF NON-JEWS IN ISRAEL

The State of Israel maintains a network of Arab primary, post-primary and other schools (see Table 15.11). The rates of school attendance per 100 children aged 6–13 (in 1972–73) were as follows: Christians: 97.0%; Druzes and others: 92.0%; Moslems: 89.4%; Boys: 96.0%; Girls: 85.1%.

Despite the fact that there is still some evasion of compulsory school attendance, mainly in the terminal years, the progress achieved, in comparison with the situation prevailing at the end of the Mandatory period (see Section 5.3), has been enormous, and the sex and religious inequalities tend to disappear.

Increasing number of Non-Jewish pupils attend vocational, secondary, academic and other institutions of learning. However, it is seen from Table 15.7 that the distribution of Non-Jews by type of last institution attended differs very considerably from that of the Jews, as about 2/3 have attended at most elementary schools as compared to about 1/3 among the Jews.

Table 15.13 shows median of school years for the Non-Jewish population by sex, religion and age (based on the 1961 census)¹. It is seen that the medians of school years have changed very strongly in the course of time. While old generations, mainly among women, had extremely low medians, considerable achievements have been gained by the young generations, and especially among men. Christians, particularly European Christians, accomplished greater progress than Moslems. Data not given here show that the lowest medians are those of the Bedouins in the Negev.

¹ Table 15.13 shows that a very pronounced progress in educational level (mainly of females) has been made in the period between the censuses of 1961 and 1972. However, detailed data, broken down by religion, sex and age, for the 1972 census have not yet been released.

TABLE 15.13

MEDIAN OF YEARS OF STUDY OF NON-JEWS AGED 14 AND OVER (1961)¹

	MALES					FEMALES				
	14-29	30-44	45-64	65+	Total	14-29	30-44	45-64	65+	Total
Moslems	6.0	2.5	0.7	0.7	3.9	0.7	0.5	0.5	0.5	0.6
Christians ²	7.6	7.1	4.8	2.8	6.9	6.9	5.5	0.9	0.9	5.7
Druzes	6.5	2.8	0.9	0.7	4.2	0.9	0.6	0.5	0.5	0.7
All Non-Jews	6.4	4.0	0.9	0.7	5.2	0.9	0.7	0.7	0.6	0.7

¹ 1972: males 6.7; females 2.1.² Of them European Christians, all ages over 14: males: 9.5; females: 10.7

CHAPTER 16

LABOR FORCE STRUCTURE¹

16.1

SIZE OF LABOR FORCE²

Table 16.1 shows how the civilian³ labor force of Israel developed with the increase of population from about 343,000 in 1949 to 1,138,000 in 1975. The yearly percentages of population in labor force have oscillated between rather narrow limits: from data detailed by individual years it is seen that they varied between 33% and 37% (and between 48 to 54 per 100 persons aged 14 and over). On the average, the percentage in labor force in 1949–1975 has been 34.9 per 100 in the population, and 51.6 per 100 aged 14 and over.

In order to evaluate these levels, it may be interesting to compare them to percentages found in other countries. However, international comparisons in this field are not easy due to the differences in definitions of active population or population in labor force, differences in sources of data, differences in conditions with regard to evaluation of women's and old people's work in agriculture, etc. A cursory perusal of percentages of population in labor force published in the Yearbook of Labor Statistics shows that the percentages for Israel are smaller than those of many developed countries, but larger than those of a considerable number of under-developed countries. This is probably due to an interplay of a complex system of factors, such as rates of participation in labor force specific by sex and age (which for certain sectors of the population of Israel are rather similar to those found in developed countries), and proportions of people under the labor force age which are much larger in Israel than those usually found in developed countries.

To analyze the labor force in Israel, it is therefore convenient to study separately the influence of age structure on the labor force (Section 16.2) and age and sex

¹ This chapter is partly based on a draft prepared by Dr. Moshe Sicron. However, responsibility for any mistakes or misjudgments rests with the author of this Monograph. In this chapter we discuss only numbers of persons included in the civilian labor force. Some information on the number of unemployed are given in Section 16.6 and Table 16.1. However, for lack of space, we have not included any discussion on the proportions of persons in labor force working full-time or part-time (see Table 16.1), nor on the quality of work (productivity, etc.).

² Most data for this chapter are taken from the Labor Force Surveys conducted by the Central Bureau of Statistics of Israel since 1954 (see Appendix 7.8). For estimates for previous periods see A. Hovne, *The Labor Force in Israel*. Jerusalem, Falk Project for Economic Research in Israel, 1961. For the Arab population, see Y. Ben Porath, *The Arab Labor Force in Israel*, Jerusalem, Falk Institute, 1966. On the impact of immigration on labor force, see M. Sicron, *Immigration to Israel 1948–1953*, Jerusalem, Falk Project for Economic Research in Israel, 1957.

³ Labor Force Surveys do not include soldiers serving in the regular army on compulsory military service. Methods for taking the population sample and definitions are given in the annual *Labor Force Survey* publications, and in the *Statistical Abstract of Israel*. Both survey methods and definitions have been changed in the course of time. This impairs somewhat the validity of comparisons between data for various periods.

TABLE 16.1

DEVELOPMENT OF CIVILIAN LABOR FORCE OF ISRAEL

A) Estimate for 1949-54						
	1949	1950	1951	1952	1953	1954
Absolute size of Labor Force (in thousands)	342.9	450.1	545.0	584.0	598.6	608.0
Per 100 in the population	33.2	35.9	36.8	36.7	36.6	36.3
Unemployed per 100 in Labor Force	9.5	6.9	6.1	7.2	11.3	8.9

B) From Labor Force Surveys (1955-1975)							
Years	Average size (in thousand)	Per 100		Per 100 in civilian labor force			
		in the population	in the population aged 14+	employed		Temporarily absent from work	Unemployed
				Full time	Part time		
1955-58	659.9	35.2	53.1	74.0	14.9	4.3	6.8
1959-62	760.8	35.2	53.3	74.0	16.3	5.4	4.4
1963-66	894.7	35.8	53.0	74.5	15.8	5.2	4.5
1967-69	962.3	34.3	50.3	69.9	17.5	5.6	7.0
1970-72	1,036.9	33.6	49.4	74.9	16.1	5.7	3.3
1973-75	1,126.2	33.4	48.8	69.6	18.0	9.5	2.9

specific participation in labor force for the various sections of the population, classified by religion, origin and educational level (Section 16.3-16.4).

16.2 POTENTIAL INFLUENCE OF AGE DISTRIBUTION ON LABOR FORCE

As we cannot enter here into a detailed and precise analysis of this problem, we shall content ourselves with the following approach: Let us divide the age classes examined in Sections 14.5-14.7 into three groups - "0-14" and "65 and over" which may be assumed to contribute little to the labor force, and "15-64" from which most of the labor force is recruited. By calculating a "dependency ratio" $100 \frac{(\text{aged } 0-14) + (\text{aged } 65 \text{ and over})}{(\text{aged } 15-64)}$ we can express, albeit in a very

crude way, the potential effects of the age distribution on the labor force.

Averages of "dependency ratios" given by Tables 14.7-14.13 are compared below to the ratios calculated in the same manner for the aggregated populations of "less developed" and "more developed" world regions, and for two selected

examples of these groups of regions (West South Asia and Europe)¹

	Less Developed		More Developed	
	World Regions			
	Total	Of which: West South Asia	Total	Of which: Europe
1950	78.5	78.3	54.8	53.6
1970	79.9	88.0	57.0	58.7
	Palestine		Israel	
Moslems	87.8 (1926–44)		121.4 (1955–75)	
Christians	66.0 (1931–44)		80.2 (1955–75)	
Jews	51.8 (1926–45)		60.8 (1948–75)	
Total			67.7 (1955–75)	
	First two generations 1961		First three generations 1972	
Jews of African origin	90.5		74.5	
Jews of Asian origin	77.0		66.1	
Jewish or European- American origin	48.8		47.3	

It is seen that the dependency ratio for Israel is midway between that of less developed and more developed regions. However, this ratio is the weighted average of widely divergent ratios for the various groups forming the Israeli population. The ratio for Moslems in Israel is over 50% higher than that for the less developed regions; that for African Jews is similar to the latter; that for European Jews is much lower than that of more developed populations. In certain groups of Jews of European origin the proportion of old people among the dependents far exceeds that of more developed population while among the Moslems (1970–1975) it is much smaller than that found in less developed regions.

The dependency ratio of the Jewish population (Table 14.7) has increased from a low level of 46.6 in 1936 to 66.7 in 1957 and slightly decreased afterward (through minor fluctuations). The dependency ratio for the entire population of Israel (Table 14.13) does not show any definite time trend.

¹ Taken from *The Population Debate: Dimensions and Perspectives*, New York, United Nations, 1975, p. 180.

16.3 PARTICIPATION IN LABOR FORCE, BY SEX AND AGE

Table 16.2 shows rates of participation in civilian labor force, by sex and age, according to current labor force surveys (1955–75) for the total and Jewish population¹.

Both the shape of the distribution of rates by age within each sex and the evolution of the rates in the course of time are very similar for the total population and the Jews who constitute the large majority of the population in all age groups.

Let us compare the participation rates of Israel in 1970–75 to those for Europe (excluding the U.S.S.R.) around 1970²:

	15–19	20–24	25–44	45–54	55–64	65 and over
Males	59.0	87.6	97.3	95.0	81.3	26.4
Females	46.0	59.3	45.3	43.8	30.6	8.6

The shape of the distribution of the rates are not very dissimilar:

1) For the *men*, in Israel as in Europe, the higher rates of participation are reached at ages 25–54. At those ages they are somewhat smaller in Israel than in Europe. However, at lower ages (14–29) the rates of Israel are much smaller than those of Europe, whilst at higher ages (55 and over) they are somewhat higher.

The low participation rates at ages under 24 in Israel can be explained mainly by the following:

a) the Labor Force Survey of Israel does not include young people of both sexes serving in the armed forces; b) the proportion of young people in secondary, vocational and other schools, and in academic institutions is large and rapidly tends to increase (see Section 15.7). This speedy growth explains also the strong decrease in rates of participation in labor force under the age of 24 which has occurred in Israel in the period under survey (with regard to both sexes).

While rates of participation at ages over 55 are higher in Israel than in Europe, they have shown in the last decade or so a clear tendency to decline³.

2) For the *women* in Israel as in Europe, the rates increase up to about the age of 25 and then decrease. In Israel rates of participations of women in the labor force have tended to increase rather rapidly in the course of time. However their level is still below of that in Europe.

Participation of women in the labor force is closely connected with marital status and with the presence of children. Table 16.3 shows that, keeping ages constant, labor force participation is higher for unmarried than for married women, for non-single women without children than for those with children.

¹ Rates indicate the proportion in civilian labor force per 100 of each population group.

² *The Population Debate*, op.cit. pp.308–309.

³ Between 1955–58 and 1963–66 an opposite trend prevailed. This was presumably due to a feature peculiar to Israel. People who arrived in Israel at ages over 50 from Asia and Africa had particular difficulty in entering the labor force. Those people weighted more heavily in the population aged 55 and over in the 1950ies than in the 1960ies.

TABLE 16.2

RATES OF PARTICIPATION IN CIVILIAN LABOR FORCE,
BY SEX AND AGE

Years or population group	14-17	18-24	25-34	35-44	45-54	55-64	65 and over	All ages (14 and over)
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A) MALES

1) All								
1955-58	39.6	80.1		96.2		80.7	35.1	79.2
1959-62	37.5	80.4		96.4		84.6	35.4	78.7
1963-66	37.4	77.4		96.7		90.0	39.3	76.5
1967-69	30.8	51.4	93.1	95.4	95.4	87.9	34.9	71.4
1970-72	25.9	45.8	91.0	94.9	94.7	87.5	32.8	68.8
1973-75	21.1	42.4	88.2	93.9	93.6	85.3	30.9	66.4
2) Jews								
1955-58	37.8	78.8		96.7		82.2	35.9	79.5
1973-75	18.8	37.2	87.4	94.0	93.8	86.4	32.0	65.7

B) FEMALES

1) All								
1955-58	28.4	32.5		27.1		16.6	4.8	26.6
1959-62	24.5	33.9		29.8		17.9	6.1	27.6
1963-66	26.7	37.0		31.2		22.0	6.3	29.3
1967-69	22.7	44.7	30.4	31.3	32.5	21.9	5.3	29.0
1970-72	17.5	45.0	34.5	33.1	34.2	22.8	5.1	30.0
1973-75	13.7	42.8	41.1	38.0	36.2	22.8	5.6	31.4
2) Jews								
1955-58	31.4	34.9		28.4		17.5	5.1	28.3
1973-75	15.0	47.0	45.9	42.1	39.0	24.2	5.7	34.3

It decreases with increasing number of children and decreases with decreasing age of the youngest child. These features appear also when we consider data broken down by woman's age into more refined classes than those of Table 16.3 and when other characteristics, such as origin or level of schooling are kept constant.

Despite lower tendency of married women to participate in the labor force than unmarried women, there has been a steep rise in rate of participation of married women in the labor force (from 22.9 per 100 women in 1955 to 36 in 1975), and this largely explains the rising tendency of participation of the entire population of women.

16.4 PARTICIPATION IN LABOR FORCE, BY RELIGIOUS-ETHNIC GROUPS, ORIGIN AND EDUCATION

A. *Religious-ethnic groups.*

Due to the smallness of the sample used for Labor Force Surveys, rates of participation in the labor force of Moslems and Christians separately, broken down by age and sex, have not been currently calculated. However, examples of available information with respect to these populations are given in Table 16.4¹.

TABLE 16.3

RATES OF PARTICIPATION IN CIVILIAN LABOR FORCE OF JEWISH WOMEN, BY MARITAL STATUS, NUMBER AND AGE OF CHILDREN²

A) In labor force per 100 of each age and marital status (1972-75)

Marital Status	14-17	18-24	25-34	35-54	55-64	65 and over	All ages (14 and over)
Unmarried	16.1	52.4	81.9	60.5	26.2	5.4	34.9
Married	(20.0)	39.3	38.1	37.5	23.5	6.7	33.6

B) In labor force per 100 non-single women of each age and with each number of children (1971-75)

Age of women	Number of children				Age of youngest child				All non-single women
	0	1	2	3 and over	0-1	2-4	5-9	10-13	
14-34	63.2	39.5	28.3	17.1	24.4	31.9	41.9	40.1	35.7
35-44	46.9	41.3	40.1	23.4	21.0	29.2	37.4	42.9	37.5
45 and over	21.2	31.7	23.0	17.0	x	x	25.7	29.6	22.7
All ages	27.9	37.9	34.3	20.6	25.1	32.0	37.1	37.2	29.7

¹The averages for Non-Jews in 1958-1963 are taken from the study by Y. Ben Porath quoted above; those for 1961 are taken from the census; the data for 1974 are from the Labor Force Survey of that year. Methodological problems which render the data not strictly comparable cannot be discussed here.

² In this and following tables x indicates that the population group considered was too small for calculating a reliable rate, () indicates that the sampling error of the rate is high.

TABLE 16.4
RATES OF PARTICIPATION IN CIVILIAN LABOR FORCE

	14-17	18-24	25-34	35-44	45-54	55-64	65+	All ages (14+)
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A) Males

Non-Jews 1958-63	53.4	93.0	89.6		39.4		77.3	
Moslems 1961	57.8	89.7	85.2	72.4	54.5	22.2	74.7	
Christians 1961	40.9	90.7	94.0	85.6	59.2	13.2	75.4	
Non-Jews 1974	29.0	72.0	94.8	93.6	89.6	68.1	16.3	70.3

B) Females

Moslems 1961	14.1	10.6	10.6	9.4	9.4	6.1	10.6
Christians 1961	10.5	18.9	20.1	16.8	17.9	10.6	17.1

C) Participation in labor force of Non-Jews by sex (at ages 14 and over).

	1955-58	1959-62	1963-66	1967-69	1970-72	1973-75
Men	75.9	77.4	81.8	77.8	75.1	71.5
Women	9.1	11.4	10.8	8.1	8.2	9.3

The distribution of rates of participation in the labor force of Non-Jews in Israel can be compared with that of the Jews given in Table 16.2 and to the distribution for the less developed world regions in 1970 given below:¹

	15-19	20-24	25-44	45-54	55-64	65 and over
Males	64.0	88.2	96.7	95.2	85.9	56.7
Females	38.0	44.1	46.2	46.2	35.3	18.4

Non-Jewish males have at ages under 24 higher participation rates than Jews because for most of them factor a) mentioned in Section 16.3 does not apply, whilst factor b) has a lesser influence than for Jews. However, also for Non-Jews increased propensity to study after completion of primary schools has tended to decrease the rates of labor force participation at very young ages. This may also explain why these rates are lower among Non-Jews of Israel than in less developed world populations and why they are lower among more educated Christians than among Moslems. Participation in labor force after the age of 55

¹ See *The Population Debate*, *op.cit.*, quoted above.

TABLE 16.5

RATES OF PARTICIPATION IN LABOR FORCE, BY SEX, AGE
AND NUMBER OF YEARS OF SCHOOLING¹

Years of schooling	14-17	18-24	25-34	35-44	45-54	55-64	65 and over	All ages
MALES								
0	x	x	(58.6)	85.1	83.4	70.1	(13.0)	53.1
1- 4	x	x	(82.1)	91.6	91.9	79.5	22.5	65.7
5- 8	24.8	54.0	91.4	95.6	94.1	85.9	31.4	73.0
9-10	18.1	44.6	91.9	94.9	93.3	90.3	38.5	58.7
11-12	15.4	30.7	89.9	94.5	96.5	92.1	45.7	61.3
13-15	x	28.0	83.6	92.3	96.4	92.1	44.0	68.2
16+	x	x	78.1	95.0	95.9	91.3	45.8	78.6
All years	18.7	37.2	87.3	94.0	93.8	86.5	32.0	65.7
FEMALES								
0	x	x	15.9	24.4	23.3	(11.0)	(1.5)	13.5
1- 4	x	x	20.6	24.0	24.8	(16.3)	(3.8)	17.2
5- 8	20.4	40.0	22.7	29.3	31.3	20.5	(6.3)	25.3
9-10	14.6	49.5	35.2	44.4	39.1	29.5	(8.5)	31.1
11-12	12.6	46.1	50.3	54.8	52.2	33.1	(10.5)	41.4
13-15	x	49.6	71.1	68.2	66.1	44.1	(14.7)	58.7
16+	x	66.6	79.2	81.9	83.4	(54.1)	(17.8)	72.7
All years	15.1	47.0	45.9	42.1	39.0	24.2	5.9	34.3

¹ Averages of annual rates for 1973-1975

appears to be lower among the Non-Jews of Israel than among less developed populations. This may be partly, but not entirely¹ due to different types of response given to questions on participation in the labor force by elderly people in different agrarian and other societies. The same applies to some extent to the extremely low participation by Non-Jewish women in the labor force. However, other factors are also operative, such as large number of children among the Non-Jewish and especially Moslem women, and the opposition in the traditional Moslem society to allow women, in particular married women, to take employment outside their home. While Arab young men increasingly tend to work outside the villages in which their families reside, and commute to places where construction, industrial and other work opportunities are greater, this does not apply to women or elderly persons.

B. Education

As shown by Table 16.5, considerable differentials are found among Jews in labor force participation, according to education (when sex and ages are kept constant).

At young ages labor force participation decreases with increasing educational levels, which are connected also with increasing proportion of persons who continue their studies. At higher ages the tendency is opposite. With increasing education, the participation in labor force increases systematically. Detailed data, not given here, show that this tendency is found within each origin group.

C. Origin

We saw in Sections 15.6–15.8 that Jews belonging to different generations and origins have different educational structure. This largely explains the considerable differentials in labor force participation of peoples of various origins and generations as shown by Table 16.6. People of Asian-African origin have higher participation at lower ages than people of European-American origin, whilst the opposite is true at higher ages.

16.5 STRUCTURE OF LABOR FORCE, BY INDUSTRIES AND OCCUPATIONS

Table 16.7 gives a glimpse of the manpower aspect of the rapid development and transformation of the economic structure of Israel (see Section 6.5), which is a topic completely outside the scope of this Monograph. It is seen from the Table that the agricultural labor force accounted for only 6.8% in 1973–75 of the total labor force, as compared with 17.6% in 1955–58. Secondary branches (industry, construction, electricity) accounted in for 34.2% in 1973–75; tertiary branches accounted in the same period for a very large share (58.9%), the largest branch being public and business services. This structure is rather similar to that found in the developed countries.

For reasons of space we cannot discuss here the occupational distribution of the population of Israel. It is a fascinating but very complex subject, involving, among other, an analysis of the occupational distribution in the various communities of Diaspora Jewry; selectivity of immigrants by occupation; changes of occupation taking place in the Land of Israel, prompted either by ideological

¹ An attempt to explain this was made by Ben Porath, *op.cit.* p.15.

TABLE 16.6

RATES OF PARTICIPATION IN LABOR FORCE BY SEX, AGE, GENERATION
AND ORIGIN (AVERAGE 1973-75)

Age	Born in Israel			Born abroad in	
	Father born in			Asia-Africa	Europe-America
	Israel	Asia-Africa	Europe-America		

MALES

14-17	17.9	21.0	15.7	19.0	16.6
18-24	30.8	35.9	33.1	45.3	38.7
25-34	84.8	88.1	84.6	89.7	85.7
35-44	93.6	93.4	95.0	94.0	93.5
45-54	x	x	96.7	91.2	95.2
55-64	x	x	x	78.4	90.1
65+	x	x	x	17.7	37.4
All ages	53.4	40.1	55.7	73.8	74.4

FEMALES

14-17	16.3	16.3	13.0	14.4	10.3
18-24	45.3	48.8	46.4	45.6	46.9
25-34	54.9	41.6	64.4	31.1	53.9
35-44	53.3	35.8	62.4	27.9	53.0
45-54	x	x	57.0	25.0	45.1
55-64	x	x	x	12.5	29.4
65+	x	x	x	1.6	7.4
All ages	39.4	35.0	47.8	25.6	35.4

TABLE 16.7

EMPLOYED PERSONS BY MAJOR ECONOMIC BRANCHES¹

Economic branch (Classification of 1955-69)	Classification 1955-69					Classification 1968-75		Economic branch (Classification 1968-75)
	1955-58	1959-62	1963-65	1968-69	1968-69	1970-72	1973-75	
Agriculture, forestry and fishing	17.6	16.7	13.0	10.9	10.0	9.6	6.8	Agriculture, forestry and fishing
Industry (incl. mining and quarrying)	22.0	23.9	25.3	26.1	24.0	24.1	24.9	Industry (mining and manufacturing)
Construction (incl. public works)	9.5	9.4	9.4	8.1	8.0	8.1	8.3	Construction (building and public works)
Electricity, water and sanitary services	2.0	2.1	1.9	2.0	1.2	1.2	1.0	Electricity and water
Commerce, banking and insurance	12.9	12.2	12.9	13.1	13.3	12.9	12.5	Commerce, restaurants and hotels
Transport, storage and communication	6.3	6.3	7.0	7.5	7.7	7.4	7.4	Transport, storage and communication
Public and business services	21.6	22.0	22.8	24.0	22.7	23.1	25.8	Finance and business services Public and community services ²
Personal services and entertainment	8.1	7.4	7.7	8.3	8.1	8.0	6.6	Personal and other services
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	

¹ As the classification of economic branches has been changed in 1968, the data for 1968-69 are given according to both old and new classification.

² Administration, defense, education, health, etc.

reasons¹, or by the need of adapting oneself to employment possibilities offered by the labor market; policies pursued by the Government and other public agencies to facilitate occupational re-adaptation; differentials in re-adaptation according to sex, age at immigration, and educational level; occupational and social changes from first to second generation in the country²; differentials in occupational distribution of people of second and third generation in the country, according to origin and education; evolution of the occupational distribution of the Moslems and Christians in Israel; effects on the occupational structure of both Jews and Arabs of Israel caused by the large number of workers coming daily since 1967 from Judea, Samaria and the Gaza Strip to work in Israel.

We shall limit ourselves to show in Table 16.8 some examples of the wide differentials in the occupational structure which are found also today between the various population groups in Israel. Considering the population as a whole, the prevalence of "white collar" occupations is evident and similar to that found in more developed countries. Proportions of scientific, professional and technical workers, managers, etc. are particularly high among first and second generation of Jews of European-American origin. Proportions of skilled and unskilled workers in industry, building, etc., are particularly high among Jews of Asian-African origin and among Non-Jews.

16.6 SHORT-TERM FLUCTUATIONS IN LABOR FORCE PARTICIPATION

This topic is also completely outside the scope of this Monograph; its analysis would imply a discussion of the complex problem of short-term fluctuations in Israel's economy. We wish only to mention here the important problem of the immediate effects of mass immigration on labor force participation in Israel. Some informations is given by Table 16.1. It is seen that at the beginning (1949), the percentage of the population in labor force was comparatively very low, but it increased considerably in 1950-51. On the other hand, unemployment proportions were very high in 1949-54 and remained rather high also in 1955-58. Since then, with the exception of a period of recession in 1966-68, unemployment rates have been comparatively low, and Israeli economy has largely been marked by full employment.

¹This applies particularly to the "pioneer" immigration. For occupational changes of new immigrants in Israel, see, *inter alia*, Publication No.27 of the Population and Housing Census of 1961, and R. Bachí, "Trends of population and labor force in Israel", in: *The Challenge of Development*, Jerusalem, The Hebrew University, 1958, pp.69-79.

² See J. Matras and D. Weintraub, *Ethnic and other primordial differentials in intergenerational mobility in Israel*, Jerusalem, Brookdale Institute, 1977.

TABLE 16.8

EMPLOYED PERSONS BY OCCUPATION (1972-75)

Occupation	Jews born in					Non-Jews	Total
	Asia-Africa	Europe-America	Israel, father born in				
			Asia-Africa	Europe-America	Israel		
Scientific and academic workers	1.9	7.1	1.3	12.5	6.1	0.9	6.1
Other professional, technical and related workers	7.1	13.1	8.2	23.3	16.6	7.4	11.9
Administrators and managers	1.7	5.1	0.8	4.7	4.9	0.6	3.2
Clerical and related workers	12.6	18.7	23.1	21.8	23.7	4.9	16.5
Sales workers	7.3	11.1	5.0	4.7	7.1	7.3	8.0
Service workers	18.9	9.7	12.2	6.7	9.6	9.9	12.0
Agricultural workers	6.6	4.9	4.5	8.2	6.6	16.1	6.9
Skilled workers in industry, building, etc.	34.9	25.9	38.8	16.6	23.2	38.0	29.0
Other and unskilled workers in industry, building, etc.	9.0	4.4	6.1	1.5	2.2	14.9	6.4
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0

CHAPTER 17

POPULATION PROJECTIONS

17.1

METHODS OF PREPARATION

The Central Bureau of Statistics of Israel prepares population projections as a matter of routine¹, as tools for planning of services, for social and economic policy, and for demographic research. The basic type of population projection has recently been computerized. We shall give here a short summary of the projection of population by sex, age and population groups for 1993.

Other projections prepared by the Central Bureau of Statistics deal with households, but they will not be discussed here. We will also not discuss here projections of changes in numbers of pupils and students in schools, and their possible effects on changes in educational conditions of the population, nor labor force projections nor problems connected with preparation of regional population projections.

The projections are prepared separately for each of the main groups of population (by origins for the Jews and by religion for the Non-Jews). The basic population utilized is the *de jure* population at the end of 1973. To this population, classified by age and sex, specific mortality, fertility and emigration rates are applied according to the assumptions indicated below. Immigration projections are carried out separately.

It is assumed that specific *fertility* rates of Jews born in Europe, America and Israel will not change, while those for Asian-African Jews will continue their downward trend until they reach a level of total fertility of 3.1 children per woman.

Christians are assumed to reach also the same level, while for Moslems and Druzes it is assumed that the decrease of fertility rate will continue, so that the total fertility will reach in 1993 the median between fertility of this group and that of the Christians in 1973.

Mortality is assumed to continue to have at all ages and for all groups the same level as in 1970–73. However for the Non-Jews it is assumed that their mortality at ages 0–4 will decline until it reaches the 1970–73 mortality of the Jews at that age.

Emigration is assumed to continue to have the same age and sex specific levels as in 1965–73.

¹ The latest projections have been published in the volume *Projection of the population in Israel up to 1993* (Special series of publications, No.490, Jerusalem, Central Bureau of Statistics). Previous projections appeared in Publication 393 (for 1990), in Publication 242 (for 1985), etc.

Past experience suggests that *Jewish immigration* will continue. However, yearly size, origins and age and sex structure are hard to forecast (see Section 9.11). Therefore the method used in the population projections of the Central Bureau of Statistics is the following. A basic calculation is carried out without taking into consideration immigration (A in Tables 17.1—17.2). Then models are built showing the development in the course of time of a population formed by streams of immigrants of constant yearly volume. As experience indicates that age structure and basic demographic characteristics differ between immigrants of European-American origin and immigrants of Asian-African origin, models are prepared separately for each group. For instance the model of the 1993 projections shows that a population of immigrants of European-American type is expected to grow over the first 17.5 years from 1,000 to 1,109, while a population of immigrants of Asian-African type is expected to grow to 1,463.

With the help of those models, users of the projections can evaluate possible effects of constant yearly streams of immigrants of any size. Two examples of calculations are given in the 1993 projections, which are labeled respectively B) and C) in Tables 17.1 and 17.2. The yearly streams of Jewish immigration assumed over 1973—1993 are:

	Total	of which	
		From Europe-America	From Asia-Africa
B	25,000	20,000	5,000
C	50,000	45,000	5,000

17.2

MAIN FINDINGS

Tables 17.1 and 17.2 show some of the main findings which can be derived from the projections (total size of population, age and sex structure, composition of total population by main ethnic-religious groups, and of Jewish population by "generations" in Israel and origins). In many cases results of hypotheses A, B, C are very similar, and there is no need to select among them. In other cases this need arises. To guide the reader the following remarks can be made. A is certainly unrealistic and it is given only as a limiting hypothesis on which the first step of calculation is based.

Considering yearly averages of immigration over long periods of time after the end of mass immigration (1948—51), the following results are found:

1952—1964 (when Jewish communities with high propensity to immigration had still considerable populations): 40,195.

1965—1975 (nearing the exhaustion of the population of these communities): 32,782.

These results range between B and C but suggest that in the last decade or so, even taking into consideration the immigration from the USSR, the average size of immigration has been nearer to B than to C. Therefore it may perhaps be suggested to consider C as a sort of upper limit, and consider B as a sort of medium hypothesis. However the basic unpredictability of size of Jewish

TABLE 17.1

POPULATION PROJECTIONS FOR 1993. AGE AND SEX STRUCTURE

		Jewish population			Non-Jewish		Total population				
		1993. Hypothesis on annual immigration			1973	1993	1973	1993. Hypothesis on annual immigration			
		1973	A)	B)				C)	A)	B)	C)
			0	25,000				50,000			
Total		2,810.4	3,558.1	4,110.3	4,645.5	497.1	1,063.2	3,307.6	4,621.3	5,173.4	5,708.6
Percentage of males		50.0	50.2	49.9	49.7	50.9	51.2	50.2	50.4	50.2	50.6
Percentage aged	0-4	11.3	10.0	10.2	10.2	19.6	17.9	12.6	11.8	11.8	11.7
	5-9	9.5	9.7	9.8	9.8	16.3	15.3	10.5	11.0	10.9	10.8
	10-14	9.0	9.7	9.5	9.4	13.6	13.0	9.7	10.4	10.3	10.1
	0-14	29.9	29.4	29.5	29.6	49.6	46.3	32.8	33.3	32.9	32.6
	15-29	27.5	24.7	24.5	24.2	24.9	27.5	27.1	25.4	25.1	24.8
	30-44	15.7	19.6	19.5	19.3	13.4	14.7	15.3	18.5	18.5	18.5
	45-64	19.0	16.7	16.8	17.1	8.4	8.8	17.4	14.9	15.2	15.5
	65 and over	7.9	9.6	9.7	9.9	3.7	2.8	7.3	8.0	8.3	8.6
Dependency ratio		60.8	63.9	64.5	64.7	114.1	96.5	66.9	70.4	70.1	70.1

TABLE 17.2

**POPULATION PROJECTIONS FOR 1993.
STRUCTURE BY ETHNIC RELIGIOUS GROUPS, GENERATIONS AND ORIGINS**

	1973	1993. Hypothesis on annual immigration		
		A 0	B 25,000	C 50,000
<u>Percentages by ethnic religious groups</u>	1. Per 100 of total population			
Jews	85.0	77.0	79.4	81.4
Moslems	11.3	18.6	16.6	15.0
Christians	2.5	2.6	2.4	2.1
Druzes and others	1.2	1.8	1.6	1.4
<u>Percentages by generations in Israel</u>	2. Per 100 of Jewish population			
First generation (foreign-born)	51.4	27.1	33.8	39.0
Second generation (born in Israel, father born abroad)	39.4	46.5	43.3	40.8
Third or higher generation (born in Israel, father born in Israel)	9.2	26.4	22.9	20.2
<u>Percentages by origins</u>	3. Per 100 of first and second generation of Jews			
Asian-African origin	51.7	60.9	54.0	46.1
European-American origin	48.3	39.1	46.0	53.9

immigration (Section 9.11) should not be forgotten, nor the fact that figures like "25,000" or "50,000" per year are arbitrary.

a) *The general yearly rate of growth* of the projections of Israel's population is compared below to past periods, and to rates for main world regions.

Yearly rate of growth per 1000					
Mass immigration period 15.5.1948–1951	After end of mass immigration		Projections 1973–1993 acc. to hypothesis		
	1952–64	1965–75	A	B	C
203,4	36.9	29.9	16.9	22.6	27.7

Annual rate of growth per 1000 in 1975–1995: more developed world regions: 7.9; less developed regions: 23.5; world: 19.51.

¹ *The population debate: dimensions and perspectives.* New York, United Nations, 1975 p.190.

Hypothesis A indicates effects of age structure, fertility and mortality. The growth under this hypothesis can be compared to that for the world and its regions. It is seen that the growth of the population of Israel is expected to be larger than that of more developed regions but smaller than that of less developed regions and of the world.

Taking into consideration also the effects of immigration (B,C) it is seen that the growth of the population of Israel can be expected to be smaller than in the past.

b) *Rate of growth of Jews and Non-Jews*; The slowing down of growth is expected to occur both for the Jewish and Non-Jewish population. However the growth of the Non-Jewish population will continue to be, comparatively, very high.

	Yearly rate of growth per 1000				
	1952-64	1965-75	Projection 1973-1993 acc. to hypothesis		
			A	B	C
1. Jewish population	36.5	25.7	11.9	19.2	25.4
2. Non-Jewish population	39.4	45.6	38.7	38.7	38.7
3. Ratio (2)/(1)	1.08	1.78	3.25	2.02	1.52

c) *Size of population*. According to hypothesis B the population may be expected to reach 5,173,400 in 1993, of which about 4,110,300 Jews, 858,600 Moslems, 122,400 Christians, 82,200 Druzes, and Others.

d) *Ethnic-religious composition of the population*. As the rate of growth of Non-Jews is larger than that of the Jews even under hypothesis C (see (b) above), the proportion of Jews in the population — which has been decreasing since 1964 (see Section 14.1) — will probably continue to decrease. However the change in ethnic-religious population composition will not be dramatic. According to B-hypothesis the Jews will be a little less than 80% in 1993 as compared to 85% in 1973. The proportion of Moslems and Druzes will increase and that of the Christians will slightly decrease (Table 17.2).

e) *Composition of the Jewish population by generations*. The proportion of foreign-born will continue its decrease (begun in 1952: see Section 14.2); Whilst the first generation accounted in 1951 for 75% of the Jewish population, it may be reduced by 1993 to some 34%.

The weight of the second generation will increase and that of the third and above generations will increase very largely. Even under the hypothesis of 50,000 immigrants per year (viz. 1,000,000 in 1973-1993) people born in Israel will come to constitute a large majority of the population.

f) *Composition of the Jewish population by origin.* Table 17.2 shows in its third panel an estimate¹ of the origins of people of first and second generation². Even in the hypothesis of an immigration of 400,000 persons from Europe and America, and 100,000 from Asia-Africa, the share of people of Asian-African origin will continue to grow, under the impact of higher fertility of people of Asian-African origin as it did in the past decades (see Section 14.2). Only if the immigration from Europe and America will reach 900,000 (Hypothesis C) the people of this origin will again come to constitute a small majority.

g) *Proportion of sexes.* If only natural factors were operating (Hypothesis A), the Jewish population would increase very slightly its proportion of males. However assuming that immigration will continue to have the slight imbalance in favor of females it had in the past two decades (Section 8.9), a small majority of females would appear in the Jewish population. This is a continuation of present trends (Section 14.4).

Sex imbalance at marriage ages, roughly measured in Section 10.2 by comparing the proportion of males in a population formed by males aged 20–44 and females aged 15–39 will decrease:

1973	1993		
	A	B	B
47.2	49.0	48.3	47.8

Among the entire Non-Jewish population the imbalance in favor of males which is due to very young age structure (Section 14.4) will continue.

However, despite the small differences noted, the dominant trait of the population of Israel considered as a whole, will be an almost perfect balance of the two sexes.

h) *Age distribution.* The Jewish population will continue its ageing process (Section 14.5). If age distribution of immigrants will continue to be as it was in the past, immigration will not check this process. On the contrary, the proportion of people over 45 will be increased with increasing size of immigration, and that of people over 65 will reach almost 10% whatever the hypothesis put forward.

While the age distribution of Non-Jews will remain very young, the proportion of children will decrease, and so will the dependency ratio (Section 16.2). On the other hand, the dependency ratio of the Jewish population and of the entire population of the country will slightly increase.

¹ As the projections prepared by the Central Bureau of Statistics do not show the breakdown of second generation by place of birth of father, for hypotheses B and C this has been estimated.

² See Section 14.2 for a comparison of distribution by origin of the first two generations as compared to the distribution of the first three generation.

CHAPTER 18

GEOGRAPHICAL DISTRIBUTION AND URBANIZATION OF THE POPULATION (1948–1975)

18.1 TOPICS DISCUSSED IN THIS CHAPTER

The population of Israel multiplied itself by more than 4 times between 1948 and 1975 and largely changed its structure according to origins, education, and socioeconomic characteristics. It may be asked whether these developments were accompanied too by significant geographical shifts and basic changes in the characteristics of spatial distribution.

In order to facilitate discussion of these problems we present here:

a) Graphs 18.1–18.3 which show respectively the distribution of the Jewish population at the censuses of 1948, 1961 and 1972. In these graphs localities with 100–1000 population are represented by a small triangle, localities with 1000–5,000 by a small empty square, while localities with more than 5,000 inhabitants are represented by Graphical Rational Patterns proportional to the population.¹

b) As the Non-Jewish population has not changed greatly in the course of time, only one map for each religion (Moslems, Christians, Druzes) is given showing its distribution in 1972 (Graphs 18.4–18.6).

c) Table 18.1 shows the evolution of the number of inhabited settlements and of their distribution by size of population during the surveyed period. The presentation of these data is justified by the fact that the population continued to live in Israel (as in previous periods) in its great majority agglomerated in rather well-defined localities, with very small proportions residing sparsely in isolated farms, houses or hamlets.

d) Table 18.2 shows the urban-rural distribution of settlements and their population at different dates.

Criteria of classification have changed in the course of time in the official statistics of Israel, although they have from the start been based on a combination of (i) size of population, (ii) proportion of working people engaged in agriculture and (iii) municipal status.

¹ See detailed explanations in Appendix 10: 10,000 persons are represented by a unitary square, 100,000 by a square 10 times larger. The maps do not include the Southern part of the Negev.

TABLE 18.1

SETTLEMENTS BY SIZE OF POPULATION

Population of settlement	Number of settlements					Percentage of population				
	1948	1955	1961	1972	1975	1948	1955	1961	1972	1975
. 0-99	78	95	77	39	35	0.5	0.2	0.2	0.1	0.1
100-199	82	129	109	95	84	1.5	1.2	0.8	0.5	0.4
200-499,	156	386	411	415	418	6.5	7.4	6.4	4.3	4.1
500-999	46	106	121	172	181	4.0	4.0	3.5	3.5	3.3
1,000-1,999	42	46	51	36	40	7.1	3.7	3.5	1.6	1.6
2,000-4,999	21	53	50	49	51	6.6	9.4	7.7	5.1	5.2
5,000-9,999	8	19	20	26	25	8.2	7.8	6.7	5.5	5.1
10,000-19,999	5	13	14	23	23	9.8	11.2	8.1	10.2	9.4
20,000-49,999	1	9	15	18	18	2.7	13.4	22.0	18.4	16.1
50,000-99,999	2	1	2	5	7	22.4	3.0	6.7	12.2	14.0
100,000 and over	1	3	3	6	7	30.7	38.6	34.2	38.7	40.7
Total	442	860	873	884	889	100.0	100.0	100.0	100.0	100.0

TABLE 18.2

SETTLEMENTS AND POPULATION IN RURAL AND URBAN SECTORS (1948-1975)

	1948	1952	1955	1961	1965	1972	1975
Settlements							
Defined as rural		771	834	808	799	782	785
Defined as urban		47	51	65	76	99	104
Total (including undefined)		818	888	873	875	881	889
of these: Jewish settlements (incl. mixed settlements)							
Defined as rural	326	669	731	708	699	692	697
Defined as urban	42	45	49	63	72	86	87
Total (including undefined)	368	714	783	771	771	778	784
Total population (in thousands)							
Defined as rural		462.0	517.7	481.6	471.7	461.0	491.2
Defined as urban		1,161.5	1,267.6	1,697.9	2,126.7	2,684.6	2,996.3
Total (including undefined)		1,629.4	1,789.1	2,179.5	2,598.4	3,147.7	3,493.2
of this: Jewish population							
Defined as rural	110.6	330.7	371.2	297.9	267.4	255.2	273.6
Defined as urban	576.2	1,113.5	1,215.6	1,634.5	2,031.7	2,429.3	2,680.1
Total (including undefined)	716.7	1,450.2	1,590.5	1,932.4	2,299.1	2,686.7	2,959.4
Percentage urban							
Jewish population	83.9	77.1	76.6	84.6	88.4	90.4	90.6
Non-Jewish population		26.7	26.2	25.7	31.8	55.4	59.2
Total population		71.5	70.1	77.9	81.8	85.3	85.8

Proportions given in Table 18.2 enable us to evaluate the process of urbanization in Israel. However, as in the course of time many settlements have changed their status from "rural" to "urban", Table 18.2 does not permit us to evaluate the differential growth of rural vs. urban localities.

e) In order to do so and to study the various sub-groups of the urban population, Tables 18.3 and 18.7 (respectively for Jewish and Non-Jewish population) were built according to the following method: for localities classified as urban at the 1972 census data were collected for various time points between 1948 and 1975, and the evolution of their population was reconstructed retrospectively. Jewish urban population was subdivided by main categories: i) places included in the "conurbations" (metropolitan areas) of Tel-Aviv-Jaffa and Haifa (as defined in the census of 1972)¹; ii) Jerusalem. Towns not included in (i) or (ii) are divided according to whether (iii) they existed already before the establishment of the State in 1948 ("veteran towns") or, (iv) were founded afterwards ("new towns")². The remaining population was considered as rural.

f) Table 18.4 shows origin, generation and age structure of the Jewish population for each main type of urban and rural settlement, according to 1972 census³.

g) Table 18.5 shows the percentage distribution of the population by districts. Despite the crudeness of this type of geographical division, it can help to grasp some of the major developments which took place between 1948 and 1975.

In the following we shall examine the geographical distribution at the time of the establishment of the State, and the main changes which occurred since 1948 (Section 18.2). We shall then discuss the rural and urban development of the Jewish population of Israel (18.3, 18.4), segregation by origins (18.5), determinants of population redistribution (18.6) and characteristics of the geographical distribution of Moslems, Christians and Druzes (18.7).

18.2 GENERAL CHARACTERISTICS AND EVOLUTION OF THE JEWISH POPULATION DISTRIBUTION (1948–1975)

A) *The population distribution at the time of the establishment of Israel.*

We mentioned in Section 5.4 that toward the end of the Mandatory period (1944) the Jewish population was roughly divided as shown by Table 18.5, between the regions of Palestine (Graph 1.3), which were included in the territory of Israel (Graph 5.2). The first census of Israel taken in 1948 shows roughly⁴ a

¹See list of places in Publication No.10 of *1972 Census of Population and Housing*, Jerusalem, Central Bureau of Statistics, p.XIII.

²Towns which remained empty or almost empty after the 1948 war and in which Jews started to settle only after 1948, such as Beersheva, Lod, Ramle, etc., were also classified as "new".

³"Veteran" and "new" towns found in the inner ring and outer ring of the Tel-Aviv-Jaffa and Haifa conurbations are included in Table 18.4 both in "veteran" and "new" localities and in conurbations.

⁴ The geographical regions into which Israel was divided in the Census of 1948 do not correspond exactly to those of Graph 1.3.

TABLE 18.3
EVOLUTION OF THE JEWISH POPULATION BETWEEN 1948 AND 1975
IN LOCALITIES CLASSIFIED AS IN THE 1972 CENSUS

Type of localities	1948	1952	1955	1961	1965	1972	1975
A) Size of population (in thousands)							
Conurbations of Tel-Aviv and Haifa	457.1	797.7	876.9	1,062.5	1,222.3	1,419.4	1,518.0
Jerusalem	82.9	138.0	144.0	164.8	189.1	230.3	259.4
Other veteran towns	77.1	184.9	199.7	237.0	278.6	316.8	358.0
Other new towns	0.9	100.7	135.9	244.9	381.7	473.0	538.7
Rural localities	98.7	228.9	234.0	223.2	227.4	247.2	285.3
Total	716.7	1,450.2	1,590.5	1,932.4	2,229.1	2,686.7	2,959.4
B) Percentages in each type of locality							
Conurbations of Tel-Aviv and Haifa	63.8	55.0	55.1	55.0	53.2	52.8	51.3
Jerusalem	11.6	9.5	9.1	8.5	8.2	8.6	8.8
Other veteran towns	10.8	12.7	12.6	12.2	12.1	11.8	12.1
Other new towns	0.1	6.9	8.5	12.7	16.6	17.6	18.2
Rural localities	13.8	15.8	14.7	11.6	9.9	9.2	9.6
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0
C) Index numbers of population (1961=100)							
Conurbations of Tel-Aviv and Haifa	43.0	75.1	82.5	100.0	115.0	133.6	142.9
Jerusalem	50.3	83.7	87.8	100.0	114.7	139.7	157.4
Other veteran towns	32.5	78.0	84.3	100.0	117.6	133.7	151.1
Other new towns	0.4	41.1	55.5	100.0	155.9	193.1	220.0
Rural localities	44.2	102.6	104.8	100.0	101.9	110.8	127.8
Total Jewish population	37.1	75.0	82.3	100.0	119.0	139.0	153.1

TABLE 18.4

STRUCTURE OF POPULATION BY TYPE OF SETTLEMENT¹ (1972)

	Origin of first and second generation (percentages)			Percentage foreign-born who immigrated			Percentage born in Israel	Percentage aged ¹					
				Up to 1947	1948-1954	1955-1975		0-14	15-29	30-44	45-64	65 and over	
	Asia	Africa	Europe-America										
All the Jewish population	26.7	25.1	48.2	19.6	39.9	40.3	47.4	29.6	27.3	15.9	19.4	19.4	7.7
All urban localities	26.6	25.2	47.8	19.0	39.8	41.3	46.2	30.0	26.8	16.0	19.2	19.2	7.8
All rural localities	23.8	24.6	51.7	26.6	41.7	32.1	58.3	33.4	30.5	14.5	16.5	16.5	5.1
Veteran urban localities	27.6	17.8	54.6	23.6	42.9	33.5	47.5	28.1	26.6	16.1	20.5	20.5	8.6
New urban localities	24.6	50.2	25.3	2.4	30.5	67.0	41.6	37.1	27.8	15.7	14.5	14.5	4.9
Tel-Aviv conurbation	31.4	12.8	55.8	25.9	44.6	29.5	46.7	26.3	26.1	16.6	21.8	21.8	9.1
of which: Core	28.7	10.4	60.9	39.7	38.4	21.9	44.7	21.8	24.8	14.7	26.1	26.1	12.6
Inner Ring	29.5	12.9	57.6	20.5	50.0	29.5	47.8	28.1	26.5	17.8	20.3	20.3	7.3
Outer Ring	37.8	15.7	46.5	15.9	44.5	39.6	47.4	29.9	27.2	17.2	18.4	18.4	7.3
Haifa conurbation	13.0	20.8	66.2	23.7	40.4	36.0	42.7	25.0	25.8	15.7	23.7	23.7	9.8
of which: Core	10.1	15.7	74.2	30.4	41.2	28.3	44.0	23.9	25.2	15.8	24.7	24.7	10.6
Inner Ring	18.4	30.7	50.8	10.6	39.5	49.8	39.8	29.1	26.9	16.0	20.9	20.9	7.9
Veteran rural localities	10.9	9.3	79.9	50.0	23.7	25.8	58.2	26.8	31.4	13.8	21.5	21.5	6.5
New rural localities	32.4	34.6	33.0	10.6	54.7	36.0	58.3	38.3	29.8	15.0	12.8	12.8	4.1
Moshavim and collective moshavim:													
All	32.6	33.7	33.7	17.6	56.2	26.7	58.0	37.1	27.4	14.4	16.0	16.0	5.1
Veteran	14.7	9.1	76.4	51.2	30.6	19.1	56.6	26.3	26.7	15.0	22.0	22.0	10.0
New	37.3	40.1	22.4	7.0	63.9	29.1	58.4	40.4	27.6	14.2	14.2	14.2	3.7
Kibbutzim	6.4	6.2	87.4	46.1	20.3	33.8	60.1	28.8	33.6	15.0	18.4	18.4	4.2
All	5.7	5.2	89.2	55.2	17.0	27.5	58.9	26.8	33.0	13.3	22.1	22.1	4.9
Veteran	8.4	8.9	82.7	19.8	28.3	51.6	63.2	34.1	35.3	19.5	8.7	8.7	2.4
New	33.1	35.3	31.5	15.2	44.7	40.7	55.3	35.1	27.2	15.4	16.7	16.7	5.6
Villages													

¹ "New" means: founded after the establishment of the State (May 1948), "Veteran" means: founded before that date.

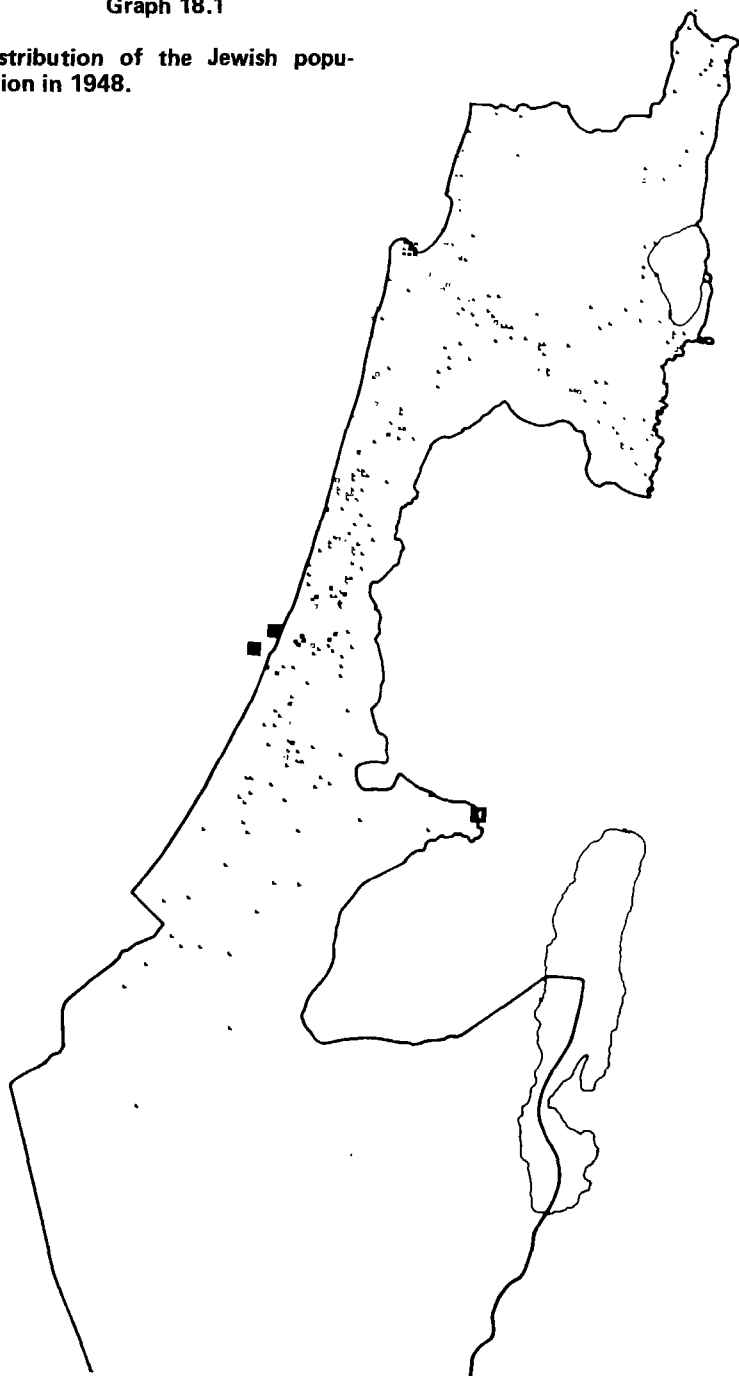
TABLE 18.5

PERCENTAGES OF POPULATION EACH DISTRICT (1948-1975)

Year	Northern	Haifa	Central	Tel-Aviv	Jerusalem	Southern
Jewish population						
1948	7.6	21.1	15.2	43.2	12.0	0.9
1955	10.7	17.0	21.6	35.5	10.0	5.2
1961	10.0	16.7	19.7	35.9	9.7	8.0
1965	10.2	16.1	19.1	34.3	9.4	10.9
1972	9.5	15.2	19.9	33.5	9.7	12.1
1975	9.5	14.8	20.9	32.2	9.9	12.7
Non-Jewish population						
1948	58.1	17.6	10.3	2.3	1.8	9.9
1961	57.7	19.4	10.9	2.8	1.7	7.5
Incl. East Jerusalem						
1975	47.0	15.9	9.5	1.6	18.6	7.4
Total population						
1948	16.8	20.5	14.3	35.7	10.2	2.5
1961	15.5	17.0	18.7	32.0	8.8	8.0
Incl. East Jerusalem						
1975	15.2	15.0	19.2	27.6	11.2	11.8

Graph 18.1

Distribution of the Jewish population in 1948.



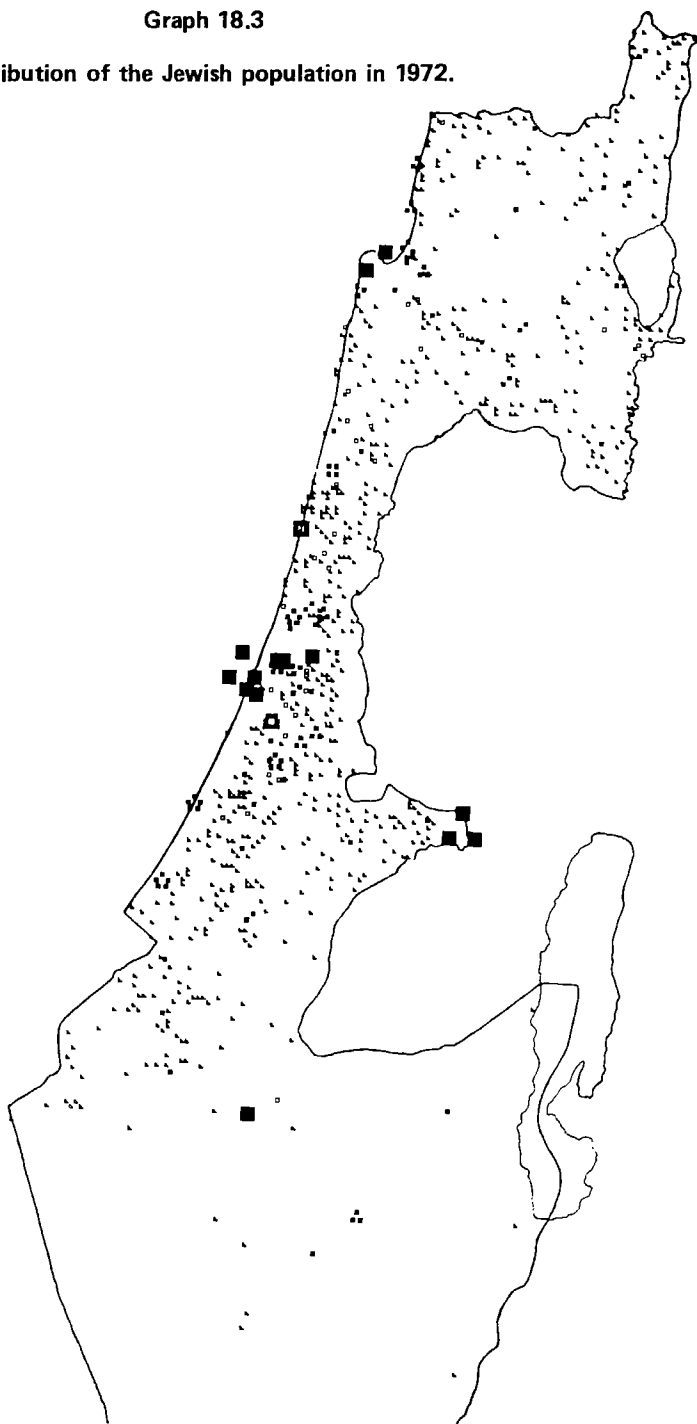
Graph 18.2

Distribution of the Jewish population in 1961.



Graph 18.3

Distribution of the Jewish population in 1972.



similar distribution, apart from a considerable decrease of the population of Jerusalem (see Section 18.4C).

Over 80% of the Jewish population were found in the coastal plains. Graph 18.1 and Table 18.3 show that even within this region the population was largely concentrated in very limited areas: 64% of the Jews actually lived in the two towns of Tel-Aviv-Jaffa and Haifa and in their surroundings. A large number of rural settlements and a few small towns were found in a belt extending from a little to the north of Haifa to a little to the south of Tel-Aviv.

TABLE 18.6

ROUGH COMPARISON BETWEEN REGIONAL DISTRIBUTION
OF THE JEWISH POPULATION IN 1944 AND 1948

No. of region	Name of region	31.12.1944	18.11.1948
1	Negev	less than 0.1	0.1
2	Coastal	74.8	80.5
3	Galilee	1.6	1.5
small part of 4	Judean Hills: mainly town of Jerusalem	17.9	12.2
5	Esdraelon, Ein-Harod and Baisan	2.4	2.4
Northern part of 6	Northern part of Jordan Rift	3.3	3.2
Total		100.0	100.0

In the zone between the Mediterranean Sea and Jerusalem only a limited number of small settlements were found. More to the south the country was practically empty. The Negev was inhabited only by a tiny and sparse Bedouin population (Table 18.7).

Jewish settlement in the northern part of the country was largely rural, with some small towns (see Graph 18.1): it extended in the Esdraelon — Ein Harod region (Region 5 of Graph 1.3) and bordered to the East, South and West the Galilee (Region 3) where a considerable Non-Jewish population (largely rural with the medium-sized town of Nazareth) was found (see Graphs 18.4—18.6).

B) Developments between 1948 and 1975

In the first years of mass immigration (1948—1949) most of the efforts of Government and other institutions dealing with the problem of immigrants' settlement were devoted to the immediate task of giving provisional shelter to hundreds of thousands of newcomers (Section 8.12). This resulted in practice in further concentration of the population in the central part of the country.

However in the following years a more planned settlement of new immigrants began to take shape, which had, together with other factors, a strong impact in changing both rural and urban population distributions (see respectively Sections 18.3 and 18.4).

A glance at Graphs 18.1–18.3 is sufficient to see that the dominant aspects of change which occurred in 1948–1975 have been: a large increase in the population of most places; an increasing dispersion of the population; a stronger population change in the period 1948–61 as compared to 1961–72. Actually much of the change, seen when we compare Graphs 18.1 and 18.2, occurred during 1948–1955.

C) *Basic characteristics of geographical distribution and redistribution of the Jewish population*

Taken together, the developments which occurred between 1948 and 1975 and the general characteristics of population distribution in Israel can be summarized by the following geostatistical indicators¹.

1) The center of the Jewish population which was in 1948 much to the north of that of the territory has tended continuously to move south. Also centers of industries and other phenomena show a similar development.

2) The spread of the Jewish population, measured by its "standard distance"² has changed as follows:

At the beginning of the Mandatory period when the comparatively small Jewish population was rather largely dispersed, this parameter was 50.9 kms. During the Mandatory period the Jewish population was largely concentrated in few zones and the dispersion decreased (45.0 kms in 1948).

In the first year after the establishment of the State it decreased further to 43.1 kms, due to the fact that masses of new immigrants were sheltered in the central regions. Since then and up to 1972, the standard distance has continuously increased, reaching 54.9 kms in 1972, the main change having occurred between 1950 and 1964. In the past few years the standard distance has oscillated around a rather constant level.

3) Despite the above changes the basic fact — dictated by climatic and geographical conditions — remains true that the population is very far from even distribution over territory and that its bulk is concentrated over a rather limited area.

18.3 DEVELOPMENT AND STRUCTURAL CHANGES IN JEWISH RURAL SETTLEMENT

In the late 1940ies and in the early 1950ies much effort was devoted to extend agricultural settlement, with the immediate aim of increasing food production, and as a means for absorbing immigration and for ideological reasons (see Sections 5.3, 6.5.1, 6.5.4 and 8.12).

The number of rural places increased largely (from 326 in 1948 to 731 in 1955; Table 18.2). The population officially classified as "rural" increased from 110,600 in 1948 to 371,200 in 1955 and the proportion rural within the Jewish population reached in 1954 the highest level attained in the Statehood period (23.7%).

¹ For explanations of these indicators, see Appendix 12.

² The standard distance is the quadratic average of the distances between the inhabitants and their center. It can be conceived too as an average of the distances between the inhabitants (divided by a fixed coefficient). This distance measures the spread over the territory. If the population was evenly spread over the entire territory of Israel its standard distance should be 105.6 kms.

Comparison between Graphs 18.2 and 18.1 shows that the rural population was largely spread over new or almost new areas and mainly so in the northern and southern regions and in the regions between Jerusalem and the Mediterranean Sea.

In the following periods, for reasons which are explained in Section 6.5, the growth in the number of agricultural settlements slackened and after 1958 it practically ceased¹. The size of the population classified as rural in the official statistics has almost continuously declined since the late 1950ies; in 1975 it stood at 273,600. The proportion rural among the Jewish population has thus decreased to 9.4%; and in the entire population of Israel to 14.2%. These percentages are lower than those found in most developed world regions (1970: Northern America: 25.8%; Northern Europe: 26.1%; Western Europe: 25.3%; Australia and New Zealand: 15.8%)².

If we reconstruct retrospectively the evolution of the population of the localities classified as rural in 1972 (Table 18.3), we obtain a somewhat different picture. The absolute size of this population has continued to increase from 1961 to 1975. However, the growth has been much smaller than in other types of settlement (see Panel C of Table 18.3). This slower growth can be explained by internal migration which has shown for many years a negative balance in the rural sector and a positive balance in the urban sector. In consequence, the percentage rural among the Jewish population is seen to have decreased also according to this method of calculation (from 15.8% in 1952 to 9.6 in 1975), although by far less than according to the official method (see Panel B of Table 18.3).

In 1948, 54% of the rural Jewish places were kibbutzim (Section 5.3), and this form of settlement included almost half of the Jewish rural population. In 1948–54 the number of kibbutzim continued to increase but at a comparatively slower pace than that of other forms of rural settlements. Among new immigrants of Asian or African origin only a few went to this type of settlement. Mass immigration of Asian-African origin was largely channeled toward moshavim (small holders' settlements). The number of these settlements increased from 104 in 1948 to 324 in 1954 and their population jumped from 30,100 to 112,500.

Since 1954 the population of these two types of rural settlements has changed only slowly: moshavim population reached 125,600 in 1951 and 137,000 in 1975; and kibbutzim population grew from 78,600 in 1958 to 96,200 in 1975.

Table 18.4 shows that the great changes which occurred in 1948–54 in the structure of Jewish rural population still exert a strong impact on the structure of this population today. While the population of "veteran" moshavim (according to the 1972 census) is still formed in its great majority (76%) by people of European origin, the "new" moshavim have a majority of 77% of Asian-African origin. On the other hand, the kibbutzim, both veteran and new, have remained by 87% European. Among foreign born, people who immigrated before 1947 still form 50% of the population of veteran rural localities, while people who

¹ Apart from some rural places established in the Golan Heights and in the Jordan Valley, etc. after the Six Day War.

² *The Population Debate: Dimensions and Perspectives*. New York, United Nations, 1975, Vol.1. p. 20.1

came with the mass immigration (1948–54) form 55% of the population of new rural localities. Comparatively little proportional addition has been given to the various types of rural population by the immigration of 1955–75¹.

In connection with that and other factors, the proportion of people born in Israel tends today to be comparatively high in all forms of rural settlements as compared to urban settlements (Table 18.4). Also the percentage of children is comparatively high: in the kibbutzim it is higher than that found among other groups of European origin in Israel², and in the new moshavim it is clearly influenced by the high fertility of the people of Asian-African origin.

18.4 DEVELOPMENT AND STRUCTURAL CHANGES IN JEWISH URBAN SETTLEMENT

Comparing Graphs 18.1–18.3, the most striking changes which are seen in urban development are: the continued increase in the population of the conurbations of Tel-Aviv-Jaffa and Haifa and of the town of Jerusalem, and the large increase both in number and size of population of small and medium-sized towns in all the regions of Israel and particularly so in the south. Some of these towns existed already at the end of the Mandatory period: a few had very old urban standing — already in Ottoman times (see Section 4.4), others were rural colonies (moshavot) which evolved into towns in the Mandatory period (Section 5.4.C). They are indicated in Tables 18.2 and 18.4 as "other veteran towns" (outside the three largest towns mentioned above). Many other towns (indicated as "new") have been founded after the establishment of Israel.

The large increase in the number of medium and small towns appears clearly also from Table 18.1. Until 1948 the Jewish population of Israel was characterized by: a) a large number of small settlements, mainly rural; b) on top of them the three larger towns included a great share of the total population; c) in the middle only a few small or medium-sized towns were found.

Today the situation has completely changed:

NUMBERS OF LOCALITIES OUTSIDE THE MUNICIPALITIES
OF JERUSALEM, TEL AVIV AND HAIFA, ACCORDING TO THE NUMBER
OF INHABITANTS

	Under 5000	5000–9999	10,000– 19,999	20,000– 49,999	50,000– 99,999	100,000 and over
1948	425	8	5	1	—	—
1975	809	25	23	18	7	4

We shall give below (under A) some remarks on the development of "new" or "other veteran" towns. Under B) and under C) we shall discuss the development of the three largest urban areas.

¹ Only among the population of new kibbutzim the immigrants who arrived after 1965 from the Americas and Western Europe had considerable relative importance.

² For the relatively high fertility of kibbutz population, see Section 12.7.

A) Development of "new towns" and other small and medium-sized veteran towns.

Establishment of new towns took place mainly in the period between 1952 and 1955 and to a lesser extent until the mid 1960ies¹. However, policies tending to develop them as well as the veteran small and medium-sized towns have continued. In the first stages, development of these towns has been largely the effect of centrally planned activities having various aims such as an effort to counterbalance excessive concentration of the population in the two big metropolitan areas; to spread the population over larger areas; to bring about a basic change in the country settlement patterns, by establishing a small or medium sized urban center in the middle of each planning area, so as to provide services to the villages of the area and to foster industrial development also outside the Tel Aviv and Haifa areas.

Policies were implemented in many ways: building the general infrastructure necessary for the foundation and development of the towns; channeling new immigrants to new towns by helping them to obtain housing and work; giving fiscal and other facilities to "development areas" (mainly in the northern and southern districts), etc.

In the course of time, intervention of central planning authorities in the development of new towns has decreased. Also the effect of channeling immigrants towards these towns has had less impact, due both to decrease of the size of immigration and the change in immigrant absorption policies (see Section 8.12).

Table 18.3C shows that the increase of the population of new towns was very steep and continued to be proportionately so also in the 1960ies and 1970ies and actually exceeded that of all other population categories. In 1975 new towns and veteran towns outside the two conurbations included 30% of the Jewish population of Israel (Table 18.3B).

The development of "new towns" and "other veteran towns" occurred along somewhat different patterns in different periods and different zones.

In the first years, many new immigrants were channeled toward towns which had remained empty or almost empty after the Arab exodus of 1948 (such as Ramle, Lod and Beersheva) and toward small nuclei having a long urban tradition (mainly in the northern region) such as Tiberias, Safed, Acre, etc., which were actually turned too into almost completely new towns.

In the southern regions, apart from Beersheva (which was a small center mainly for the Bedouin tribes of the Negev), no towns existed. Urban and rural development in southern regions went on together. Out of the 26 towns² which we have classified as "new", 12 are in the south. They include 58% of the population of "new" towns. As shown by indices given below, their growth is much steeper than that of central and northern new towns.

¹ On the urban developments outside the three larger metropolitan areas, see: D.H.K.Amiran and A. Shachar, *Development towns in Israel*. Jerusalem. The Hebrew University, 1969 and A. Berler, *New Towns in Israel*, Jerusalem, Keter, 1970.

² Besides these towns, six small "new" urban settlements are also included in the population estimate for new towns given in Table 18.3. New towns found in the conurbations are excluded.

INDEX NUMBERS OF JEWISH POPULATION OF 'NEW TOWNS'
(1961: 100)

Regions	1952	1955	1961	1965	1972	1975
Northern and central	53.6	69.1	100.0	134.2	152.3	167.7
Southern	25.8	38.8	100.0	182.4	243.3	284.1

The three "new towns" which have reached higher population levels are all in the south: Beersheva, which has become the main industrial, commercial and service center of the developing Northern Negev and has nearly 100,000 inhabitants; the new harbor town of Ashdod; and re-born Ashqelon.

The Jewish population of the southern district has increased from 6,000 in 1948 to 374,400 in 1975 and its share of the total population has increased from 2.5% (almost only Bedouins) to 11.8% (Table 18.5).

In comparison to the total urban population of Israel, new towns are characterized by a very high proportion of new immigrants (Table 18.4), a strong majority of people of African (50.2%) and Asian (24.6%) origins and a comparatively high proportion of children. Also in connection with that, the educational and socioeconomic levels are generally lower for this category of towns than for other towns. These differentials have created important political and other problems.

B) Development of the conurbations of Tel Aviv-Jaffa and Haifa

While the development of new towns has been largely due to central planning, the development of the two large conurbations has been mainly the result of the continued impact of economic forces which were in operation already at the end of the Mandatory period (Section 5.4C). These metropolitan areas are the most important industrial, commercial and service centers of the country. Their Jewish population has greatly increased¹:

	1948	1961	1975
Tel Aviv-Jaffa	341,300	803,000	1,171,500
Haifa	115,800	259,500	346,500

However, their relative growth has been slower than that of the total population (Table 18.3C). Therefore, if we keep constant the list of the settlements included in the conurbations and in other urban categories (Table 18.3B), we find that the proportion of the Jewish population of the country in the two conurbations has considerably decreased (from 63.8% in 1948 to 55.0% in 1961 and 51.3% in 1975).

In comparison with other urban localities the two conurbations are more European, and have a larger proportion of veteran immigrants (Table 18.4). These

¹ For data for the entire population, according to a somewhat different definition of the Tel Aviv-Jaffa conurbation, see Appendix 5.

characteristics are more marked in the core of the conurbations (having respectively 74% and 61% of population of European origin in Haifa and Tel Aviv), while they are less marked passing to more peripheral zones, which have absorbed more new immigrants of Asian-African origin. Also proportions of children increase in a centripetal direction, while those of old people increase in the opposite way. The ageing process of the core of the Tel Aviv conurbation which is accompanied by other features has recently aroused some preoccupation¹.

These processes are connected with an increasingly negative balance of internal migration of the core of the Tel Aviv conurbation. The proportion of population in the three main zones of the conurbation has changed accordingly:

PER 100 OF THE JEWISH POPULATION

	<u>CORE</u>	<u>INNER RING</u>	<u>OUTER RING</u>
1948	71.7	14.1	14.2
1961	47.6	31.5	20.9
1975	29.6	41.9	28.5

C) *Development of the population of Jerusalem*

The slower development of Jerusalem which was characteristic of the Mandatory period (Section 5.4.C) also continued during the first period of Statehood (Table 18.3C and Appendix 5). The after-effects of the war of 1948 and the peripheral position of Jerusalem according to the 1948 boundaries probably contributed to the comparatively more limited increase. However, the situation changed considerably after the unification of East and West Jerusalem in 1967. Migratory balance has become positive for the Jewish population between 1967 and 1976 and since 1972 also for the Non-Jewish population. Due to this and to the comparatively large natural increase, the population growth of both sections of the population is at present rather strong, and by far larger than in previous periods.

18.5 ECOLOGICAL SEGREGATION BY ORIGINS AND REGIONALIZATION

Differentials in the distribution of the population by origins between different types of settlements as seen in Table 18.4 is just an aspect of a general feature of the population distribution of Israel, viz. ecological segregation of people coming from different countries.

This segregation has been studied in Israel at various levels, such as the following:

a) *Local segregation* or congregation of people of given origin in settlements where they may constitute the entire population or its majority, while they may not reside in settlements inhabited largely by other groups.

This feature is of particular importance with regard to rural settlements. For instance, by calculating "concentration indices"² of population of any origin as

¹ See H. Har-paz, *Tel Aviv-Yafo: negative demographic trends*. Paper submitted to the Seventh World Congress of Jewish Studies, Jerusalem, 1977.

² See Appendix 12.

compared to population of other origins, in settlements with less than 10,000 inhabitants, the following results were found in 1961:

Period of immigration	Concentration of Jews born in each continent		
	Europe and America	Asia	Africa
Until 1947	0.66	0.72	0.78
1948 and after	0.61	0.67	0.61

The indices have a value of 0 when geographical distribution is independent of origin and a value of 1 when each settlement is formed only by people of the same origin. Therefore, the above values indicate a rather strong segregation¹.

Extent of segregation may be due to the will of people to live in a more uniform neighborhood, or to the result of the fact that new immigrants of the same origin were directed together to the same new settlement. Policies with regard to keeping immigrants of each origin separated or to try to mix them together, changed between various epochs and origins of immigrants.

b) Intra-urban segregation. While (a) is an important indicator of segregation in regard to rural settlements and small towns, when we study middle-sized or large towns we may find a large mix-up of people of different origins. Still, ecological segregation may be found whenever people of each origin are concentrated in certain neighborhoods or urban districts of the town considered. The extent of intra-urban segregation and its determinants and consequences has been rather widely studied in Israel, but there is no place here to summarize the complex findings of this type of research.

c) Regional segregation is the formation of regions having population with different structure by origins. This is explained by the fact that new rural settlements and new towns have been established in greater numbers in southern regions and in northern regions than in the center, and that the structure by origins of the population of new localities differs from that of veteran localities.

Another consequence of this development has been that veteran settlers have largely remained in the more central regions while new immigrants have been mainly located in more peripheral regions.

A simple expression of this feature is obtained by taking the standard distance (in kms)² over the territory of Israel of foreign born classified by length of stay in the country (1961). Spread over the territory increases with decreasing length of stay:

¹ For deeper study of segregation, indices by individual countries of origin are to be preferred over those by continents.

² See Appendix 12.

Foreign-born Jews who immigrated	Settlements with		All settlements
	over 5000	less than 5000	
	population		
Up to 1931	39.1	45.1	41.0
1932—39	40.5	53.4	43.2
1940—47	41.9	56.7	44.9
1948—51	46.2	51.7	47.2
1952—57	65.6	69.6	66.7
1958—61	61.3	71.8	64.8
Entire Jewish population	48.8	60.5	51.3

Incidentally, it is seen from the above that in all periods, small settlements (largely rural) were more dispersed than large settlements (urban).

Parallel differentials in spread according to period of immigration are found within each origin group. For instance:

		Born in	
		Asia-Africa	Europe-America
Immigrated:	Up to 1947	38.5	44.5
	1948-54	49.4	47.7
	1955-61	73.5	55.8
All foreign-born		55.7	47.8

Dispersion of people of Asian-African origin has been larger after the establishment of the State than that of people of European-American origin. However, the study of data detailed by individual countries of origin reveals that types of geographical distribution¹ vary largely between various origins, and not always according to the simple dichotomy between "Asian-African" and "European-American" origins. Just as an example, the following standard distances (in kms) for selected countries of birth are given (ordered from lowest to highest); Bulgaria 33.6; Yemen 34.6; Germany 36.7; Libya 40.5; Turkey 40.9; Poland 42.4; Iraq 44.4; U.S.S.R. 45.1; Greece 48.4; Czechoslovakia 49.6; Egypt 53.4; Rumania 53.5; Hungary 54.6; Algeria 72.7; Morocco 73.3.

The increasing geographical spread of foreign-born with decreasing length of stay in the country, which has been typical for the periods of larger immigration in the country, has determined a rather general type of pattern in the geographical distribution of many variables. As examples consider the following standard distances:

¹ See R.Bachi, *Population distribution and internal migration in Israel*. Report submitted to the Ford Foundation by the Israel Foundation Trustees, Tel Aviv, 1968, pp.1954-2001. Y.Yam. *The analysis of divergence in geostatistical distributions*. Ph.D.Thesis, The Hebrew University, Jerusalem, 1969 (Hebrew).

(a) of Jews aged 14 and over according to number of years of schooling:

0	1—4	5—8	9—12	13 and over
60.1	55.9	50.4	49.4	48.4

(b) of Jews according to age:

0—14	15—44	45—64	65 and over
53.5	51.2	47.2	46.1

Following the pattern of a) it is found that with increasing levels of socioeconomic conditions, geographical dispersion decreases. Following the pattern of b) it is found that births are more dispersed than deaths, and therefore natural increase tends to increase the population spread.

18.6 THE DETERMINANTS OF POPULATION REDISTRIBUTION

Population redistribution has been in Israel the result of a very complex system of determinants: geographical distribution of first settlement of new immigrants, partly spontaneous, partly directed by the authorities dealing with immigrant absorption; internal migration; differential rates of emigration, births and deaths according to regions and types of settlements. The action of part of these determinants can be measured¹ and has actually been the object of systematic research². However, other determinants have not yet been fully measured statistically³. Due to the complexity of their action and interaction, they are not discussed in this Monograph.

18.7 THE GEOGRAPHICAL DISTRIBUTION OF THE MOSLEMS, CHRISTIANS AND DRUZES

The large increase in the Non-Jewish population of Israel occurred between 1950 and 1975 has not been accompanied by any large changes in its distribution.

Graphs 18.4—18.6 show the geographical distribution respectively of Moslems⁴, Christians and Druzes at the census of 1972. It is seen that a) each population group has a different population distribution; b) all the three minority groups are much more largely found in the northern regions than the Jewish population.

The number of Non-Jewish inhabited places has practically remained constant at 109—112 between 1952 and 1975. Consequently the average population of these inhabited places has largely increased. Due to the rather sensitive type of

¹ The statistical documentation on vital rates by types of settlements and by regions is very large. Also information on internal migration is quite extensive (see Appendix 7.6).

² See, among others, R.Bachi, *Population distribution and internal migrations in Israel*, op.cit. R.Bachi, "Geostatistical analysis of internal migrations", *Journal of Regional Science* Vol.16, No.1, 1976.

³ Data on first settling of new immigrants are not complete; data on emigrants by type of settlement or regions are largely missing.

⁴ Excluding the Bedouin tribes in the Negev.

definition of "urban" localities adopted by the Central Bureau of Statistics, there has been in the past decade or so a considerable increase in the number of places which have been shifted from "rural" to "urban". In consequence of this and of the inclusion of East Jerusalem in the State of Israel, the proportion of Non-Jewish population officially classified as urban has increased steeply (from 25.7% in 1961 to 59.2% in 1975: see Table 18.2).

While there is no doubt that an increasing number of Non-Jewish places are acquiring an urban or semi-urban character¹, it may be of interest to see whether the population growth is different between places having different characteristics. For this purpose, Table 18.7 shows the distribution of the Non-Jewish population (outside East Jerusalem) at different time points according to the following categories: a) 13 Non-Jewish places considered by the 1972 census as urban; b) 7 Jewish towns in which there are considerable numbers of Non-Jewish inhabitants; c) other settlements which may be considered as prevalently rural; d) Bedouin tribes.

The evolution of the population groups a) c) d) in the course of time is rather similar (Panel B of the Table). Therefore the share of the various groups out of the total population does not show any significant change (Panel A), apart from a small proportional increase of c) and a decrease in b).

According to the official classification, Christians were found at the Israeli censuses of 1972 and 1961 to be much more urbanized than Moslems and Druzes, as they had been through the centuries (see Sections 3.5, 4.4, 5.4).

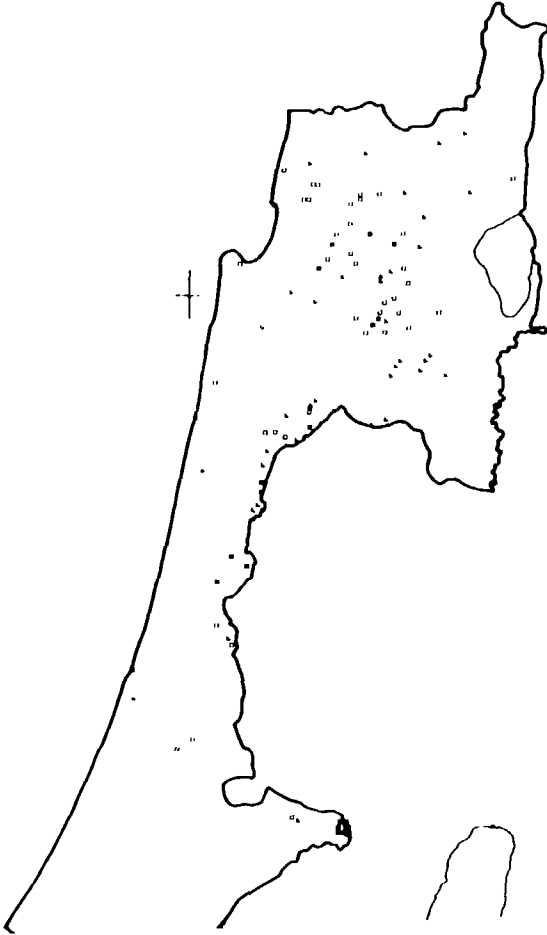
Census Year	Christians	Percentage urban Moslems	Druze
1961	61.3	16.9	9.2
1972	69.2	54.0	32.6

The largest urban concentration of the Non-Jewish population in Israel is Nazareth, which increased from about 20,000 inhabitants in 1950 to 36,700 in 1975.

¹ These places have not only increased their populations. The proportion of people working in agriculture has often decreased; more urban occupations have become predominant and the proportion of commuters has increased.

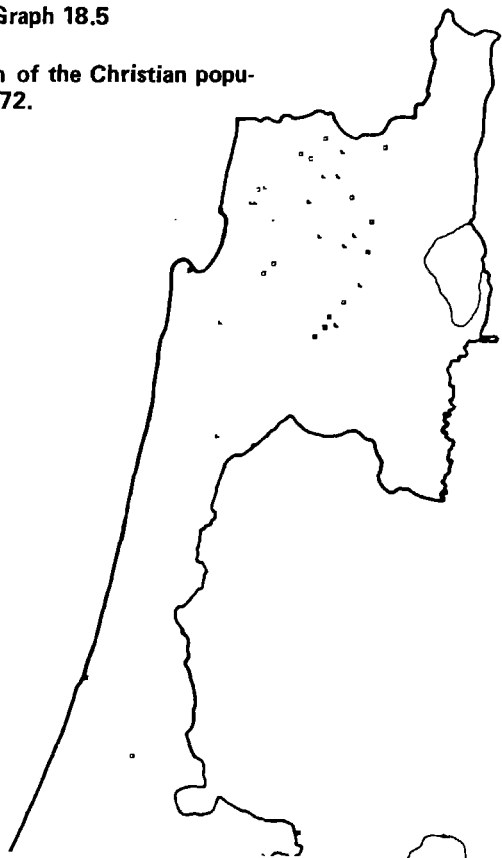
Graph 18.4

Distribution of the Moslem population in 1972.



Graph 18.5

Distribution of the Christian population in 1972.



Graph 18.6

Distribution of the Druze population in 1972.

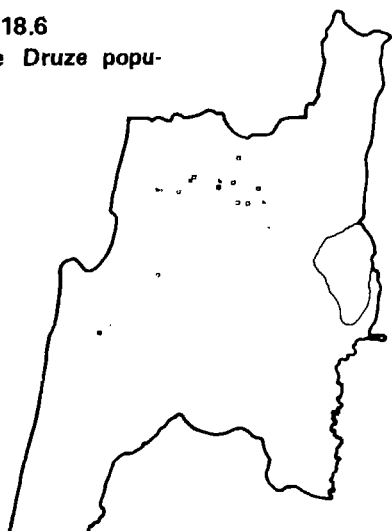


TABLE 18.7

DISTRIBUTION OF THE NON-JEWISH POPULATION OUTSIDE EAST JERUSALEM BY TYPES OF SETTLEMENT¹ (1952-1975)

Type of settlement	1952	1955	1961	1965	1972	1975
A) Percentages in each type of locality						
a) Non-Jewish urban settlements	33.6	36.1	34.8	34.9	34.8	34.3
b) Mixed urban settlements with a Jewish majority	14.6	11.8	10.9	11.6	10.4	10.1
Total urban	48.2	47.9	45.3	46.5	45.2	44.4
c) "Rural"	40.7	41.4	43.7	43.0	43.1	44.0
d) Bedouin tribes	11.1	10.7	10.9	10.5	11.7	11.6
Total rural and Bedouin	51.8	52.1	54.6	53.5	54.8	55.6
Grand Total	100.0	100.0	100.0	100.0	100.0	100.0
B) Index numbers of population (1961=100)						
Type of settlement	1952	1955	1961	1965	1972	1975
a) Non-Jewish "urban" settlements	70.0	83.2	100.0	121.3	153.5	176.0
b) Mixed urban settlements with a Jewish majority	101.2	40.3	100.0	133.6	153.3	172.5
c) "Rural"	67.4	76.1	100.0	119.1	151.6	179.6
d) Bedouin tribes	73.7	78.9	100.0	116.7	165.2	190.0
Total	72.6	80.3	100.0	121.1	153.9	178.8

¹ The settlements have been classified as in the census of 1972.

APPENDIX 1

EXAMPLES OF SOURCES FOR THE DEMOGRAPHIC HISTORY OF THE LAND OF ISRAEL. DIFFICULTIES IN INTERPRETATION

A few examples of the types of demographic sources and the problems involved in their utilization are given below. It can be seen that some problems are familiar from other fields of historical demography, while others have special connotations:

1) The Bible quotes the results of various censuses and enumerations, such as a) those taken in Moses' times (i) on Mount Sinai (Exod. 40:17; Exod. 30:12; Exod. 38:26; Num. 1:45); (ii) the census of the Levites (Num. 3:15, 39; 3:40–43); (iii) at Shittim (Num. 26:2, 51; 26:62); b) the census of able-bodied men at the close of David's reign (II Sam. 24:1–9; I Chron. 21:1–5); c) the enumeration of foreign workers in Solomon's time (II Chron. 2:17; etc.).

Many problems have been raised in regard to these censuses¹, such as:

a) the credibility of the census operation itself. Outright denial of its credibility by considering the census as being only a legend, which was fashionable among Biblical critics in the past, is no longer accepted by many modern scholars, given evidence of census-taking practices among other Mideastern peoples.²

b) Credibility of the results quoted. The results of Moses' census, as they are referred to in the Bible, are generally considered unacceptable. Various ingenious attempts to correct their literal interpretation have been put forward, but they cannot be quoted here.³

The results of David's census are also rejected by some scholars⁴ but accepted by others, after (c) checking for possible errors in the manuscripts⁵, (d) eliminating contradictions between different Biblical versions⁶, (e) finding proper methods of "inflation" in order

¹ For a general discussion of some of these problems see the article on "Population" in the *Encyclopaedia Biblica* Jerusalem, Bialik Institute, 1972, Vol. I pp. 139–146 (Hebrew).

² S.W. Baron, "Reflections on ancient and medieval Jewish historical demography," in *Ancient and medieval Jewish history. Essays*. New Brunswick, Rutgers University Press, 1972, pp. 10–11. See also the article by Baron, "Population", in the *Encyclopaedia Judaica*, Jerusalem, Keter, 1971, p. 866 ff., and the article by D.L. Lieber, "Census", *ibid.*, vol. 5, pp. 281–283.

³ See the articles quoted in the preceding notes and the bibliographical lists appended to them.

⁴ For bibliography regarding critics of results of David's census, see the article by D.L. Lieber quoted above.

⁵ Baron stresses in general the special dangers caused by copyists' errors in transmitting numbers written in Hebrew letters. However, in regard to the numbers transmitted by the Bible, a systematic study of variants in Hebrew manuscripts shows that 285 Biblical verses including such numbers have been transmitted without variants since the beginning of the Christian era, while only for 7 are there variants. See S.W. Baron, "The Israelite population under the Kings" in *Ancient and medieval Jewish history. Essays*, New Brunswick, Rutgers University Press, 1972, pp. 25–38.

⁶ See examples in Baron, "The Israelitic population under the Kings," *op. cit.*, pp. 50–52, and in the literature quoted by him and by Lieber (*op. cit.*).

to evaluate the entire population on the basis of the numbers of able-bodied men.¹ An additional problem is that of identifying the geographical and ethnic limits of population evaluation (see Appendix 2).

2) The Roman Empire's Jewish population census, allegedly taken by the Emperor Claudius in the middle of the first century and quoted by the twelfth century Christian Syrian chronicler, Gregory Abulfaraj Bar-Hebraeus, has been the subject of extensive discussion and different interpretations.²

3) Households lists collected for tax purposes in each inhabited area by some Arab empires and by the Ottoman empire. Ottoman records mainly for the 16th and part of the 19th century have been systematically studied.³ In this regard the main problems are those of record completeness and coefficients to be employed for extrapolating from records for households, houses or public workmen to population estimates.⁴

4) Epigraphic and documentary material of Assyrian, Babylonian, Egyptian, Israel, Roman, Byzantine, Islamic or other origins.

5) Figures referred to by early Jewish,⁵ Roman, Christian and Moslem historians.

6) Figures referred by a large number of travellers of many origins who visited the Holy Land through the ages and left diaries or other travel records.

Sources 4), 5), and 6) relate to different features, such as: total population in certain places or belonging to a given community; the number of people participating in given events;⁶ the size of armies conscripted in the country or invading the country; the number of people enlisted in collective or forced services; deportations; slave sales; deaths due to wars, epidemics, earthquakes and other catastrophes; the size of tributes imposed, etc.

Many figures quoted by sources indicated, under 4), 5) and 6) are inaccurate,⁷ and sometimes they are biased due to the victors' tendency to boast about the damages inflicted upon foes and the chroniclers' tendency to exaggerate the effects of the catastrophes described.

¹ See, for instance, Baron, *op. cit.* pp. 43–44.

² See Baron, "Reflections...", *op. cit.*, pp. 11, 15, 16 and the literature quoted there.

³ See Appendix 3B

⁴ See J.C. Russell, *Late medieval Balkan and Asia Minor population*, *ibid.*, 3, 1960, pp. 262–263, and the discussion of this problem in Appendix 3B.

⁵ Among historians, Josephus Flavius has transmitted a very large number of estimates on population, armies, war losses, etc. Some of his numbers are very exaggerated and are generally dismissed by the historians. For an attempt to utilise some of these estimates, see: A. Byatt, "Josephus and population numbers in first century Palestine," *Palestine Exploration Quarterly*, 1973, p. 151.

⁶ Most widely discussed are the figures on Jewish pilgrims participating in the Passover sacrifices at Jerusalem, transmitted from various old Jewish sources and from Josephus. See S. Safrai, *Pilgrimage at the time of the Second Temple*, Tel Aviv, 1965, Am Hasefer, pp. 71–74, (Hebrew). Safrai is of the opinion that these numbers cannot be used as bases for population estimates.

⁷ Just as an example of this, consider the following: during the 19th century and the beginning of the 20th, almost no official statistical data was available; however, many population estimates for individual localities and for the entire country were suggested by European travellers. When arranging such estimates in chronological and geographical order, large jumps are found which do not correspond to actual changes in population but only to inaccuracies in the estimates. See comments and examples: O. Schmelz, *Development of the Jewish population in Jerusalem during the last hundred years*, Ph.D. Thesis, Jerusalem, Hebrew University, 1958 (Hebrew), Table 3; Y. Ben-Arieh, *The population of the large towns in Palestine during the first 80 years of the 19th century according to Western sources*, Jerusalem, Hebrew University and Yad Yitzhaq Ben-Zvi, 1970; Y. Ben-Arieh, *The growth of the Jewish community of Jerusalem in the 19th century*, Jerusalem, Yad Yitzhaq Ben-Zvi, 1973 (Hebrew).

APPENDIX 2

POPULATION ESTIMATES FOR ANCIENT TIMES

A) BIBLICAL TIMES

Many suggestions for possible orders of population magnitude in different Biblical periods (and particularly at the time of David's census) are found in the literature. Among them, we have singled out in Table A1 a few estimates which attempted to reconstruct the population evolution during the Biblical era (and also afterwards). These estimates are based on the work of i) the Biblical scholar archaeologist and semitologist, W.F. Albright;¹ ii) the archaeologist and historian, M. Avi-Yona;² iii) the historian of the Jewish people, S.W. Baron.³

Table A1's evaluations are based on Biblical sources, critically analyzed by comparison with archaeological and other evidence and in some cases with Assyrian and Babylonian sources.

In regard to the periods following the Assyrian and Babylonian wars, the discrepancies between the various authorities are not large. However, in regard to previous periods the discrepancies in levels suggested by the various scholars are large (the estimates in (i) being systematically smaller, those of (ii) intermediate and (iii) higher). Despite this, the direction of suggested trends is rather similar, as shown by the index numbers in Table A2.

The main reasons for discrepancies between the evaluations suggested by various scholars (mainly in regard to David's and Solomon's times: lines 2–5 of Table A.1) lie in the different ways they interpret the results of David's census, as quoted in the Bible. Albright (and apparently also Avi-Yona) suppose that numbers quoted in the Bible refer to the entire population. Albright also assumes that data for tribes in the Moses's census actually represent data for the Jewish population collected at the time of David. In contrast, Baron accepts the Biblical version that David's census included only able-bodied men and explains the very high estimate which would be obtained for the entire population by the fact that the census also included wide areas conquered by David, far beyond the borders of Judah and Israel.

B) FIRST CENTURY C.E.

Table A3 shows examples of population estimates for the first century C.E. (before Roman-Judean wars). These estimates⁴ are discussed in Section 2.4.

¹ See: W.F. Albright, "The administrative divisions of Israel and Judah," *Journal of the Palestine Oriental Society*, 1925, vol. 5, pp. 20–25; W.F. Albright, "The Biblical period". In *The Jews*, ed. L. Finkelstein, New York, Harper and Brothers, 1960, pp. 47, 49, 53, 59, 60.

² See: M. Avi-Yona, *Historical survey of the number and density of the population of Ancient Palestine*. This article was published anonymously in 1947 in "Three historical memoranda," submitted to the United Nations Special Committee on Palestine, by the General Council (Vaad Leumi) of the Jewish Community in Palestine, Jerusalem, 1947. It was later re-published (in an abridged version) in Hebrew under the author's name in "Massot u-Mehkarim Byediath-Haarez" (Tel Aviv, M. Neuman, 1964).

³ See: S.W. Baron, "The Israelitic population under the Kings" (first published in Hebrew in "Abhandlungen zur Erinnerung von Hirsch Perez Chayes", Vienna, 1933. Reprinted in English in *Ancient and Medieval Jewish History, Essays*, New Brunswick, Rutgers University Press, 1972, pp. 23–73); S.W. Baron, "Population," in the *Encyclopaedia Judaica*, Jerusalem, Keter, 1971, pp. 867–871.

⁴ This list has been taken to a considerable extent from the paper by A. Byatt quoted in Appendix 1.

TABLE A1

**EXAMPLES OF POPULATION ESTIMATES FOR BIBLICAL TIMES
PROPOSED BY VARIOUS SCHOLARS**

No.	Period	Name of the scholar	Total population over an area roughly corresponding to Palestine under British Mandate	Jewish population of Israel and Judah together	Jewish population of Judah
1	2	3	4	5	6
	B.C.E.				
1	14th Cent.	Albright	500,000		
2	David (1004–965)	Albright	750,000	600,000	130,000
3		Avi-Yona	1,500,000		
4		Baron		1,800,000	450,000
5	Solomon (965–928)	Albright		750,000 (at least)	
6	Eighth century	Albright	1,000,000		250,000 (701)
7		Avi-Yona	1,300,000 ¹		
8	Before Assyrian destruction of Israel (733–701)	Baron		1,100,000–1,350,000	300,000–350,000
9	586	Baron			150,000
10		Albright			less than 125,000
					Jewish population of the small Yehud province
11	522	Albright			20,000
12	End of 5th century	Albright			50,000
13		Baron			60,000–70,000

¹ The area to which the data refers is not clearly defined..

TABLE A2

**INDEX NUMBER OF POPULATION LEVELS ESTIMATED BY
DIFFERENT SCHOLARS BETWEEN THE 14TH CENTURY B.C.E.
AND THE 6TH CENTURY B.C.E.**

Periods: Around	Total population: Area approximately corresponding to Palestine		Jewish population of Kingdoms of Israel & Judah		Jewish population of Kingdom of Judah			
	Low estimates (Albright)	Intermed. estimates (Avi-Yona)	Low estimates (Albright ¹)	High estimates (Baron)	Low estimates (Albright)		High estimates (Baron)	
1	2	3	4	5	6	7	8	9
B.C.E.								
14th cent. David (1004–955)	67 100	100	100 125	100	100		100	
Solomon (955–928)								
8th cent. before Assyrian conquest of Israel	133	87		67	192	100	72	100
586 (Before destruc- tion of Jerusalem)						50		46

TABLE A3

**EXAMPLES OF POPULATION ESTIMATES FOR PALESTINE IN THE
FIRST CENTURY C.E. (BEFORE THE ROMAN-JUDEAN WARS)
FOUND IN THE LITERATURE**

No.	Source	Date of estimate	Population suggested	of which: Jewish population
1	Condor C.R.	6,000,000	
2	Juster J.	1914	over 5,000,000	5,000,000
3	Mazar B.	1944	over 4,000,000	
4	Klausner J.	1944	3,500,000	3,000,000
5	Grant M.	1971		3,000,000
6	Tcherikower, A.	1963		2,500,000—3,000,000
7	Lowdermilk W.C.	1944	3,000,000	
8	Baron S.W.	1971		2,350,000—2,500,000
9	Baron S.W.	1952	2,500,000—3,000,000	2,000,000—2,500,000
10	Socin A.	2,500,000—3,000,000	
11	Avi-Yona M.	1966	2,800,000	
12	Glueck N.	1944	2,500,000	
13	Byatt A.	1973	2,265,000	
14	Beloch K.J.	1886	2,000,000	
15	Meyer E.K.	1910	2,000,000	
16	Grant F.C.	1925	1,500,000—2,500,000	
17	Daniel-Rops H.	1962	2,000,000	1,500,000
18	Ben David A.	1974		1,000,000—1,250,000
19	Albright W.F.	1925	1,500,000	
20	Derwacter F.M.	1930	1,500,000	1,000,000
21	Pfeiffer R.H.	1949		1,000,000
22	Harnack A.	1915		700,000
23	Jeremias J.	1969		500,000—600,000
24	McCown C.C.	1947	under 1,000,000	under 500,000

¹ C.R. Condor, *Hastings Bible Dictionary*, vol.3, p.646.

² J. Juster, *Les Juifs dans l'empire romain*, 1914, I, p. 209f.

³ B. Mazar, referred to by W.C. Lowdermilk, in *Palestine, Land of Promise*, 1944, p. 47.

⁴ J. Klausner, *The Jewish population in the Land at the time of the Second Temple*. Reprinted from "Ramat Gan aged 25" (Hebrew). Also: *From Jesus to Paul*, 1944, p. 33.

⁵ M. Grant, *Herod the Great*, 1971, p. 33.

⁶ A. Tcherikower, *Jews and Greeks in the Hellenistic period*, (Hebrew), Tel Aviv, 1963, p. 300.

⁷ W.C. Lowdermilk, *Palestine. Land of promise*, 1944, p. 47.

⁸ S.W. Baron, "Population," in the *Encyclopaedia Judaica*, Jerusalem, Keter, 1971, vol. 13, p. 871.

⁹ S.W. Baron, *A Social and religious history of the Jews*, 2nd ed., 1952, vol. I, p. 168, 371—2.

¹⁰ A. Socin, *Encyclopaedia Biblica*, col.3520.

¹¹ M. Avi-Yona, *The Holy Land*, 1966, pp. 220—221.

¹² Referred to by Lowdermilk, op. cit., p. 47.

¹³ A. Byatt, "Josephus and population numbers in first century Palestine," *Palestine Exploration Quarterly*, 1973, pp. 51—60.

TABLE A4

ESTIMATES OF THE PROPORTION OF POPULATION IN TOWNS
IN THE ANCIENT ERA

Period	Source	Percentage of population in towns	Number of towns considered
B.C.E.		Judah and Israel together	
about 1000	S.W. Baron	22–23%	300–400
733–701	S.W. Baron	36–38%	300–400
		Only Judah	
586		46–53%	60–70
C.E.		Territory roughly corresponding to Mandatory Palestine	
5th	M. Avi-Yona	29%	17

¹⁴ K.J. Beloch, *Die Bevölkerung der griech-römischen Welt*, Leipzig, 1886, pp. 242–49. This figure includes Transjordan territories.

¹⁵ E. Meyer, "Bevölkerung." In *Handwörterbuch der Staats Wissenschaften*, Jena, Fischer, 1909–11.

¹⁶ F.C. Grant, *Economic Background of the Gospels*, London 1926, p. 83.

¹⁷ H. Daniel Rops, *Daily life in Palestine at the time of Christ*, 1962, pp. 43.

¹⁸ A. Ben David, *Talmudische Oekonomie*, Hildesheim, New York, G. Holms Verlag, 1974, p. 46.

¹⁹ W.F. Albright, *The administrative division*, op. cit., p. 25.

²⁰ F.M. Derwacter, *Preparing the way for Paul*, 1930, p. 115.

²¹ R.H. Pfeiffer, *History of New Testament times*, 1949, pp. 149.

²² A. Harnack, *Die Mission and Ausbreitung des Christentums*, Leipzig, 1924, vol. 1, p. 3–7.

²³ J. Jeremias, *Jerusalem in the time of Jesus*, 1969, p. 205.

²⁴ C.C. McCown, "The density of population in Ancient Palestine," *Journal of Biblical Literature*, vol. 66, 1947, pp. 425–436.

C) DEMOGRAPHIC CONSEQUENCES OF THE ROMAN-JUDEAN WARS

In regard to the first war (66–70 C.E.) the following estimates of losses caused by them are available from books by ancient historians:

a) Josephus Flavius quotes in his *Judaean Wars* various figures for the war losses incurred in determined geographical places. Summing up these figures, 1,287,200 deaths and 142,930 enslaved are obtained.¹ As the places cited do not cover the entire country, they might be considered incomplete, but on the other hand, the validity of Josephus' "statistics" has often been considered a matter of doubt. If compared to the estimate of the Jewish population (2,000,000) quoted in Section 2.4, the proportion killed would amount to some 64% and that enslaved to 7%.

b) Tacitus (*Historiae*, 5:13) evaluates at 600,000 the war losses of the besieged in Jerusalem. This would amount to some 30% war losses if compared to the total Jewish population.

c) In regard to the second war (132–135 C.E.), Dio Cassius² indicates that large towns and 985 important Jewish villages were destroyed, and 580,000 persons killed. Using Avi-Yona's post war estimate quoted below, this would imply a rate of war loss of some 40%.

While the above rates appear to be most likely very exaggerated, the consequences of the wars are also considered very heavy by recent writers.³ M. Avi-Yona suggests that after the second war the Jewish population was reduced to 700,000–800,000 (about 1/4 of the size estimated by him for the beginning of the first century C.E.)⁴

D) BYZANTINE TIMES

Avi-Yona suggests (in *Historical Survey*, etc., op.cit. in Appendix 2A) — mainly on the basis of archaeological evidence reinforced by historical sources — that the total population of the territory corresponding to that of Palestine may have been some 3,250,000; to this another 750,000 should be added for Trans-Jordan. While doubts have been cast on these estimates as too high, it may be of interest to compare the evaluation of 3,250,000 for Palestine to an evaluation obtained by the same method from the same author for the first century C.E. (2,800,000).⁵

The comparison indicates an increase of 16% in the level of population between the two periods which may perhaps be accepted.

The Byzantine domination lasted from 324 to 640. We assume that the above estimates may be dated approximately 500 C.E.

¹ See A. Byatt, "Josephus and population numbers in first century Palestine", *Palestine Exploration Quarterly*, 1973, p. 51.

² *Epitom de Xiphilin*, LXIX, 15.

³ On the demographic and economic effects of the Roman-Judean wars, see, among others: G. Alon, *History of the Jews in Eretz Israel in the period of the Mishna and Talmud*, (Hebrew), pp.34–35; A. Ben David, *Talmudische Oekonomie*, 1974, op.cit. p.48; M. Avi-Yona, *History*. In *Encyclopaedia Judaica* op. cit., vol. 8, pp. 646–47.

⁴ *In the times of Rome and Byzantium* Jerusalem, 1962, (Hebrew), p.25.

⁵ Since the time of Avi-Yona's estimate, archaeological research in Israel has made enormous progress in collecting evidence on a very large number of inhabited places in various ancient periods. However, the new findings have not yet been employed — as far as I know — to revise Avi-Yona's estimates.

E) PROPORTION OF URBAN POPULATION

Table A4 gives some rough estimates on the proportion of the population living in towns in certain ancient periods.

The first three estimates are quoted by S.W. Baron.¹ The fourth estimate has been very tentatively obtained from the works of Avi-Yona quoted above.

For the 1st century, some interesting considerations on the population of towns are given by Byatt (op.cit.). Although it is difficult to obtain a clear-cut estimate for the percentage of urban population, a survey of regional estimates suggests a proportion not very different from that given by Avi-Yona for the Byzantine period.

In interpreting the urban population estimates of Table A4 the big changes in this term's definition over the course of time should be taken into consideration. In Biblical times, cities were in many cases walled places built to protect and shelter surrounding farmers during emergencies;² they were therefore both small and numerous: a city of 1000–2000 was considered important in ancient Israel and the number of cities ran into the hundreds.

However, there were also larger towns, especially the two kingdoms' capitals, Jerusalem and Samaria (for Jerusalem, see Appendix 5).³

During the Roman period, the distinction between 'village' (Greek: 'kome') and 'town' or 'city' ('polis') was not based simply on whether they were walled or not; factors such as self-government, autonomous public institutions, control over a certain territory, etc. were included in the definition of a 'polis'.⁴ In Byzantine times the criterion of being walled probably lost even more of its importance due to improved internal security conditions.

¹ See "The Israelitic population under the Kings," *op. cit.*, pp. 66–71.

² See Baron, "The Israelitic population under the Kings," *op. cit.*

³ Estimates of population for the major towns of Palestine in Roman times are given by A. Ben David, *Talmudische Oekonomie*, *op. cit.*, p. 52.

⁴ See A. Byatt, "Josephus and population numbers", *op. cit.*, pp. 52–53.

APPENDIX 3

POPULATION ESTIMATES FROM THE LATE MIDDLE AGES TO THE 17TH CENTURY

A) THE LATE MIDDLE AGES

1) For the Crusaders period it is possible to obtain a rough demographic evaluation by utilizing

- a) the detailed knowledge available on inhabited places;
- b) some evaluations available on the average population of villages (see for instance: J.C. Russell, *Medieval regions and their cities*, David and Charles, Newton Abbott, Devon, 1972; and the works by J. Prawer quoted in Section 3.3);
- c) the estimates on population size in towns given in the literature. While this evaluation has not yet been attempted, it appears from some first essays that the population toward the end of the 12th century was already enormously reduced in numbers in comparison to the end of the ancient era, but was still somewhat higher than the evaluations for later times given below.

2) For the 14th century, before the Black Death (1348), a very rough estimate of 900,000 for the population of the entire Syrian region was suggested by A.N. Poliakov.¹ According to calculations for the end of the Mameluke period, the population of Palestine may have been about 1/4 of the population of the Syrian region.² Therefore a very rough order of population magnitude of some 225,000 for Palestine may be suggested.

3) The Black Death caused serious depopulation in many parts. For Europe it has been estimated that the population decreased by 30% between 1300 and 1350 and by 38% between 1300 and 1400. For Egypt and the entire Syrian region, the Arabic historian Ibn Habib indicates a decrease of one third.³ Applying this ratio to the estimate given above, we might roughly assume a population of 150,000 after the Black Death.

4) For 1515 Poliakov (op. cit.) suggests an estimate of 100,000–150,000, based on the registration results for adult men in Samaria toward the end of Mameluke rule. Comparing this information with the first results of Ottoman household registration in 1536 (see below), it seems that the order of population magnitude was probably nearer to the upper than to the lower limit suggested by Poliakov. It is possible that a figure of some 140,000–150,000 was the lowest ever reached by the population of Palestine over 30 centuries.

B) OTTOMAN HOUSEHOLD LISTS

For the Ottoman period, a very important demographic source is obtained by lists of family heads in each inhabited place of Palestine, which still exist in the archives of the former

1 "The demographic evolution of the Middle East," *Palestine and the Middle East*, May 1938.

2 According to Barkan ("Essai sur les données statistiques des registres de recensement dans l'Empire Ottoman au XV et XVI siècle," *Journal of the Economic and Social History of the Orient*, I, 1956, p. 20), the population of the province of Arap was 571,360 in 1520–1537. Around 1536 the population of Palestine was about 157,000.

3 Poliakov, op. cit. The decline in population by one-third is also accepted by Ashtor (p. 302).

Ottoman Empire. These lists have been extensively studied by B. Lewis, A. Cohen, and O.L. Barkan.¹

Utilization of these lists in order to derive population estimates has been performed according to the criteria indicated below.²

1) Number of inhabited places in each area.

The available registers refer to 1525–26, 1533–39, 1548–49, 1553–54, 1555–57, and 1572–73.³ However, in each period only part of the country is covered. Furthermore, in the first two periods some villages were apparently unlisted, and for some of the listed villages households were not registered. It appears that the quality of registration has tended to improve in the course of time; thus a detailed and critical examination of the material by villages is needed in order to discriminate between the effects of improved registration and those of actual population increase (which almost certainly took place in the period under survey). The summary data as published do not enable us to attempt this difficult job. However, some small improvement over the estimates given by Lewis is possible, as follows.

Despite the fact that some new villages may have been established during the period under survey, we have taken as a primary base a consolidated list of inhabited places mainly obtained from official village counts in later registers. Despite the uncertainty in the definition of 'inhabited place', this list appears rather reliable: the similarity of its figures to the figures given by the 1922 census is rather striking. However, a detailed geographical analysis of villages should be performed before reaching final conclusions.⁴

Adjustments have been introduced in Lewis' list of villages, mainly in regard to the Sanjaq of Safed, from which we have eliminated some villages so as to ensure better correspondence with British Mandatory Palestine.

2) Average number of households per village

As the population evaluations of 1525–26 appeared rather incomplete, we have wholly discarded them. For 1533–39 we have calculated the average number of inhabitants per village for which the population was registered (see Lewis, 1954, p. 474) and applied these averages to the number of villages in the consolidated list mentioned under (1). We have then added to these estimates the 1533–39 estimates for towns. Only for Safed and its

¹ B. Lewis, "Studies in Ottoman archives," *Bulletin of the School of Asian and African Studies*, London, 1954, XVI, 3, pp. 469–501; "Notes and Documents from Turkish archives," *Oriental Notes and Studies*, published by the Israeli Oriental Society, No. 3, Jerusalem 1952; *Jaffa in the 16th Century*, according to the Ottoman Tahrir Registers, Ankara, Türk Tarih Kurumu Basimevi, 1969; in addition a book on Palestine during the Ottoman period in cooperation with A. Cohen, and a book by A. Cohen on the history of Jerusalem and the Jews in that period are at present in press. The figures for Jerusalem quoted in Table A5 in 1562–63 are based on material in the proofs of the work by Cohen.

See also: B. Lewis, "Population income and taxes in Eretz Israel" (Hebrew), Jerusalem, *Review for Eretz Israel Research*, Rabbi Kook Foundation, 1953; B. Lewis, "Eretz Israel in the first 50 years of Ottoman Rule" (Hebrew), *Eretz Israel Archaeological, Historical and Geographical Studies*, published by the Israel Exploration Society, Vol. 4, Jerusalem 1956. See also O.M. Barkan, op. cit.

² The evaluations prepared are to be regarded as provisional; we hope to revise them in a second (Hebrew) edition of this Monograph.

³ Those are the registers indicated in the publications by B. Lewis, as quoted above. Other registers exist which refer mainly to the end of the 16th century.

⁴ An attempt to compare the villages in the 16th century to those toward the end of the 19th century has recently been performed by W. Hütteroth (The patterns of settlement in Palestine in the sixteenth century, In *Studies on Palestine during the Ottoman period* ed., M. Maoz, Jerusalem, The Magnes Press, The Hebrew University, 1975 pp. 3–10).

Nahiye the data for 1525–26 had to be used, since the figures for 1533–39 are missing; nevertheless we have integrated them by assuming an increase in town population (or an incompleteness in registration) as shown in other towns by the comparison of 1525–26 to the 1533–39 data; and an increase in its Nahiye similar to that occurred in the Nahiyes of Acre and Tiberias.

For the second part of the period under survey we have followed a similar procedure by mainly using the totals indicated in the Ottoman registers for 1548–49, for the Sanjaqs of Gaza, Jerusalem and Nablus (see Lewis, 1954, p. 474) and the total for 1553–4 for the Sanjaq of Safed, duly reduced in order to take in consideration the problem of non-correspondence in the areas indicated above.

3) Household types included in the lists and an evaluation of their average size

The Ottoman registers list the following types of fiscal units:

- a) Tax-paying households (*khane*). This fiscal unit is constituted by a married man with his family.
- b) Tax-paying bachelors.
- c) Households or individuals exempt from tax. As in other parts of the Ottoman empire, this category included Moslem religious personages and disabled persons. Moreover, it included retired members of Mameluke Jund al Halqa, and peasants on certain Waqf lands in Jerusalem and Haifa.

The problem to be solved is that of finding the proper *average number of persons per fiscal unit* in each of the above categories.

In order to solve this problem we have analyzed:

- a) the suggestions given in the literature. However, the multipliers adopted sometimes appear rather arbitrary. For instance, Lewis (1954, p. 475) has proposed considering 6 as a coefficient, since "about 5–7 persons per household seems to be a fair average."
- b) Evaluations of the number of persons per house, the average household size, the average number of persons in the population per married man or per married or divorced or widowed man, which can be obtained from data collected in the 20th century in Palestine and Israel, and especially for the Moslem population.

These averages were found to increase quickly in the course of time due to "modern" phenomena such as the decline in mortality.

- b) Since we are dealing here with the 16th century, we are interested in using a "pre-modern" estimate. In the absence of direct data, we have prepared an estimate of the average number of persons per married male, for a population under the following theoretical conditions:

- (i) Its age structure is determined by a mortality corresponding to level of 6 East in the *Regional model life tables* by A.J. Coale and P. Demeny (average life expectation, 29.9 for men and 32.7 for women, with a gross reproduction rate of 2.75).¹
- (ii) The proportion of married, divorced and widowed men of each age is supposed to correspond to proportions found in the 1931 Census among Palestine Moslems. In such a population the average number of persons per married man was about 4.94 and the average number of persons per married, widowed or divorced man was about 4.69. Other estimates, for the average household size, etc. have been prepared, which cannot be discussed here and which are not far from the above. Due to the uncertainty of the situation and to the desirability of not giving the calculation an appearance of accuracy which it does not possess, we have adopted a rough average of 5, which is probably an overestimate.

¹ Princeton University Press, 1966. Perhaps we should have taken an even higher mortality rate; it would have resulted in an even lower average.

This average has been applied to both "normal" tax-paying households (type (a) quoted above) and to "households or individuals exempt from tax" (c). In regard to (c) this is certainly a gross overestimate, since fiscal units in this category may be expected to have had a lower average number of persons per unit than "normal" households. However, the number of such households is so small that this additional source of overestimation is not of practical importance.

On the other hand: 1) Tax-paying bachelors have not been taken into consideration in population estimates because the above ratios base the entire population on married males or households. 2) It is likely that the Ottoman lists were somewhat incomplete.¹ Barkan suggests that they should be generally inflated by some 10% and by 20% for Istanbul (op.cit., pp.22,28). However, this suggestion is mainly based on there being omissions of military classes, slaves, etc. As we do not know whether such additions would fit Palestine conditions in the 16th century, we have not introduced them. While use of the coefficient '5' may cause some overstatement, the factor discussed here probably makes of all the estimates, somewhat understated.²

4) Main reasons for the discrepancy between our estimate and Lewis' estimate

Lewis (1952, p. 10) indicates that around 1553-57 the population of Palestine was about 300,000, and bases its calculation on the following figures and on the multiplication of about 50,000 households by the coefficient 6:

Tax-paying households	42,099
Tax-paying bachelors	3,909
Exempt households	3,174
Total	49,181

Our total, of a little over 200,000, is based on:

- a) the reference of the coefficient to the ratio: $\frac{\text{population}}{\text{married men}}$;
- b) the exclusion of bachelors from the denominator;
- c) the reduction of the coefficient to 5;
- d) the exclusion of about 40% of the rural population of the Sanjaq in Safed, which did not belong to Mandatory Palestine.

5) Rough evaluation for 1690/1

In regard to Non-Moslems a rough evaluation was made on the basis of the following material: a) the number of Christian, Jewish and Samaritan households in many parts of Eretz Israel outside the Galilee, as given in a paper by U. Heyd;³ b) additional information and various hypotheses in regard to the number of households in other places; c) the application of the coefficient of 5 persons per household as explained in Section 3 above.

No similar data have been made available for the Moslems. However, it may be noted that the difference between the estimate available for 1553 (188,400) and that for 1800 (246,400) indicates only a comparatively small increase in the course of 2½ centuries. If the rate of increase had been constant during this period, the size of this population in 1690/1 would have had an order of magnitude of about 218,600, which is 16% larger than

¹ It is possible that in Palestine Bedouins living far from villages were not completely covered by Ottoman lists, but we have no basis for introducing a reliable estimate of this under count.

² However those lists may contain also some reductions, such as double counts, deceased persons, etc.

³ "The Jews in Eretz Israel at the end of the 17th century. Jerusalem," *Studies on Eretz Israel*, Rav Kook Foundation, 1953, (Hebrew).

that in 1553. While this is a purely conjectural value, it may be noted that the percentage (21%) of increase of registered Christian households between 1553 and 1690/1 is not very different from that for the hypothetical Moslem population mentioned above. On the basis of the above considerations, the tentative estimate quoted in Table 3.1 for 1690/1 was obtained.

APPENDIX 4

ESTIMATES OF THE POPULATION BETWEEN 1800 AND 1919

In preparing estimates of the population and its structure by religions and urban-rural sectors for 1800-1919, as presented in Chapter 4 and Tables 1.2 – 1.4 we have utilized the more detailed sources for towns and rural localities available for the Jewish population (see Section C below), estimates for the urban population by religion (see Section B), and rougher evaluations for the total population of the country (see Section A). The evaluations for the Non-Jewish rural population were obtained by using the difference between estimates for the total and those for the urban population. All the estimates are to be considered provisional; we hope to revise them at a later stage.

A) ESTIMATES OF THE TOTAL POPULATION

1) The period around 1800

In proposing a rough estimate of 275,000 we have taken into consideration the fact that estimates proposed in the literature for the first part of the 19th century generally appear to oscillate between the limits of 250,000 and 300,000, which – considering the vagueness of "Palestine's" geographical limits – do not appear to be too divergent. In particular we have utilized

- a) the estimate of 300,000 (including 25,000 Christians and about 5,000 Jews) given by H.Z. Hirshberg for the beginning of the 19th century (with the remark that it was too high)¹ which is also quoted by many other authors;²
- b) the estimate³ communicated in 1847 by the French Consul Helouis Jouselle to his government (totalling about 250,000 of whom 219,000 were Moslems, 16,800 were Christians and 13,600 were Jews);
- c) the suggestion recently put forward that the population may have been 250,000 at the beginning of the 19th century and about 300,000 at midcentury.⁴

After subtracting the estimated number of Jews from the total, we separated the Christians from the Moslems by utilizing an average between the percentages obtainable from estimates (a) and (b).

2) The period around 1890

This estimate was obtained for the rural Non-Jewish population by interpolating between the results of the following two independent evaluations, and adding estimates for 1890 for the urban population and the Jewish rural population.

¹ "History of the Land of Israel," in the *Encyclopaedia Judaica*, Vol. 9, p. 293, Jerusalem, Keter, 1971.

² See, for instance: A. Bonne, *The economic development of the Middle East*, London, Kegan Paul, 1945, p. 10; J. Hurewitz, "General History of the Land of Israel," in the *Encyclopaedia Hebraica*, Jerusalem, Massada, 1954, vol. 6 (Hebrew), p. 498; R. Szereszewski, *Essays on the Structure of the Jewish economy of Palestine and Israel*, Jerusalem, M. Falk Institute for Economic Research in Israel, 1968, p. 89; D. Trietsch, *Palaestina – Handbuch*, Berlin, Harz, 1922, p. 48.

³ Communication of the consul to the French Government, quoted by R. Neuville, *Heurs et malheurs des Consuls de France à Jerusalem*, II, 1948, p. 45.

⁴ David S. Landes, "Palestine before the Zionists," *Commentary*, 2, 1976, p. 49.

a) An estimate quoted by H.Z. Hirschberg¹ for 1880 (totalling 450,000, of whom 45,000 were Christians and 25,000, Jews).

b) An estimate for 1895 (totalling 600,000, of whom 479,000 were Moslems, 71,000, Christians and 50,000, Jews), obtained² on the basis of many sources, as follows:

i) For Jews in general and for the urban populations, the sources quoted in Appendices 4B and 4C for 1890 and 1900 were used.

ii) For the rural population different sources for different areas of Palestine were used as indicated below:

a) For the *Muterassiflik* of Jerusalem an official estimate for 1895 was almost perfectly correspondent to an estimate obtained by us by utilizing village lists for the entire area, numbers of male adults in each village in 1870³, and lists of some villages with the number of male adults in 1892⁴, thus enabling us to update the first list.

b) Lists of villages and the number of male adults in the *Liva* of Acre⁵ in 1886 were utilized to obtain an updated population estimate for 1895.

c) An estimate for the *Liva* of Nablus in 1914 was used, from which an estimate for 1895 was obtained under the hypothesis that the increase between 1895 and 1914 was equal to that for the *Liva* of Acre.

3) 1914 and 1919

The estimate for 1914 is based on the official Turkish total population estimate of 689,275, 70,000 of whom were Christians, quoted in the *Report and General Abstracts of the Census of Population of Palestine* (compiled by J.B. Barron, Jerusalem, Greek Convent Press, pp. 3,4)⁶.

The estimate for 31 March, 1919 is taken from the *Report of the Palestine Royal Commission*, London, H.M. Stationery Office, Cmd. 5479, 1937, p. 156.

B. URBAN POPULATION ESTIMATES

Population estimates for Jerusalem, Jaffa, Ramle, Gaza, Hebron, Bethlehem, Acre, Haifa, Tiberias, Safed, Nazareth and Nablus and their composition by religion were constructed as follows:

¹ Op. cit., p. 297.

² It should be noted that A. Bonne (op cit., p. 10) gives an estimate of 600,000 for 1900.

³ M. Hartmann, "Die Ortschaftenliste der Liwa Jerusalem in dem türkischen Staatskalender für Syrien auf das Jahr 1288 der Flucht (1871)", *Zeitschrift des deutschen Palästina-Vereins*, Vol. 6, 1871, pp. 102–149. In order to obtain an estimate of the population we adopted a coefficient of 3.58 persons per male aged 16–60.

⁴ C. Schick, *Zur Einwohnerzahl des Bezirks Jerusalem*, Ibid., vol. 19, 1896, pp. 120–127.

⁵ G. Schumacher, "Population list of the Liva of Akka," *Palestine Exploration Fund Quarterly Statement*, 1887, pp. 169–191. The coefficient '5' used by Schumacher was replaced by the more correct coefficient 3.58 quoted above.

⁶ According to A. Ruppin, *Syrien als Wirtschaftsgebiet* (Berlin, Kolonial Wirtschaftliches Komitee, 1916), this estimate is actually to be referred to March 1915. The population of Muterassiflik of Jerusalem includes an estimate of 55,000 for Beersheva Bedouins.

1) For the total population in 1800, 1840, 1860 and 1880, we mainly utilized the estimates proposed by Y. Ben Arie¹ based on a critical evaluation of a very large number of Western sources.¹ These were in some cases corrected or integrated.

2) For Jerusalem we utilized, for both totals and composition by religion, another work by Y. Ben Arie², as well as extensive research performed by O.U. Schmelz.³

3) For other towns we have subtracted from the total population at the dates indicated above — the Jewish population (calculated as indicated in Section C below) and we have divided the Non-Jewish population by religions according to information drawn from various sources.⁴

4) For 1890, 1900 and 1910 additional sources were utilized.⁵

5) The estimate for 1914 (all towns together, Moslems and Christians separately) was obtained by extrapolating the evaluations for 1910, on the hypothesis that the urban population increased during 1910–1914 at the same rate as during 1900–1910.

C) ESTIMATES FOR THE JEWISH POPULATION

In regard to the total Jewish population by individual towns and in the rural sectors, the main sources utilized in obtaining estimates for 1800, 1840, 1860, 1880, 1895, 1900, 1910, 1914, 1916–18 and 1919 were:

- Y. Ben Arie, op. cit.
- *Enumeration of the Jews of Eretz Israel*, op. cit.
- G.H. Dalman, op. cit.
- A.L. Fränkel, *Nach Jerusalem*, 1858.
- M. Friedländer, op. cit.

¹ *The population of the large towns in Palestine during the first eighty years of the nineteenth century according to western sources*, The Hebrew University of Jerusalem and Yad Yitzhak Ben-Zvi, 1970. The estimates of total urban population in 1860 (82,300) and 1880 (124,850) seem to be in fairly good agreement with the estimate of 109,950 given for 1875 by D.H.K. Amiran and A. Shahar on the basis of information contained in the "Survey of Western Palestine" of 1881–83. See: "Estimates of the Urban Population of Palestine in the second half of the nineteenth century", *Israel Exploration Journal*, Vol. 10, No. 3, 1960, pp. 181–83 and "The Towns of Israel", *The Geographical Review*, Vol. 41, 3, 1961, pp. 348–369.

² *The Growth of the Jewish Population in Jerusalem in the 19th Century*, Jerusalem, Yad Yitzhak Ben-Zvi, 1973 (Hebrew).

³ *Some demographic peculiarities of the Jews of Jerusalem in the 19th century*, Hebrew University of Jerusalem and Yad Yitzhak Ben-Zvi, Jerusalem 1970. Also: *The Jewish population of Jerusalem in the 19th century*, Ph.D. Thesis, Hebrew University, 1958.

⁴ Papers by Hartman and Schumacher, op. cit.

⁵ V. Cuinet, *Syrie Liban et Palestine. Géographie administrative, Statistique descriptive et raisonnée*, Paris, Leroux, 1896. The detailed data given in this book appears to be reliable for certain towns but utterly unreliable for rural areas in Northern districts.

G.H. Dalman, "Gegenwärtiger Bestand der jüdischen Colonien in Palästina," *Zeitschrift des deutschen Palästina-Vereins*, 16, 1893, pp. 193–201.

M. Friedländer, "Die jüdische Bevölkerung Palästinas." In *Jüdische Statistik*, Berlin, Verein für jüdische Statistik, 1903, pp. 391–402;

D. Trietsch, *Palästina Handbuch*, Berlin, Harz, 1907;

J. Meisel, "List of the Jews of Safad and environments in 1939," *Sefirot*, Ben Zvi Institute, Jerusalem, Hebrew University 1962, vol. 6 (gives a report of the 1839 census on the Jewish population, taken at the initiative of M. Montefiore).

Other sources are quoted in the *Enumeration of the Jews of Eretz Israel*, Jaffa, Palestine Zionist Office, 1918–1919 (Hebrew).

- A.M. Lunz, *Yearly Almanacs*, Jerusalem, Vol. 1, 1882 and following.
- J. Meisel, op. cit., (Census of 1839).
- *Number of Jews in cities and colonies in the 19th century*. In "Three historical memoranda", Jerusalem, General Council of the Jewish Community of Palestine, 1947, p. 76; A. Ruppin, *The Jews of today*, 1911.
- O.Schmelz, *The Jewish Population of Jerusalem in the 19th century*, Jerusalem, 1958 (unpublished) and *Some peculiarities, etc.*, op. cit.;
- J. Schwarz, *Das Heilige Land*, 1852.
- J.Segall, *Internationale Konfessionsstatistik*, Berlin, Bureau für Statistik der Juden, 1914 (published as a manuscript).
- Trietsch, op. cit. and *Palästina Handbuch*, 1922, Berlin, Harz, 1922.

It may be noted that our pre-war estimate for the Jewish population (94,000) may perhaps be too high as it is considerably higher than (a) that for 1914 (84,600) quoted in the preface to the Report of the 1922 census (op. cit., p. 3) and based on Ruppin's estimates; (b) that for 1913 (85,000) calculated by Schmelz (Ph.D. thesis, op. cit., Table 1). On the other hand it is smaller than the estimate of 99,200 given by *Three Historical Memoranda, etc.* (op. cit.) and may fit rather well with our 1910 estimate (82,900), if we take into consideration that Jewish natural increase was in that period probably already rather considerable; that immigration was about 13,900 in 1911—1914; and that re-emigration was high.

APPENDIX 5

THE POPULATION OF JERUSALEM SINCE ANCIENT TIMES AND THE POPULATION OF TEL AVIV-JAFFA AND HAIFA SINCE 1800

A) JERUSALEM

Table A5 gives selected estimates of the population of Jerusalem (broken down according to religion, wherever possible) since ancient times. The orders of magnitude for the ancient era proposed by M. Broshi¹ are based on the evaluation of the area of the town in the various periods and of the density of population. The other estimates are given in sources quoted either in Broshi's paper or in publications quoted in Appendix 2. Estimates from the Middle Ages to 1910 are found in publications quoted in Appendices 3 and 4 and in the article on the history of Jerusalem in *Encyclopaedia Judaica* (Jerusalem, Keter, 1971, vol. 9). Later data are official censuses or estimates (see U.O. Schmelz, "The evolution of Jerusalem population" in *Urban Geography of Jerusalem*, A companion volume to the *Atlas of Jerusalem*, Jerusalem, Massada Press, 1973 pp. 53—75). Between 1948 and 1967 Jerusalem was divided into two parts included respectively in Israel and Jordan. Data given in Table A5 for this period refer to the Israeli part. However for 1961 an estimate is given for both parts together by utilizing the census taken in both parts in that year. The last four estimates in the table refer to the united town, over an enlarged municipal territory, as established in 1967.

B) TEL AVIV-JAFFA AND HAIFA

Both Jaffa and Haifa existed already in ancient times. However at the eve of the modern era they had very small populations. Table A6 gives evaluations since the beginning of the 19th century. The estimates for 1800—1910 are to be regarded only as very rough assessments of orders of magnitude (see Appendix 4).

Estimates for Tel Aviv are given since its establishment in 1909. After the 1948 war Tel Aviv and Jaffa were united.

For both Tel Aviv-Jaffa and Haifa data are given also for the entire metropolitan area according to the last two censuses (see: *The geographical-statistical division of urban localities in Israel*, Population and Housing Census 1972 Series, No. 3, Jerusalem, Central Bureau of Statistics). Data given in Chapter 18 refer only to the Jewish population. The definition of Tel Aviv-Jaffa conurbation is somewhat different from that used in Table A6.

¹ M. Broshi, La population de l'ancienne Jérusalem, Paris, *Revue Biblique*, 1975, vo. 82, pp. 6—14.

TABLE A5

ESTIMATES OF THE POPULATION OF JERUSALEM (FROM THE 10TH CENTURY B.C.E. TO 1975)

A) ANCIENT ERA

Period to which estimates are referred	Ruler in that period	Estimates by M. Broshi	Other estimates and their source
B.C.E.			
around 965	David	2,000	
around 928	Solomon	5,200	
733–701	Before Assyrian war		Baron 30,000
701			Albright 50,000 (with surroundings)
609	Josias	20,000	Baron: 20,000; Albright: 10,000–15,000
around 333	Before conquest by Alexander the Great	4,800	
3rd century			Pseudo-Hecataeus 120,000
76	Alexander Janneus	32,000	
C.E.			
4	Herod the Great	38,500	
66	Before Roman-Judaean wars	82,500	Russell 10,000; Jeremias 30,000; Wilkinson 76, 130; Avi-Yona 90,000–100,000 Baron: over 120,000; Rops up to 150,000; Byatt 220,000 (incl. surroundings); Edersheim 200,000–250,000; Chaplin 250,000
565	Justinianus	53,250	Avi-Yona (Aelia Capitolina) 80,000

B) FROM MIDDLE AGES TO 1975

Year	Total incl. others	of whom			Source
		Jewish	Christian	Moslem	
12th century (Crusaders' period)	30,000	4(1170)	majority		Prawer and others
1200	10,000				J.C. Russell
1267	2,000	2	300		Nahmanides
1483	10,000	100-150 families	1,000		Felix Fabri and others
around 1536	8,020	1,120	890	6,010	Based on lists of households
1553-54	13,170	1,625	1,530	10,015	Based on lists of households
1562-63	12,255	1,185	1,405	9,665	Based on lists of households
1690-91		910	about 3,275		Based on lists of households
1800	8,750	2,000	2,750	4,000	Ben Arie
1840	13,000	5,000	3,350	4,650	Ben Arie
1860	18,000	8,000	4,000	6,000	Ben Arie
1880	31,000	17,000	6,000	8,000	Ben Arie
1890	42,000	25,000	8,000	9,000	Ben Arie
1900	55,000	35,000	10,000	10,000	Ben Arie
1910	70,000	45,000	13,000	12,000	Ben Arie
1922	62,578	33,971	14,699	13,413	Census
1931	90,503	51,222	19,335	19,894	Census
1946	164,440	99,320	31,330	33,680	Official estimate
1961	227,923	165,022	12,385	50,296	Census
of whom in					
1948	83,984				
1951	140,700				
in Israel 1961	167,435	165,022	1,403	792	Census
in Jordan 1961	60,488		10,982	49,504	Census
New municipal area (as established in 1967)					
1961	243,900	165,022	13,900	64,800	Censuses
1967	267,800	196,500	13,000	58,100	Official estimate and Census
1972	313,861	230,325	11,704	71,770	Census
1975	355,500	259,400	96,100		Official estimate

TABLE A6

I ESTIMATES OF THE POPULATION OF JAFFA AND TEL AVIV (1800–1975)

Year	Total	Jews	Christians	Moslems
<u>Jaffa Town</u> <u>Rough Estimates</u>				
1800	2,750	—	646	2,104
1840	4,750	122	1,088	3,540
1860	6,250	400	1,375	4,475
1880	10,000	1,200	2,070	6,730
1890	23,000	3,000	(4,224)	(15,776)
1900	30,000	4,800 ¹	7,200	18,000
1910	43,000	13,000	8,000	22,000
1922 ²	32,523	5,087	6,808	20,621
1931	51,866	7,209	9,132	35,506
1946	101,580	30,820	16,800	43,930
<u>Tel Aviv Town</u>				
1909 ³	300	300	—	—
1915 ³	2,026	2,026	—	—
1920 ³	2,084	2,084	—	—
1922 ²	15,185	15,065	42	78
1925	34,200			
1931	46,101	45,564	143	106
1946	183,200	182,510	230	130
<u>United Tel Aviv-Jaffa Municipality</u>				
1948	248,459	244,600		
1951	345,600			
1961	386,070	380,288	2,481	2,976
1972	363,756	357,405	2,402	3,904
1975	353,800	346,600	7,200	
<u>Tel Aviv-Jaffa Conurbation</u>				
	Total	Core	Inner Ring	Outer Ring
1961	776,300	386,100	253,100	137,100
1972	1,029,600	362,900	442,500	224,200

¹ 1905

² In 1922 some quarters of Jaffa were united to Tel Aviv. Other changes in the municipal area of Tel Aviv occurred in 1926 and 1943, 1948, 1949 and 1951.

³ See *Year Book of Tel Aviv-Yafa Municipality*, 1969. It has been assumed that the entire population in the first period of Tel Aviv was Jewish.

TABLE A6 (follows)

II ESTIMATES OF THE POPULATION OF HAIFA (1800—1975)

Year	Total	of whom		Moslems
		Jews	Christians	
		<u>Rough estimates</u>		
1800	1,000	15	560	425
1840	2,000	136	1,057	807
1860	3,000	400	1,475	1,125
1880	6,000	175	3,300	2,525
1890	8,000	1,010	3,963	3,027
1900	15,000	2,000	5,000	8,000
1910	18,000	3,000	6,000	9,000
		<u>Censuses and official estimates</u>		
1922	24,634	6,230	8,863	9,377
1931	50,403	15,923	13,824	20,324
1946	145,430	74,230	29,910	41,000
1948	98,618	85,600		
1951	147,500			
1961	183,021	173,553	6,663	2,563
1972	219,559	207,162	8,152	4,178
1975	227,200	213,400		
		<u>Haifa Conurbation</u>		
	<u>Total</u>	<u>Core</u>	<u>Inner Ring</u>	<u>Outer Ring</u>
1961	259,700	183,000	67,100	9,500
1972	334,900	218,700	106,400	9,800

APPENDIX 6

SOURCES OF DEMOGRAPHIC STATISTICS DURING THE PERIOD OF THE BRITISH MANDATE¹

6.1

THE STATISTICAL SYSTEM OF PALESTINE

With the establishment of the civil administration of Palestine (see Section 5.1), some statistical activities were developed more or less along the lines followed in the British colonies.

Between 1918 and 1935, the statistical system was completely decentralized. Various government departments were responsible for the collection of the data required in order to carry out their duties. These data were published in their annual reports as a background for their administrative works. In this way, for instance, the Department of Health was responsible for the compilation of statistics on births and deaths²; the Department of Immigration was responsible for the publication of statistics on immigration, naturalization and all movements across the frontiers³. Part of these data also appeared in the two comprehensive reports regularly submitted by the Mandatory Government respectively to the Colonial Office (the so-called *Blue Books*) and to the Mandates' Commission of the League of Nations. During this period, two population censuses were taken: in 1922 and 1931 (see Appendix 6.2).

Under the impact of the continuously growing demand for statistical information on Palestine, motivated by political, economic and other factors, first steps were taken in 1935 to centralize official statistics. In that year a statistics office was established in the Immigration Department, and later a Government Statistician was appointed. In the course of time the office became an independent unit and in 1944 it obtained the status of a Department (working according to the Statistics Ordinance, 1935, amended in 1947). The Department of Statistics gradually succeeded at least partially to centralize the work, so that by the end of the Mandate the situation was as follows:

(a) In certain fields the department was fully responsible for the planning, collection, compilation and publication of the data.

(b) In other fields, the Department was responsible for the elaboration of the material collected by other departments. This was the situation prevailing with regard to vital and migration statistics.

(c) The Department was also responsible for publication of statistics, in the *Statistical Abstracts*⁴, the *General Monthly Bulletin of Current Statistics*, and Special Bulletins (such

¹ On this subject, see: *A Survey of Palestine* (prepared for the information of the Anglo-American Committee of Inquiry), Jerusalem, Government Printer, 1946, p.22; *Official Statistics in Israel*, Jerusalem, Central Bureau of Statistics, 1963, pp.9-17; R.Bachi, "Demography of Israel. Problems and sources of data", *International symposium on automation of the population register system*, Jerusalem, 1967, pp.12-28; R.Bachi, "On the accuracy of demographic statistics in Palestine and Israel". *Proceedings of the World Population Conference*, Rome, Vol.IV, 1954, pp.19-36.

² See *Annual Reports* of the Department of Health.

³ See *Annual Reports* of the Department of Immigration (later: the Department of Migration).

⁴ Eight such abstracts were published (1936, 1937-38, 1939, 1940, 1941, 1942, 1943, 1944-45). A later one was in preparation but was not published - because the Mandatory rule ended.

as *Vital Statistics Quarterly Bulletin* which appeared in a stenciled publication since 1938, but was later incorporated into the *General Monthly Bulletin of Current Statistics*).

The general administrative chaos which prevailed towards the end of the Mandatory regime brought a complete collapse of the whole apparatus for the collection of material and the preparation of data. The Department of Statistics practically ceased to exist, the *General Monthly Bulletin of Current Statistics* of March, 1948 was its last publication.

Besides government statistics, special statistics were collected in the Jewish sector, which are reviewed in Appendix 6.12.

In the following we shall review population censuses (6.2) and statistics of natural and migratory movements (6.4, 6.5). The information given by these statistics is extremely important and has actually constituted the first basis for systematic demographic knowledge of the population of the country in modern times. However, these statistics were far from perfect. Problems of coverage and quality must be examined in order to be able to utilize the demographic statistics of Mandatory Palestine.

These problems are particularly difficult for the following reasons:

- a) Comparison between population growth resulting from two consecutive censuses and from recorded vital plus migratory increase can be undertaken for the majority of the population of Palestine only for the short period between the censuses of 1922 and 1931 (6.6). It can also be attempted with respect of the Jewish population for the period 1931–48 by utilizing the population registration of Israel of 1948 (6.8B).
- b) A degree of uncertainty in any population estimate during the Mandatory period is due to the difficulties in evaluating the size and changes of the nomadic population (6.3).
- c) The collapse of the statistical system at the end of the Mandatory period introduces elements of uncertainty with regard to the size of the population actually found within the borders of Palestine in 1947–48 (6.8D).
- d) In the absence of registration of internal migrations, the evaluations of the geographical distribution of the population became increasingly uncertain, since the 1931 census (6.9).
- e) All the above problems were particularly difficult due to the comparatively strong dynamics of the population during the Mandatory period.

Despite the above difficulties, we shall try in the following to reconstruct in broad lines the evolution of the population from 1922 to 1947 (6.7B, 6.8C) and the size of the Arab exodus from Israeli territory in 1948 (6.10).

In the preparation of these evaluations, many points requiring further elucidation have appeared. It is hoped that they will be discussed (together with details of calculations not shown here) in an enlarged (Hebrew) edition of this Monograph. Some of the evaluations given here may need corrections.

6.2

POPULATION CENSUSES

During the Mandatory period, two population censuses were taken. The first, which was carried out in October 1922¹, had as its main purpose to determine the distribution of the population by religious communities, as a step toward the planned Legislative Council

¹ See: *Palestine, Report and General Abstracts of the Census of 1922*, taken on the 23rd of October, 1922. Compiled by J.B. Barron, Superintendent of the Census. Jerusalem, Greek Convent Press.

(which was never established). This census was a rather summary and rudimentary one; it only provided information on the distribution of the population by religion, sex and localities; on Christians by various denominations; on broad age groups and on marital status; by sub-districts and towns; on languages habitually spoken and on Palestinians residing abroad. Little is known about its procedure¹. Towns and villages were divided into areas containing approximately 500 houses. For each area an enumerator was appointed who was in the majority of cases a governmental official. Generally, the enumerators obtained the required information through village heads. In larger towns, well-defined quarters were divided into a number of areas and each family was visited by an enumerator belonging to the same religion as the family. The total number of enumerators was 553 (on an average it can be estimated that 1,237 persons were accounted for by an enumerator). The introduction of census legislation by the Palestine Government was not a popular measure with the urban population, and, to a lesser degree, also with rural inhabitants, since previous attempts to enumerate people were made by the Ottoman government for military conscription and taxation. The *Report of the 1922 Census* indicates that "political agitation was responsible for much doubt arising in the minds of the people. By the date of the Census, October 22nd, these obstacles had been successfully removed."

The second census, carried out in November 1931, was well organized: it was preceded by appropriate planning and preparations, and was conducted more or less according to the model of the censuses in India. Public opinion was favorably influenced by an Arab and a Jewish census committee, and by the press. A special provision was given to ensure the secrecy of census information, also with regard to illegal immigrants. The country was divided into census blocks each of which contained 50–80 houses, and was the responsibility of one enumerator. The census staff consisted of about 4,000 people: more than 3,500 census enumerators were chosen from the general public; the remainder of the staff consisted of civil servants. The number of persons accounted for by an enumerator (excluding Bedouins in the Negev) can be estimated at about 280. Census records were collected, tested and revised in about six weeks. On the night of the census the records were brought up to date by deletion of entries relating to persons no longer present and filling in the necessary particulars for the newcomers.

The census household schedule included questions on: relationship to the head of the household, sex, age, marital status, religion, country of birth, citizenship, permanent place of residence, economic status, principal and subsidiary occupation; branch of the economy; usual language; literacy and number of years spent at school and infirmities.

The report included: a list of population by religion in each inhabited place, a scientific analysis of the census findings, and a volume of detailed tables for the country and its sub-districts and towns².

Due to the rapid population growth, the idea of having a census every five years was discussed. However, this was not implemented. In 1936, the prevailing unrest and political turmoil prevented the preparation of the census. In 1941, the Second World War had reached the Middle East. In 1944–46 initial steps were taken to carry out a census in 1946. However, the only measure actually implemented was the enumeration of the Bedouins (see 6.3). With mounting political tension in 1946–48, the project of census taking was abandoned.

6.3 EVALUATIONS OF THE BEDOUIN POPULATION

During the entire Mandatory period, enormous difficulties were found in the evaluation of the Bedouin tribes, which formed the overwhelming majority of the population of the Negev (Southern) region (1 of Graph 1.3), and who were also found in a few other sub-districts (see Table A7).

¹ The information given here is taken from the *Report of the 1922 Census*, quoted above and from the *Census of Palestine 1931, Report*, Vol. I, by E. Mills, pp.1–2.

² *Census of Palestine 1931: Part I. Report* by E. Mills.; Part II. *Tables* (Alexandria, Whitehead Morris, 1933); *Population of villages, towns and administrative areas*, Jerusalem, 1932.

A) The Report of the 1922 Census (op.cit., p.4) indicated that the Bedouins refused to be enumerated, fearing that the census was carried out in order to enlist the males for military service (as had been done in Ottoman times).

Therefore only a very rough estimate was made on the basis of: information regarding the number of families, supplied by the principal sheikhs; of the experience of the administrative officials in the district; and of lists of persons paying tithe¹, or cultivating land within the tribal areas.

Estimates detailed by sex and tribe, sub-tribe or locality for the assumed number of 72,898 southern Bedouins have a misleading appearance of accuracy (see *Report*, pp.11—12). However, by scrutinizing them closely it is found that they were obtained by applying to estimates for each sub-tribe or locality fixed ratios of 0.509 for males and 0.491 for females, which are simply the sex proportions found among the settled Moslem population. The character of the estimates by sub-tribe or locality is revealed by the following analysis of the 2 last digits of the estimates.

	No. of estimates with this digit										Total
	0	1	2	3	4	5	6	7	8	9	
As last digit	63	—	—	1	—	1	—	—	—	—	65
As second-to-last digit	15	1	8	1	5	13	7	—	13	2	65

As pointed out by Muhsam (op.cit., p.267), such a distribution of the final figures corresponds to that observed in sets of physical measurements carried out by inexperienced people or in age returns of a population ignoring their exact ages².

In the second largest Bedouin concentration, that of Bethlehem, including an alleged total of 10,354, the roughness of the estimate appears by considering the breakdown indicating for 4 out of 5 sub-tribes: 6000, 2000, 2000, 250. The division by sexes appears also very doubtful.

B) In the 1931 Census data regarding the Bedouins were assembled over five months and returned on collective schedules on the basis of information (including that on sex, marital status and a few other details) given by the sheikhs of various tribes and sub-tribes. A second enumeration, conducted around the census day, in a sample of 17 out of 77 sub-tribes, gave in 13 cases a variation of the first enumeration included between 0 and 1.5% and only in 3 cases strong variations (respectively -13.1%, +10.8%, +15.8%). Despite uncertainties with regard to the results of the 1931 census, they are much more reliable than those of the 1922 Census.

Table A7 gives a comparison between the nomadic population of 1922 and 1931 after the following operations were performed: a) errors in the location of certain Bedouin groups which occurred in the 1922 census have been eliminated; b) the classification by sub-district in 1922 has been adapted to the sub-districts' division of 1931; c) Bedouins counted in 1922 as belonging to "tribal areas" in sub-districts where they were included within the settled population in 1931, are shown separately³; d) Sub-districts have been divided according to whether they were later included wholly or in a large part in the State of Israel.

¹ On the strong discrepancies between lists of persons paying tithe and of family heads; see H. Muhsam, "Enumerating the Bedouins of Palestine", *Scripta Hierosolymitana*, Vol.3, Jerusalem, 1956, pp.265—280.

² For many examples of such errors (including applications to the population of Palestine and Israel), see: R. Bachi, "The tendency to round off age returns: measurement and correction". *Bulletin of the International Statistical Institute*, Vol.33, part 4, pp.195—222, 1951.

³ See *Report of Census 1931*, (op.cit., vol.2, p.8).

C) *Reassessment for 1922 on the basis of 1931.* While some changes in the geographical locations of the nomads between 1922 and 1931 may have occurred, the general picture of a strong decrease in the overall number of Bedouins from 85,697 in 1922 to 66,553 in 1931 was considered by the compilers of the 1931 census as "repugnant to common sense" (*Report*, op.cit., Vol.1, p.330). Under the conditions prevailing during 1922–31 the rate of natural increase of the Bedouins (see below, under 4) was comparatively low. The suggestion given in the Census Report of 1931 (p.45) that the size of the Beersheva Bedouin population may have had an order of magnitude of some 45,000 in 1922 as compared to some 48,500 in 1931 seems therefore reasonable. In a similar way we might perhaps estimate the total nomadic population of Palestine in group A of sub-districts (Table A7) at about 62,500.

TABLE A7
COMPARISON BETWEEN THE NOMADIC
POPULATION IN THE CENSUSES OF 1922 AND 1931

Sub-districts	1922	1931		Total
		Wholly or in a large part in	Outside	
		sub-districts included later in the territory of Israel		
A) Sub-districts in which the nomads were counted separately from the settled population both in 1922 and 1931				
Beersheva	71,108	47,981		47,981
Gaza	1,790		530	530
Jaffa, Ramle	995	8,754		8,754
Hebron, Bethlehem, Jericho and Ramallah	11,804		9,288	9,288
Total	85,697	56,735	9,818	66,553
B) Sub-districts in which the nomads were counted separately from the settled population only in 1922 ¹	17,634			
Grand total	103,331			

D) *In 1946* various census operations² were carried out among the Southern (Negev) Bedouins: 1) an enumeration of heads of families, of males and females in each family, conducted within each tribe; 2) a more detailed sample enquiry; 3) an estimate of the total Bedouin population based on identification of tents from existing airphotos and an evaluation of the average number of persons per tent by means of (2).

The results of operation 1) and 3) gave very diverging results. Lists (1) included about 15,780 households, with an average of 5.53 persons per household (see Muhsam, 1956, op.cit.). The total number of Bedouins according to these lists was about 90,000 (see Dajani, op.cit.).

¹ Tulkarm, Baisan, Haifa, Acre, Nazareth, Tiberias, Safed.

² See: S.W.Dajani, "The enumeration of the Beersheva Bedouins in May 1946", *Population studies*, Vol.1, No.3, 1947, pp.301–307; H.V.Muhsam, "Fertility and reproduction of the Bedouins", *Population Studies*, Vol.4, No.4, 1951, pp.354–363; H.V.Muhsam, "Enumerating the Bedouins of Palestine", *Scripta Hierosolymitana*, Vol.3, Jerusalem, Hebrew University, 1956, pp.265–280.

From airphotos (3), after integrating for possible omissions and after considerable research on the number of tents per family and persons per tent based on (2), an estimate of 11,375 households was obtained, which, at an average of about five persons per household, gave a population estimate of about 57,000.

A third approach for estimating the population of the Negev Bedouins is as follows:

Let us assume that the main source of increase in 1931—46 was natural increase. It may be estimated that the total fertility of the Bedouins was at most 6 children per woman¹ and that child mortality during the first five years of age was about 38%². A population growing under these conditions may be expected to have a yearly increase of about 11.5 per 1000³.

The rate of increase during 1931—46 implied by comparing the objective method of tent counting in 1946 to the 1931 enumeration is 11.2 per 1000. The concordance between this result and that obtained by the third approach is remarkable.

Therefore, as a rough guess of the possible order of magnitude in 1946, it seems justified to accept the results of the tent survey.

The yearly rate of increase implied in the estimate of 90,000 for 1946 as compared to the 1931 enumeration would be 43.5 per 1000 which is certainly unacceptable. Close scrutiny of the lists a) (see Muhsam, 1956, op. cit.) brings us to the following conclusion: the lists were artificially inflated, possibly in order to obtain for the tribes a larger quantity of food, which in the postwar period under survey was still rationed. A further proof of the distortion of the a) lists is found in the fact that in the Israel census of 1961 the bedouins had a lower average family size (5.197) than that alleged in a) despite the fact that the decrease in mortality which is likely to have occurred between 1946 and 1961 should have acted in the opposite direction.

Supposing that all the nomads of Palestine grew between 1931—47 at the rate of 11.5 per 1000, an estimate of about 80,000 is obtained for them at the end of 1947. Following the same method, the Bedouins in the territory of Israel may be estimated at the end of 1947 at about 66,000.

E) *General conclusions.* It is suggested to adopt the following working hypotheses in regard to the possible size of the nomadic population:

	Southern area	Parts of Palestine in which nomads were counted separately from the settled population		Sub-districts of Palestine later included mainly in Israel
		A) Both in 1922 and 1931	B) Only in 1922	
1922	45,000	62,500	(17,634) ⁵	
1931	48,511 ⁴	66,553		56,735
1947	58,000	80,000		66,000

¹ Muhsam (1951, op.cit.) obtained an estimate of about 6 for the total fertility of the Bedouins, as compared to about 7.5 for the settled Moslem population.

² The Israel census of 1961 shows that for mothers of all ages up to 50, the mortality of their children in the first five years of life was systematically higher for Bedouins than that of other Moslems. In a very rough way the excess of child mortality of Bedouins may be estimated to have been some 25%. Applying this to Moslem child mortality in 1932—42 (later years are not reliable), we may guess that Bedouin child mortality up to the age of 5 in 1932—42 had a level of about 38%.

³ A.J.Coale and P.Demeny, *Regional Model Life Tables for Stable Populations*, Princeton University Press, Princeton, N.J., 1966. East Level between 6 and 7.

⁴ Beersheva and Gaza sub-districts.

⁵ Non-corrected estimate given in the 1922 census.

⁶ Excl. about 2,000 in Gaza Strip.

A) Births and deaths

Registration of births and deaths was made compulsory in Palestine by the Public Health Ordinance of 1920. The registers were kept at the District Offices of the Department of Health. Registration was effected on the receipt of a completed form of notification. In villages information on vital occurrences were given to the village head (*mukhtar*) respectively (a) by the parents of the newborn or by the licensed midwife (*daya*) or (b) by relatives of the deceased or by some other person present at the time of death. The *mukhtar* recorded the details on the form and was responsible for its notification, for which he received a payment. In towns, notifications of births were carried out almost entirely by the doctors and the licensed midwives, and notifications of deaths by doctors.

Until 1937 the compilation of statistics of births and deaths was done manually by the Department of Health. Starting in 1938 detailed statistics were prepared mechanically by the Department of Statistics. As the record of births and deaths among the Bedouin tribes were only fragmentary, they were in principle¹ excluded from the statistics.

The problems of degree of coverage and quality of information furnished by vital records collected by the Palestine Government are very complex, and can be discussed here only cursorily on the basis of various papers on this subject², and of some unpublished surveys conducted during the last year of the Mandate by the Statistical Department, in order to check the degree of coverage of births and deaths notifications. Some findings are given below:

1) It is likely that in the first years after the establishment of compulsory registration, coverage of notifications was not complete. A clear symptom of incomplete coverage of births' registration is the high masculinity of births found in all population groups (Moslems, mainly 1922-26; Jews 1922-26; Christians 1922-23, see below).

2) Later, both coverage and quality of notification were generally satisfactory with regard to the Jewish population. Large concentration in towns, comparatively high cultural level, a high proportion of births in hospitals, and the very high medical certification of deaths explain this situation.

¹ Actually, exclusion from the statistics of births and deaths was in regard to Southern Bedouins. Some notifications by Bedouins in other areas of Palestine may have been included in the general statistics. However, as non-Southern Bedouins constituted a relatively small proportion of the total Moslem population (about 2.4% in 1931), this source of error cannot have been large. On this point, see the *Report of the 1931 census* (op.cit.) Vol.1, p.141.

² See: The *Report of the Census of 1931* (op.cit., passim); R.Bachi, "On the accuracy of demographic statistics in Palestine and Israel", *Proceedings of the World Population Conference*, Rome, Vol.4, 1954, pp.19-36; E.Bromberger, "The growth of the population in Palestine" *Population Studies*, Vol.2, No.1, 1948, pp.71-91; P.J.Loftus, "Features of the demography of Palestine" (*Ibid.*, pp.92-114); and some other sources quoted in these papers.

3) It is likely that from the viewpoint of coverage, the registration system worked rather well also in regard to the Christian population, apart from the periods indicated under 6) and 7) below.

Comparison of the numbers of children aged 0—4 expected to survive in Palestine according to birth, death and immigration records, with the number of children actually enumerated in the 1931 census, indicates a very good correspondance for both Jews and Christians¹:

Children aged 0—4		
	Expected to survive	Actually enumerated
Jews	23,549	23,507
Christians	12,485	12,690
Moslems	116,807	130,708

4) For the Moslems, the correspondance is less satisfactory. The discrepancy between survivors and enumerated may have been due to many causes (see *1931 Census Report*), including rounding and other mistakes in age statements. However, it is likely that it was also due to some persisting incompleteness of coverage in birth registration. Also death registration was probably somewhat incomplete in the first years after the enforcement of compulsory notification.

However, it is not easy to quantify these remarks and to correct the vital statistics data. The *Report of the 1931 Census* suggests (op.cit., p.45) that there may have been in the inter-censal period 1922—31 an underestimate of natural increase of about 2,000 per year. However, no clear justification for this assumption is given.

Close scrutiny of existing data suggests that under-registration of Moslem births was particularly strong in the first years for which records are available and for certain areas.

The only type of correction which can be undertaken with comparative ease is to eliminate the anomalies in recorded masculinity at birth, by adding an adequate number of missing female births. We have therefore corrected the Moslem births for 1922—31 in order to make the masculinity at birth in these years equal to the average for Moslem births in the subsequent period (1932—35: 106.25 male births per 100 female births):

	1922	1923	1924	1925	1926
Reported number of Moslem births	22,469	25,157	28,352	28,161	31,964
Corrected number of Moslem births	24,334	26,943	29,656	29,231	33,338
	1927	1928	1929	1930	1931
Reported number of Moslem births	30,616	34,034	33,050	35,515	36,869
Corrected number of Moslem births	30,922	34,374	33,381	35,870	37,238

5) A similar correction for Jews and Christian affects a much shorter period. Here we have taken respectively as standards: masculinity of Jews in 1928—45 (106.01); for the Christians 1924—45 (105.71):

¹ See *Report of the 1931 Census* (op.cit.), vol.I, pp.110—116.

	1922	1923	1924	1925	1926	1927
Reported number of Jewish births	2,370	3,269	3,623	3,974	5,309	5,183
Corrected number of Jewish births	2,875	3,728	3,913	4,225	5,489	5,344
Reported number of Christian births	2,335	2,566				
Corrected number of Christian births	2,664	2,762				

6) A serious disruption of the registration system occurred in certain areas (mainly Moslem) during some periods of the disturbances of 1936–39.

7) The registration of deaths became largely defective in 1943–47. It is very likely that this was connected with the fact that village headmen — who were responsible for the collection of vital records in villages — acted since 1943 as distributors of controlled foodstuffs. As food was allocated in proportion to the estimated number of people in the villages, there was interest in concealing deaths and thus inflating the number of inhabitants.

8) In order to correct, at least roughly, the effects of underreporting of deaths mentioned under 6) and 7) we may utilize average death rates for the periods 1933–35 and 1940–42, in which reporting is likely to have been better than in other years. By carrying out the respective interpolation and extrapolation for 1936–39 and 1943–46, corrected rates can be obtained and compared to the reported ones. A rough evaluation of underreporting can thus be obtained. For 1947 the same extent of underreporting as in 1946 was assumed.

For 1936–39, an allocation of unreported violent deaths due to disturbances, which are known to have been well over 3,000¹, must be added. The final results of this calculation are as follows:

Evaluation of unreported deaths among

	Settled Moslems	Christians	Others	Non-Jewish population (total)
1936–39	13,568	319	113	14,000
1943–46	14,357	222	143	14,722
1947	3,589	56	36	3,681
Total	31,514	597	292	32,403

9) Self-interests connected with food distribution is likely to have made birth reporting in that period practically complete.

There was even some suspicion that duplication or forging of birth notification might have occurred. However, no direct proof of this was found.

B) Marriages and divorces

Celebration of marriages in Palestine and the granting of divorces was governed by the law of the religious community of the parties concerned. The Government required only that every marriage or divorce be registered by the responsible authority of the religious community and that copies of such registrations be sent to the Commissioner of the District, where the marriage was celebrated or the divorce granted.

¹ See *A Survey of Palestine*, (op.cit.), pp.35–46.

The District Commissioners submitted to the Department of Statistics monthly returns on the numbers of marriages and divorces by community. Summary monthly and yearly statistics were published by the Department, starting in 1935. In 1944 and 1945 detailed statistics were also prepared.

Reporting of marriages and divorces seems to have been practically complete with regard to the Jews.

For the Moslems, returns were regularly given through Sha'aria courts. However, they did not cover all types of remarriage and divorce (see Section 11.9). The disturbances of 1936–39 affected the completeness of coverage in those years.

For certain Christian churches, mainly in the northern part of the country reporting was extremely incomplete. An indirect proof of this was found by comparing in 1938–44 the average yearly number of first births to that of marriages.

C) *Corrections introduced in vital statistics in this Monograph*

With regard to vital statistics only the following operations have been performed:

- 1) Birth records in certain years have been adjusted in order to integrate for missing female births (see under 4) and 5) in the previous Section).
- 2) Number of Non-Jewish deaths has been adjusted for the years 1936–39 and 1943–46 by adding an estimated correction for missing notifications, as explained under 8) in the previous Section.
- 3) These corrected values have been utilized for revising population estimates, as given below.

However, no corrections have been introduced with regard to vital rates and other calculations prepared by the Department of Statistics of the Mandatory government on the basis of current birth and death records and official population estimates, such as mortality tables, total fertility, gross and net reproduction rates.

6.5 STATISTICS OF MIGRATORY MOVEMENTS EVALUATION OF THEIR ACCURACY

In discussing statistics of migratory movements in Mandatory Palestine, our attention is mainly focused on measuring the volume and structure of immigration, emigration and migratory increase.

Considerable difficulties in this measurement derive from the fact that the official statistics of immigration and emigration, based on legal definitions of these movements, failed to include all persons who actually immigrated or emigrated. On the other hand, current population estimates were calculated on a *de facto* basis; therefore, migratory increase of population was obtained as the balance between all arrivals and all departures (including tourist movements).

In the following we give A) an overview of all legal movements registered at frontier controls; B) a review of the various types of legal or illegal immigration completely or partially registered; C) a survey of methods followed by Mandatory Government statistics to evaluate emigration.

Under B) and C) we indicate also the methods employed in this Monograph to reconstruct the volume of immigration and emigration.

A) *Statistics of legal arrivals and departures through the frontiers of Palestine*

Censuses and current estimates referred in Palestine to *de facto* population. Therefore

demographic statistics had to be based, in theory at least, on the knowledge of all arrivals and departures across the frontiers of Palestine. This approach was connected with "the principle followed in Palestine for the statistics of movements across the frontiers, that every arrival to or departure from Palestine, of whatever nature, should be recorded on a proper card or form"¹. *De facto* calculations involved many difficulties;

1) Net migratory increase was calculated as the residual of a vast movement of arrivals and departures. To show this, Table A8 has been constructed by taking into consideration the main types of movements registered at frontier controls during 1923-46: arrivals of immigrants; arrivals or returns of residents of Palestine, tourist traffic. It is seen that out of over 6,432,000 records, a balance of 340,000 was found.

2) In order to divide the net migratory increase by population groups, it is necessary in principle that all movements be classified according to the same system (for instance by religion). Unfortunately, this was not the case. In certain years and for certain movements the classification used was the standard one (Moslems, Jews, Christians, Others); but in other periods a classification by "race" was employed (Jews, Arabs, Others). In other years, and mainly so in the first years of the Mandate, no breakdown at all is available for movements of travelers and residents. Thus the classification by religions given in Table A8 and in other estimates quoted in this Monograph is the result of a complex task of recompilation, the details of which cannot be given here for lack of space and which cannot be extended back for all movements for years preceding 1923².

TABLE A8
MOVEMENTS THROUGH THE FRONTIERS OF PALESTINE
AND BALANCES BY TYPE OF MOVEMENT AND RELIGION (1923-46)

	Immigrants	Residents	Foreign travelers	Total
Arrivals	351,853	1,131,444	1,902,915	3,386,212
Departures	—	1,248,670	1,797,475	3,046,145
Balance	+351,853	-117,226	+105,440	+340,067
Balance by religion				
Jews	+324,879	-64,079	+60,533	+321,333
Christians	+20,536	-28,236	+29,935	+22,235
Moslems and others	+6,438	-24,911	+14,972	-3,501

3) Actual coverage by registration was probably different for the different classes of movements, for various periods and for various types of frontiers. While rather strict control was exerted over seaborne and airborne traffic, many movements from or to neighboring countries across comparatively long land frontiers were not recorded. For instance, as a consequence of the *bon voisinage* agreement of 1924 between Syria and Palestine certain persons living on either side of the frontier might cross the frontier at will without being registered, by showing border passes, if requested to do so. Until 1939 people from Transjordan

¹ *The Statistics of Migration and Naturalization for the year 1945*. Jerusalem, Department of Migration of Palestine, p.ii.

² The main operations performed to obtain these estimates were: to introduce hypotheses on the breakdown of certain movements and periods according to religion, on the basis of proportions available for near years; to transform on for a few years statistics by race into statistics by religion, on the hypothesis that "Arab" corresponds mainly to "Moslem" and "Other" to "Christian". The last hypothesis is rather weak, as, for instance, Egyptian Moslems are indicated in certain periods as "Other" (and not as "Arab"). In certain cases, data are also broken down by countries and so Egyptians can be classified as Moslems. (See, for example, the calculation based on Table A9).

could enter Palestine without a passport¹ and records of their movements were certainly defective².

So long as unregistered movements were only temporary or seasonal they did not very seriously affect the population balance. Similarly their neglect is of no practical importance from the viewpoint of the specific study of immigration or emigration.

However, this is not true with regard to unregistered permanent or semi-permanent immigration. We shall therefore examine under B) various types of unregistered or partially registered immigration movements, as compared with those fully registered.

B) *Statistics of various types of immigration*

1) *The existing data*

Detailed statistics of *legal immigration* were conducted since the beginning of the British administration for

a) persons registered as immigrants at their arrival, and since 1924, for

b) travellers registered as immigrants after a period of stay in the country³.

However, there were also statistics or evaluations of *other categories of immigrants*:

c) *Follow-up of travelers who overstayed the period* granted for their visit was attempted and their numbers evaluated (starting in September, 1933).

In the following a comparison is given for the period 1934–45 of categories b and c and of the balance of all arrivals and all departures of travelers:

	Jews	Arabs	Others	Total
b) Travelers given permission to remain as immigrants	14,930	1,457	2,638	19,025
c) Travelers remaining illegally	9,759	14,957		24,706
Total	24,689	19,042		43,731
Balance between arrivals and departures of travellers	+21,319	+10,818	+15,325 =26,143	+47,462

It may be roughly calculated that in 1934–45 out of 100 travelers who did not leave Palestine the proportion illegal was about 40% among the Jews; 80% among the Arabs and 76% among the others. It is also seen from the above that in the long run the orders of magnitude of (b)+(c) tended to be rather similar to that of the excess of arrivals over departures of travelers.

d) Starting with 1939, the Palestine Government evaluated *illegal Jewish immigrants* (who were enumerated in ships, "inferred from reliable evidence", or arrested). Their number was 29,026 in 1939–46.

e) *Other Jewish immigrants* who reached Palestine without Government certificates were registered in the Jewish Agency and some information on them is available in publications of this institution⁴.

¹ See *A Survey of Palestine* (op.cit.), Vol.1, p.212; and papers by Bromberger and Loftus quoted above.

² *Report of the Census of 1931* (op.cit.), Vol.1, p.45.

³ Apparently this category also included 11,335 persons who were illegally in Palestine and who asked to be registered as immigrants in connection with special permission connected with the 1931 census (see the *1931 Census Report*, op.cit., Vol.1, p.76).

⁴ For a bibliography of publications of the Jewish Agency including immigration statistics, see the book by M.Sicron, *Immigration to Israel, 1948–53*, (Jerusalem, Falk Project for Economic Research in Israel, and the Central Bureau of Statistics, 1957).

Some indirect statistical evidence on other types of attempted or actual immigration is available from the following sets of statistics (see Table A9).

f) Persons convicted in Magistrates' Courts of having *entered Palestine without permission*¹ some of whom were sentenced to deportation.

g) *Persons actually deported*².

h) *Persons refused entry*.

i) *Persons who were recorded at departure without having been recorded at entry*.

Groups (f) and (g) include people who succeeded in immigrating without a permit, while group (h) includes persons who probably tried to do so. Group (i) probably includes in the main persons who immigrated temporarily in an illegal way and afterwards left voluntarily.

TABLE A9
VARIOUS TYPES OF ILLEGAL IMMIGRATION ATTEMPTED OR PERFORMED
(1935-1945)

Period	1937-45	1935-45		1935-45	1941-45	
Religion	Convicted for entering Palestine without permission	"Race"	Refused entry	Recorded at departure and not at entry	Religion and country of origin	Deported from Palestine
Moslems	11,902	Arabs	1,530	5,924	Non-Jews:	
Jews	1,371	Jews	971	2,210	Moslem countries	14,947
Christians	1,141	Others	570	8,823	Other countries	52
					Jews	232
Others	44	Total	3,071	16,957	Total	15,231
Total	14,458	Residents of Syria and Lebanon ¹		2,604		
Of them,		Transjordan ¹		2,875		
sentenced to		Egypt ²		5,395		
deportation	4,638	Asian and African countries ²		1,817		

¹ Included above among "Arabs".

² Included above among "Others".

By recasting on the basis of various hypotheses the statistics of Table A9 according to religion, transforming them into annual averages and eliminating probable overlappings, it is found that around 1935-45 the yearly averages of these types of illegal movements were as follows:

¹ These data are taken from the paper by Bromberger quoted above, while the others have been taken directly from official statistics.

² We have utilized data given in the *Supplement to Survey of Palestine*, (op.cit.), p.25. They differ from those quoted in *The Statistics of Migration and Naturalization for 1945*, op.cit., p.XIX.

	Moslems	Jews	Christians	Total
Permanently remained in Palestine (convicted of illegal entrance but not deported) Part of (f)	902	103	86	1,091
Remained illegally for a period and then left voluntarily (i)	1,194	201	146	1,541
Remained illegally for a period and then deported (g)	2,491	39	9	2,539
Total	4,587	343	241	5,171
Attempted to immigrate but were refused entry (h)	170	88	21	279
Grand total	4,757	431	262	5,450

As the main population group involved in these movements was that of the Moslems, let us concentrate our attention on them and compare as follows the above illegal movements to legal and illegal immigrations of Moslems recorded above under a—c:

	Yearly averages in 1935—45 for Moslems		
a) Registered as immigrants on arrival	374 (Arabs)	} Total legal	490
b) Travelers registered as immigrants	116		
c) Travelers remaining illegally in Palestine	662 (Arabs)		
Part of f) convicted of illegal entrance but not deported	902		1,564
g) and i) remained illegally for a period and then left or were deported	3,685		
Total	5,739		
h) Attempted to immigrate but were refused entry	170		
Grand total	5,909		

It appears from the above that among the Moslems: i) legal immigration (a, b) constituted only a small part of total immigration movements; ii) among registered illegal immigrants temporary immigration prevailed. In other words, immigration was largely balanced by emigration; iii) permanent demographic effects of registered illegal movements were therefore rather limited (c and part of f), which to some extent may overlap).

However, it is hardly credible that illegal movements which were actually discovered included all the illegal entrances which actually occurred, or even the majority of them.

It can be assumed that considerable numbers of Moslems may have entered Palestine during certain periods without being registered.

j) Some limited information of the numbers of certain groups of illegal entrants actually found in Palestine around the end of the Second World War is available¹. In that period, emergency work was undertaken for military purposes and considerable numbers of unskilled laborers were brought to Palestine from neighboring countries while others were

¹ See a *Survey of Palestine*, (op.cit.), Vol.I, pp.210—222, and the papers by Loftus and Bromberger quoted above.

attracted by the high wage rates offered. At the end of this period (1944–45) it was estimated that among workers for the army or for contractors there may have still been some 14,000 illegal entrants.

In that period measures were taken for repatriation or deportation of foreign workers after the end of the emergency. These were not entirely successful. However, in other periods the supervision was even looser.

k) A type of immigrant excluded from current statistics were the war refugees (mainly from Greece, Poland, Czechoslovakia and Yugoslavia). Some vague estimates regarding them¹ added up to about 30,730. Most of these people were repatriated after the end of the Second World War.

2) Methods followed in this Monograph for evaluating immigration during the Mandatory period.

It appears from the above that the accurate reconstruction of actual (legal or illegal) immigration to Palestine during the Mandatory period is a very difficult task.

i) Fortunately, a large part of this task — regarding *Jewish immigration* — has been done by Sicron², by comparing governmental records regarding immigrants of types a, b, c, d, Jewish Agency records for e, the distribution of foreign-born at censuses in 1931 and 1948, and other sources. This reconstruction includes both consolidated annual volume of all types of Jewish immigration between 1919 and 1948, and data on the composition of immigrants by many characteristics. Figures on Jewish immigration during the Mandatory period quoted in Chapter 8 are based on Sicron's work.

ii) For the *Christians* and *Moslems*, an estimate of recorded immigration (Table 9.4) has been obtained by taking together immigrants registered on arrival (category a above) and the balance of travelers³, assumed in the long run to correspond roughly to categories b and c taken together. For the Christians this calculation may be assumed to include a rather considerable portion of the total actual immigration and to be even possibly overestimated.

iii) For the Moslems this includes only a minority of actual immigration. However, in the present state of knowledge, we have been unable to even guess the size of total immigration, and have therefore limited ourselves to the following:

(1) Some general statements with regard to general Moslem immigration have been given in Section 9.8.

(2) In order to correct Moslem population estimates, we have introduced two rather arbitrary working hypotheses with regard to net migratory increase: i) for the intercensal period 1922–31 (slightly over 9 years) we have assumed that it was about +5,000 instead of about -5,000 as indicated in official statistics (for justification of this assumption, see below, 6.6); ii) for 1932–45 the net migratory estimate registered in official statistics was +1,202, which appears to be an underestimate. We have taken for this period as a lower bound to the number of unrecorded Moslem immigrants who remained in the country the available yearly estimate of about 900 persons convicted of illegal immigration and not deported. Then some 13,500 persons have to be added for the same period to the net balance of Moslem migrations.

d) We have ignored movements of refugees as such (see j above). Jewish refugees who remained permanently in the country are included in the total evaluation of Jewish immigration.

¹ See *A Survey of Palestine*, (op.cit.), pp.222–224.

² *Immigration to Israel*, etc., op.cit.

³ This balance has been estimated in the years 1923–25.

C) Statistics of emigration

1) The existing data

In the first part of the Mandatory period, statistics of "emigrants" were published. For instance, during 1922–31 the following data are available¹.

	Jews	Non-Jews	Total
"Emigrants"	26,349	11,911	38,260

The distinction between emigrants and residents leaving for travel abroad was based on the declared intention of the persons leaving. In that period this distinction probably enabled the authorities to identify a considerable part of the persons who actually remained abroad. The *de facto* balance between the number of residents departing and residents returning indicated higher numbers; however, the orders of magnitude were not very different:

	Jews	Non-Jews	Total
Difference between departing and returning residents	38,809	17,682	56,491

During 1932–34, no such statistics were compiled. For 1935–46 data are available which distinguish residents departing with a visa valid for less than one year² (indicated in Table A10, as I) or for more than one year (L). Similarly residents returning were classified according to their length of absence: less than one year (r) or more than one year (R). A summary of these data is given in Table A10.

TABLE A10

MOVEMENTS OF RESIDENTS ACROSS THE FRONTIERS OF PALESTINE (1935–46)

Type of movement	Moslems	Jews	Christians	Total (incl. "Others")
Leaving for a period: (L) exceeding one year	1,325	6,573	6,163	14,075
(I) not exceeding one year	421,235	201,426	215,073	839,151
(L)+(I) Total	422,560	207,999	221,236	853,226
Returning after a period: (R) exceeding one year	7,781	9,649	4,183	21,642
(r) not exceeding one year	398,520	172,360	200,145	772,373
(R)+(r) Total	406,301	182,009	204,328	794,015
Balance: (R)–(L)	+6,456	+3,076	-1,980	+7,567
(r)–(I)	-22,715	-29,066	-14,928	-66,778
Total [(R)+(r)] – [(L)+(I)]	-16,259	-25,990	-16,908	-59,211

¹ See, among other sources, the *Report of the 1931 Census*, (op.cit.), Vol.I, p.76.

² The validity of this visa could, however, in proper circumstances, be extended. For an attempt to find limiting values to the volume of emigration on the basis of those data, see: *The Statistics of Migration and Naturalization for the Year 1945*, Jerusalem, Department of Migration of Palestine, pp.XIX-XXV.

As category (L) included both leaving permanently or for a long period, it can be in practice considered as corresponding to the category which in the period 1923–31 was termed "emigrants". However, in the period 1935–46 the number of persons who entered into this category was very small, as compared to the balance between leaving and returning residents $[(L+I)-(R+r)]$, and it cannot be taken in any way to represent the entire volume of the emigration.

It is also clear from those data that intentions did not often correspond to actual behavior; some of the persons who left with a visa for a short trip (I), extended their visa while abroad and returned after a long period, while others failed to return at all.

2) Method followed in this Monograph for evaluating emigration during the Mandatory period.

In order to estimate roughly the volume of emigration over long periods, we have used the balance of residents leaving over residents returning $[(L+I)-(R+r)]$. This may somewhat overestimate the total volume, for reasons explained in Appendix 7.4B. A correction to this calculation has been introduced for the Jewish population by utilizing the information available for a much later period (1960–75). In that period a more accurate estimate of emigration has a proportion of 76.9%: 100 to the entire balance of residents' travels $[(L+I)-(R+r)]$. It is very difficult to evaluate whether this coefficient of correction may also have been valid in the Mandatory period. Possibly for that period a smaller correction should be used. This is the method tentatively followed in Section 9.1.

For the Non-Jews no such correction is possible. We have therefore given in Table 9.4 emigration rates based on excess of departing over returning residents.

Composition of emigration cannot be evaluated for lack of detailed data of the balance of residents' travels. Therefore, the very limited information available for residents leaving for a period over one year was utilized in Chapter 9.

6.6 INTERCENSAL INCREASE 1922–31 COMPARED TO NATURAL AND MIGRATORY INCREASE

Table A11 compares the results of the 1922 census, corrected for the overestimate of the nomadic population, to those of 1931 (line 9) and indicates the components of increase resulting from vital and migratory statistics¹ (line 13). It is seen from line 14 that the correspondence between the two sources of information is very satisfactory in respect to the Jewish and Christian populations, and it is particularly so if birth records are corrected as explained in 6.4 (lines 15 and 16)².

However, with regard to the Moslem population there is a rather larger discrepancy of about 44,400 persons, or about 6.4% of the population enumerated in 1931, even after correction for underreporting of births (line 16). This discrepancy was probably due to the joint action of the following determinants:

¹ For Moslems and Jews also the effects of the rectification of frontiers with Syria and Transjordan occurred in 1922–23 are taken into consideration (line 12); see *Report of the 1931 Census*, op.cit., Vol.1, pp.17 and 45.

² For the Jews, some excess of the population calculated for 1931 on the basis of the 1922 census over that actually enumerated in 1931 could have been expected, as it is known that there was some movement for boycotting the 1931 census. The effects of this boycott were estimated at about 8,200 by the Jewish Agency but possibly this estimate is too high (see, for instance, *Registration of Population 1948*, op.cit., Part B, p.X). On the other hand, there may have been some underreporting in immigration statistics in the intercensal period. (See the *Report of 1931 Census*, op.cit., pp.45, 62–64, 76, for a discussion of this point).

TABLE A11

COMPARISON BETWEEN THE CENSUSES OF 1922 AND 1931¹

<i>Census of 23.10.1922</i>	<i>Moslems</i>	<i>Jews</i>	<i>Christians</i>	<i>Others</i>	<i>Total</i>
1. Settled population	503,811 ²	83,790	71,464	7,617	666,682 ²
2. Nomadic population (estimate)	(62,500)				(62,500)
3. Total	566,311	83,790	71,464	7,617	729,182
<i>Census of 18.11 1931</i>					
4. Settled population	693,147	174,606	88,907	10,101	966,761
5. Nomadic population	66,553				
6. Total	752,048	174,606	88,907	10,101	1,033,314
<i>Intercensal increase</i>					
7. Settled population	+189,336	+90,816	+17,443	+2,484	+300,079
8. Nomadic population (estimate)	(+4,053)				(+4,053)
9. Total	+193,389	+90,816	+17,443	+2,484	+304,132

Recorded components of increase of settled population

10. Recorded excess of births over deaths (October 1922 to November 1931)	+132,725	+27,770	+14,833	+1,864	+177,192
11. Recorded excess of arrivals over departures (October 1922 to November 1931)	-5,032	+59,007	+1,825		+55,800
12. Population transferred to Palestine due to modification of boundaries (1922-23)	+9,700	+300			+10,000
13. Total	+137,393	+87,077	+16,658	+1,864	+242,992
14. Unexplained increase of settled population [(7)-(13)]	51,943	3,739	785	620	57,087
15. Correction for under-reporting of births	7,543	1,436	258		9,237
16. Residual unexplained [(14)-(15)]	44,400	2,303	527	620	47,850
17. Residual unexplained after correcting for under-estimate of Moslem immigrants	34,400	+2,303	527	620	37,850

¹ Excluding British Army.² Including 17,634 nomads in areas in which nomads were not counted separately from settled population in 1931.

a) Gross underreporting of immigration, due to illegal entrances into the country (see above 6.5). The *1931 Census Report* (op.cit., p.63) suggests that the excess of Non-Jewish immigrants over emigrants in the intercensal period may have been +7,000. If, *faute de mieux*, we accept this, we obtain for the Moslems +5,000 in place of the wholly unreliable excess of departures over arrivals (-5,032) shown by the official statistics (Table A11, line 11). This substitution implies that the underestimation of immigration was about 10,000 in the period under survey or a little over 1000 per year, which under the circumstances explained in 6.5 may make sense.

b) The suggestion given under a) ¹ is a mere guess. However, if we accept it as a working hypothesis, we obtain an unexplained residual of about 34,000 (line 17 of Table A11). This may be due at least partially to undercoverage of the 1922 census (which would have missed some 5.7% of the Moslem population). This amount may be too large; however, under the circumstances in which the census was taken (see 6.2), it would be amazing if there was no underreporting¹. The rounded official census figures for Moslems might then be corrected as follows:

	Official figures	Overestimate	Undercoverage	Corrected figures
Settled	503,800		+34,400	538,200
Nomads (in "tribal areas" enumerated as such also in 1931)	85,400	-22,900		62,500
Total	589,200	Net change: +11,500		600,700

All of the above calculation is hypothetical. However, its basic premises can be corroborated by the following remarks:

- 1) Also the deep analysis undertaken in the 1931 Census Report suggested that in 1922 nomads were overestimated and settled Moslems were undercounted.
- 2) After eliminating effects of the 1922–23 frontier changes, the corrected population is found to have had in 1922–1931 a yearly average rate of increase of 25.1 per 1,000 which appears to make sense (see 6.7A, below).
- 3) The above findings eliminate the inherent contradictions found in the official current estimates, which are described in the next section.

6.7 YEARLY POPULATION ESTIMATES BETWEEN 1921 AND 1931

A) Official estimates for 1922–31

1) Before the census of 1931, population estimates were currently prepared by the Health Department by adding reported natural and migratory increase to the settled population enumerated in 1922 (*Report of the Census of 1931*, op.cit., Vol.1, pp.141–159). Vital rates for the Moslems obtained in this way were grossly overestimated: for instance, during 1925–31, in 4 years the official birth rate was over 60 per 1,000.

¹ Examples of underreporting suggested by simple inspection of the 1922 census data are as follows: there was probably significant underreporting of Moslem females (see *Report of 1931 Census*, op.cit.p.162). On the other hand, the comparatively very low proportion of men aged 15–25 found in the 1922 census may be explained by underreporting or distortion of age declaration or both, due to fear of military conscription.

2) After the 1931 census the yearly estimates of the settled population during 1922–31 were revised, on the basis of the two censuses and official vital and migratory increase. For the Jews and Christians these estimates are basically sound. However, for the Moslems they are not acceptable, as they indicate a change in the settled population from 486,177 in 1922 to 693,147 in 1931, which (after eliminating effects of border changes in 1922–31), implies an average yearly increase of 37.6 per 1,000¹.

This stands in clear contradiction to the fact that the yearly average rate of natural increase was according to the official rates for 1923–31: 24.6 (and according to the revised rates for the intercensal period: 25.0 per 1,000); and that official figures indicate for 1922–31 a migratory decrease (excess of departures over arrival).

B) *Revised estimates for 1921–1931*

Table A12 shows end of year estimates between 1921 and 1931, which are used in Graph 5.1 and Table 1.1 in the text. The estimates were obtained as follows:

- 1) For Jews, Christians and Others, official midyear estimates² for 1923–31 were transformed into end of year estimates.
- 2) For the settled Moslem population we took for 1922 the corrected figure suggested in the previous section. For each year between 1922 and 1931 we added the revised natural increase and assumed migratory increase summing up to +5,000 for all the intercensal years together.
- 3) For the nomadic population we assumed a continuous increase between the hypothetical estimate of 62,500 in 1922 to 66,553 enumerated in 1931.
- 4) For 1921 we followed a method analogous to that indicated under (2).³

6.8 YEARLY ESTIMATES OF THE POPULATION BETWEEN 1931 AND 1947

A) *Official estimates*

The Statistical Department of the Government of Palestine prepared quarterly and annual estimates of the population by religion, by adding to the settled (viz. non-nomadic) population present in the 1931 census 1) the excess of registered births over deaths; 2) the excess of arrivals over departures; 3) by adding on top of it a fixed estimate of 66,553 Bedouins as enumerated in 1931. The last estimate thus calculated was for March 31st, 1947⁴. Many qualifications accompanied the publication of these estimates. In general terms, it was indicated that these estimates could not claim the same reliability as the censuses, owing to the rapid growth of the population (almost 75% between 1931 and 1946)⁵. Besides this:

a) certain categories of "present" population were excluded from the calculation, such as nonnative members of the British forces. Records of allied military forces were excluded too, as well as those of Polish, Greek and other war refugees (see above, 6.5, B, 1, k).

¹ This is due to the fact that the discrepancy between the censuses of 1922 and 1931, which we suppose to be due to undercounting in 1922, is considered in the official estimates as increase which occurred during the intercensal years.

² See *Vital Statistics Tables 1922–1945*. Jerusalem, Department of Statistics of Palestine Government, 1947, p.2.

³ If we work back from the 1921 estimate for the Jews, by utilizing available information on migratory increase in 1919–1921 and introducing assumptions on natural increase in that period, we obtain an estimate of the Jewish population at the end of 1918 which is very similar to the result of the Census of the Jews in 1916–1918 quoted below under 6.12.

⁴ See *General Monthly Bulletin of Current Statistics of Palestine*, March 1948.

⁵ On this and the following remarks, see *Statistical Abstract of Palestine, 1944–45*, Jerusalem, Department of Statistics, pp.15–16.

TABLE A12

END OF YEAR ESTIMATES OF THE POPULATION OF PALESTINE
BY RELIGION (1921-31), INCLUDING NOMADS, EXCLUDING BRITISH ARMY
(ROUNDED FIGURES)

Date	Moslems	Jews	Christians	Druze and others	Total
31.12.1921	588,867	74,703	69,766	7,428	740,764
23.10.1922	600,679	83,790	71,464	7,617	763,550
31.12.1922	603,500	85,400	71,640	7,700	768,240
31.12.1923	626,750 ¹	92,300 ¹	73,010	8,090	800,150 ¹
31.12.1924	642,210	108,330	74,800	8,390	833,730
31.12.1925	656,320	135,610	75,990	8,640	876,560
31.12.1926	675,450	149,640	77,170	8,850	911,110
31.12.1927	689,350	150,720	78,850	9,060	927,980
31.12.1928	705,150	154,070	80,790	9,320	949,330
31.12.1929	721,400	160,640	83,380	9,540	974,960
31.12.1930	741,840	168,410	86,430	9,830	1,006,510
18.11.1931	759,700	174,606	88,907	10,101	1,033,314

b) 'The operation of the Food Control Regulation after 1942 tended greatly to upset the system of registration of births and deaths. There is, for example, clear evidence of widespread understatement of child deaths in rural areas in those years'².

c) 'Net migration is the residuum of a vast movement of arrivals and departures. In so large a movement account must be taken of the possibility of cumulative errors' (see *Statistical Abstract*, 1944-45, op.cit., p.15).

d) Not all the migratory movements are recorded (see 6.5,B). In the case of the Jewish population, the incompleteness of the immigration record is a factor tending to cause understatement of population estimates. Therefore, in the last years of the Mandate a *de facto* revised estimate was prepared for this population by taking into consideration also the current estimates prepared by the Food Controller and the Department of Statistics of the Jewish Agency. The last *de facto* estimate (available for March 1947) indicated 614,239 instead of 583,327 according to the current estimate.

e) 'In the case of the Moslem population, uncertainty in the definition of "settled" population, incompleteness of records of natural increase and a certain amount of illegal immigration (mainly from neighboring countries) are the factors more likely to introduce a margin of error in the compilation of population estimates' (*Statistical Abstract 1944-45*, op.cit., p.16).

B) *Revised estimates for the Jewish population from the census of 1931 to the end of the British Mandate*

The above remarks which correspond to those given under 6.4 and 6.5, might have been checked with the help of a further census. However, no general census was taken in Palestine after that of 1931. Only for the Jewish population, such a check became possible,

¹ Starting with this estimate, the effects of changes of borders (1922-23) are included.

² See "Notice to the Readers of Vital Statistics Tables 1922-1945" appended to the volume of *Vital Statistics Tables*, (op.cit.).

as this population was practically included in its entirety in Israel, and enumerated in November 1948. The results of this census confirmed the basic soundness of the estimates prepared for this population by the Government of Palestine¹. By updating the current and revised estimates of the Mandatory Government and the Jewish Agency to November 8th, 1948, the following results were found:

	Government of Palestine		Jewish Agency
	Current	<i>De facto</i> revised	
a) Updated estimates	705,622	730,520	747,295
b) Population enumerated November 8th, 1948	716,678	716,678	716,678
Difference (error in estimate: a-b)	-11,056	+13,842	+30,617

The good correspondance found between the official estimates and the 1948 census made it possible to reconstruct the size of the Jewish population in the period 1931-48². The results of this reconstruction are given in Table A13.

C) Revised estimates for the Non-Jewish population between 1931 and 1947

The estimates for the Non-Jewish population between 1931 and 1947 as given in Table A13 were obtained as follows:

(1) Comparison of the rates of natural increase for the last period available, viz. the first 4 months of 1947 to the corresponding months of 1946 suggests that no considerable changes had occurred. We have therefore assumed that the rate in 1947 was equal to that in 1946.

(2) During the first 7 months of 1947 departures of Non-Jews exceeded arrivals by 2,362, mainly due to departures of Christians. As a first step toward calculation we have taken for the year 1947 12/7 times the values for the first 7 months, despite the fact that it may be assumed that toward the end of the year the tendency of non-local Christians to go back to their countries of origin had increased (see below under D).

(3) Combining the effects of 1) and 2) the following provisional estimate of the Non-Jewish settled population at the end of 1947 was obtained.

Moslems	Christians	Others	Total Non-Jewish population
1,118,536	143,944	16,768	1,279,248

(4) From these values, we subtracted the effects of underreporting of deaths in 1936-39 and 1943-47 as given in 6.4A, and added the supposed effects of underreporting of immigrations during 1932-46 (see 6.5, B2).

¹ This result is remarkable if we take into account that at the end of the 1931 census the Jewish population was only 174,606, and that the largest part of the 1948 estimate was based on the evaluation of natural and migratory movements.

² See B.Gil and M.Sicron, *Registration of population (8 November 1948)*, Part B, Jerusalem, Central Bureau of Statistics, Special Series, No.53, pp.IX-XIV.

	Moslems	Christians	Others	Total Non-Jewish population
-Underreporting of deaths (1936-39, 1943-47)	-31,514	-597	-292	-32,403
+ Underrecorded migratory increase	+13,500	—	—	+13,500
Total correction	-18,014	-597	-292	-18,903
Corrected population estimate, end of 1947	1,100,522	143,347	16,476	1,260,345

5) This estimate involves the following average yearly rates of increase per 1,000 of settled Non-Jewish population which appear to be more or less acceptable:

Moslems	Christians	Others
29.1	30.1	30.8

6) Adding to the settled population the estimated number of some 80,000 nomads (see above under 6.3), the rough estimate of about 1,180,500 Moslems at the end of 1947 is obtained.

The yearly estimates for 1932-46 were obtained from official end of year estimates for the Moslems by subtracting the estimates of unreported deaths in each of the years 1936-39, 1942-45, adding yearly 900 for unrecorded migratory increase, and assuming that the nomads developed at a constant rate between 1932 and 1947. For Christians and Others the official estimates corrected for unreported deaths were used.

D) Estimate for the Non-Jewish population around the end of the Mandate.

No statistical data are available on the changes which occurred in the size of the Non-Jewish population of Palestine during the first months of 1948. Apart from the consequences of the Arab exodus, which will be estimated under 6.9, the following may have contributed to decrease to a considerable extent the size of the Non-Jewish population in those months:

- 1) Direct and indirect effects of hostilities on death rates.
- 2) Possible return to countries of origin of illegal entrants from neighboring countries.
- 3) Departures of Non-Arab Christians, probably directed mainly toward their countries of origin.

In order to obtain some gauge of the size of Non-Arab Christian population before the hostilities of 1947-48, a rough estimate by the Government of Palestine may be quoted, which indicated that at the end of 1946, there were in Palestine some 35,000 "Other" persons who were neither Arabs nor Jews¹, as compared to 21,555 at the 1931 census. At that census 83.9% of these persons were Christians. They were subdivided as follows by citizenship: Great Britain 26.6%; other European countries, American and Australia 28.7%; Africa and Asia (outside Palestine) 8.5%; Palestine (or naturalization papers) 36.3%. It is likely that in 1946 the proportion of Christians among "Others" was even larger than in 1931. Their number may be roughly estimated to have been around 30,000. The number who remained in Israel after the war was very small. Probably the number who remained in the Jordanian part of Jerusalem and in other places on the

¹ See *Supplement to the Survey of Palestine. Notes compiled for the United Nations Special Committee on Palestine*, Jerusalem, Government Printer, 1947, p.11.

TABLE A13

END OF YEAR ESTIMATES OF THE POPULATION OF PALESTINE
BY RELIGION (1931-1948) (INCL. NOMADS, EXCL. BRITISH ARMY)

Year	Moslems	Jews	Christians	Others	Total
1931 Census (18.11)	759,700	174,606	88,907	10,101	1,033,314
1931	762,012	175,138	89,134	10,145	1,036,429
1932	780,558	192,137	92,520	10,367	1,075,582
1933	801,935	234,967	96,791	10,677	1,144,370
1934	819,491	282,975	102,407	10,793	1,215,666
1935	843,493	355,157	105,236	11,031	1,314,917
1936	867,844	384,078	108,426	11,350	1,371,698
1937	886,878	395,836	110,709	11,587	1,405,010
1938	902,009	412,722	111,734	11,755	1,438,220
1939	927,029	449,457	116,639	12,037	1,505,162
1940	949,481	467,535	120,268	12,449	1,549,733
1941	976,487	478,602	125,094	12,768	1,592,951
1942	1,000,432	489,408	126,865	13,008	1,629,713
1943	1,032,034	509,412	130,906	13,514	1,685,866
1944	1,062,785	536,202	135,117	13,914	1,748,018
1945	1 101,271	563,829	138,799	14,638	1,818,537
1946	1,141,451	593,827	144,522	15,232	1,895,032
1947	1,180,522	630,019	143,347	16,476	1,970,364
14.5.1948		649,633			

West Bank was larger. However, it is likely that a very substantial part of the Non-Arab Christians left Palestine¹.

The Arab population (excluding Druzes) may thus have had the following order of magnitude:

Arab Christians	113,300}	1,213,000	(of whom supposed illegal immigrants from neighboring countries = 13,500)
Settled Moslems ²	1,100,500}		
Bedouins	80,000		
	1,293,800		

6.9 ESTIMATES OF THE POPULATION BY LOCALITIES

No records were kept in Palestine of either internal migration or places of residence of immigrants or emigrants. Therefore, a compilation of estimates of the population by localities was very difficult to make. However, the Department of Statistics used to prepare estimates of the population in 29 towns and villages classified by sub-districts, by adding to the population of each religion enumerated in each area in 1931 its natural increase, and allotting a part of the total migratory increase³. In 1944 and 1946⁴ provisional estimates obtained in this way were corrected as follows in order to allow for the consequences of internal migrations:

a. Birth and death rates for each sub-district (separately for the urban and rural population of each religion) were compiled for the period 1938–44 on the basis of the figures for births and deaths in those years, and of the current estimates of population in the same year. Calculations were made of the ratios existing between the natality and mortality of the sub-district populations of each religion and the natality and mortality of the corresponding population in the whole of Palestine.

b. Indices of fertility and child mortality in each religion and sub-district were calculated by a method wholly independent of the population estimates and based only on vital statistics.

c. The indices obtained from (a) above and from (b) revealed systematic differences. In many instances it was possible to find reliable evidence that these differences were due to underestimates or overestimates of the population figures used in the calculation of the indices obtained as in sub-para (a). These figures were therefore corrected. Data compiled by the Food Controller were also used for comparison, account being taken of the fact that in certain sub-districts, and in particular, in non-pointed areas, the Controller's figures were considerably exaggerated.

For the Jewish population, data compiled by the Statistical Department of the Jewish Agency have also been employed for further correction of the estimates of the population by sub-districts.

¹ It is known that in January-March 1948, the excess of departures over arrivals of Non-Jewish residents of Palestine was very high (14,876). See *Statistical Bulletin of Israel*, Vol. 1, No. 1, July 1949. It is likely that it increased toward the end of the Mandatory period (April and May 1948).

² This also includes people not classified as Arabs, such as persons of Egyptian origin.

³ Estimates for the population in the middle of 1937 and the end of 1942 were published by the Government Departments of Land Settlement and Statistics respectively in *Village Statistics* 1938 and 1943.

⁴ This methodological description is taken from an unpublished volume on the demography of Palestine which started to be prepared in the Department of Statistics of the Mandatory Government in 1946–47, but which was not completed.

Estimates of the population in each locality at the end of 1944 were arrived at by means of a detailed comparison of all the data available in respect to each locality. The basic data consisted of the census figures of 1931, the Department of Statistics' previous estimates, those of the Food Controller and those of the Jewish Agency. On the basis of all the figures available, a provisional estimate was arrived at for each locality. This estimate was finally corrected by adjusting the total of the estimates for each locality of the sub-district to the more reliable estimate already reached for the whole sub-district.

The estimates by localities thus prepared were published in the Map No.3 attached to the *Survey of Palestine*, (op.cit.). Moreover, it was used for the compilation of the unpublished distribution of the population by natural regions, which is quoted in Section 5.4 of this Monograph and which is utilized in Tables 5.3—5.6. The division of Palestine by natural regions was prepared by H.Guttfield and E.Rosenau of the Department of Civil Aviation of the Mandatory Government. The original division was much more detailed than that used in this Monograph.

Corrections of the nomadic population and the Jewish population in 1946 proposed above respectively under 6.3 and 6.8B have not been introduced in Tables 5.3—5.6. Tables 5.7 and 5.8 are based on the original tables on urban population in 1922 and 1946 quoted in the *Survey of Palestine* (op.cit., Vol.1, p.148) and in the *Supplement to the Survey*, op.cit., pp.12—13. Data for 1922 regarding villages which were given lately the municipal status were taken from the 1922 census.

6.10 ESTIMATES OF THE SIZE OF THE ARAB EXODUS FROM ISRAEL DURING THE HOSTILITIES OF 1948

A rough evaluation of the size of the Arab exodus from the territories which came to form the State of Israel may be obtained as follows: the Arab settled population at the end of 1947 (excluding illegal immigrants) was about 1,200,000. Probably at the end of the Mandate this population had decreased (independently from the exodus) but, as indicated above, no data on this point are available¹.

In order to divide this population between those living in Israeli areas or in other areas of Palestine, we may utilize the result of a study which indicates that out of the Non-Jewish population at the end of 1946², 59.39% was included in the territory of Israel and 40.61% outside it.

If we apply the above percentages to the estimated 1,200,000 settled Arabs in Palestine at the end of 1947, and if we add to this the estimate for the nomadic population (see above under 6.3), we may roughly estimate as follows the distribution of the Arab population at the end of 1947:

	Within the territory of Israel	Outside the territory of Israel	Total
Settled population	712,700	487,300	1,200,000
Nomadic population	66,000	14,000	80,000
	778,700	501,300	1,280,000

¹ Part of the very high Non-Jewish emigration in January-March 1948, quoted above under 6.8D, may have been due to Arabs, but available statistics do not distinguish between Arabs and Non-Arabs.

² M.Sicron, *Number of Arab refugees who left the territory of Israel*, Jerusalem, Central Bureau of Statistics, 1956, unpublished memorandum. The geographic breakdown in this memorandum is based on data calculated as explained in 6.9.

In order to obtain an evaluation of the size of the Arab exodus we must subtract from this number: a) the number of Arab casualties during 1948; b) the number of Arabs who remained in Israel.

The estimate of Non-Jews found in Israel in 1949 (including some returnees, during 1949) is about 160,000. If we deduct from this number some 14,000 "Druzes and Others", we obtain a rough evaluation of about 146,000. Subtracting this number from 778,700 we obtain a value of 632,700. The number of a) is unknown, but even if we assume only an excess mortality of the size of 1%–2% of the population, we reach a figure which appears to be in good agreement with an estimate of about 614,000–626,000 obtained by M.Sicron (op.cit.) after a much more detailed study of the problem.

While some details of Sicron's analysis differ from those suggested above¹, due to our uncertainty about the estimate of a) we may adopt Sicron's conclusion, which has the advantage of having been undertaken after a thorough comparative study of estimates from other sources, partly based on a similar method, partly based on the lists of refugees of the UN Relief and Welfare Agency.

The last type of estimates suggest much larger numbers. However, systematic comparison between the results of the UNRWA data and objective data obtained from the 1967 census² has proved very clearly that the UNWRA lists are largely inflated. The probable reasons for their inflation are: the inclusion of people who were not originally from Israel and the accumulation of large numbers of omitted cancellations of deaths and emigrations.

6.11

AGE DISTRIBUTION

The distributions by ages utilized in Sections 14.5–14.6 were prepared by the Statistical Department of the Government of Palestine by standard methods on the basis of the 1931 census and official migration and vital statistics. Some of the distributions were published in the *Statistical Abstract of Palestine 1944–45*. Others are being published here for the first time.

6.12 SPECIAL SOURCES OF DEMOGRAPHIC STATISTICS FOR THE JEWISH POPULATION DURING THE MANDATORY PERIOD

Special sources dealing only with the demographic statistics of the Jewish population are available for the Mandatory period. Some of them are mentioned below:

1) During the First World War, censuses of the Jewish population were carried out both for welfare and research purposes, which were published in two volumes (in Hebrew) under the title of *Enumeration of the Jews of Eretz Israel* (Jaffa, Palestine Zionist Office, 1918-1919). These censuses contain a wealth of information on the size and structure of the Jewish population in each town or rural colony, by origin, length of stay, sex, age, marital status, language spoken, occupation, etc, in the period around the end of the Ottoman era and the beginning of the British administration.

¹ For instance; Sicron used an estimate of 75,000 Bedouins, which appears too high in the light of the findings of Section 6.3, and an estimate of Non-Arabs among Non-Jews which is probably too low. On the other hand he subtracted a larger number of deaths to correct the settled population estimates. This may be justified, but we have preferred to use a more conservative estimate limited only to the years 1936–39 and 1943–47 in which death returns are known to have been particularly defective.

² See Appendix 8.

2) In 1924 a Department of Statistics was established by the Jewish Agency for Palestine. In the demographical field, it mainly collected yearly estimates of the Jewish population, and undertook a number of censuses, such as those on the rural Jewish sector in 1927, 1936, 1941—42, and on the Jewish population of Jerusalem in 1939¹. In 1944 the Department published a comprehensive survey on *The Jewish population of Palestine*². Important statistical information is also included in the *Statistical Abstract of Palestine 1929* (which preceded the Government *Statistical Abstracts* and dealt with all sectors of the population and economy of Palestine), and in the *Statistical Handbook of Jewish Palestine*³.

3) Local censuses were carried out in various towns. Besides those indicated above, censuses undertaken by the Tel Aviv municipality in 1925, and by the Jewish community in Haifa in 1938 ought to be mentioned. However, unlike in 1916—19, no comprehensive census of the entire Jewish population was taken.

¹ A detailed bibliographical list of the publications of the Department is appended to the *Statistical Handbook of Jewish Palestine*, 1947, by D.Gurevich, A.Gertz and A.Zanker (Jerusalem, Department of Statistics of the Jewish Agency).

² By D.Gurevich, A.Gertz, R.Bachi, Jerusalem, Department of Statistics of the Jewish Agency (Hebrew, with English summary). It includes a detailed analysis on immigration, demographic structure and natural growth of the Jewish population.

³ Op.cit.

APPENDIX 7

SOURCES OF DEMOGRAPHIC STATISTICS OF ISRAEL

7.1 THE STATISTICAL SYSTEM OF ISRAEL

Almost immediately after the establishment of the State of Israel (May 15th, 1948), a Central Bureau of Statistics was instituted within the Prime Minister's Office¹. This Bureau was made responsible for the collection of statistical information (directly or with the help of Government offices), for its processing and for the publication of statistical data on the main aspects of demographic, social and economic life in the country.

Demographic statistics have been prepared by the Bureau since its inception. They are described below in the following sections: population censuses (7.2); vital statistics (7.3); immigration and emigration statistics (7.4); permanent population register (7.5); internal migration statistics (7.6); current population estimates (7.7); labor force and other sample surveys (7.8). Most of the detailed demographic material appears in special publications, some of which are quoted in the following sections. However, current summaries of such material also appear in the general publications of the Bureau and notably in the *Monthly Bulletin of Statistics*, in its *Supplement* and in the yearly *Statistical Abstracts of Israel*.

Generally speaking, reliability of demographic official statistics has been found to be satisfactory and the various sets of data generally tend to agree. Therefore, there was no need (as with regard to statistics for previous periods) to correct or recast the official data for 1948-75 presented in this Monograph. This does not mean that there are no problems of incompleteness of coverage or response errors, some of which have been systematically exposed². However, there is no need to discuss them here.

¹ On the first steps of the Bureau see, Hannah Even Tov, *The Statistical Service of the Jewish State: dreams, programs and reality*, Jerusalem, Central Bureau of Statistics, 1968 (Hebrew). A general description of the Bureau's development and activities is given in *Official Statistics in Israel*, Jerusalem, Central Bureau of Statistics, 1963. Detailed information on the various branches of statistical work are found in the introductions to publications appearing in the *Special Series of Publications* and *Technical Publications* of the Bureau, and in introductions to the various chapters of the *Statistical Abstracts of Israel*. Until mid-1977, 544 special publications and 43 technical publications have appeared.

² See, for instance: Malka Kantorowitz, *Evaluation of the Census data*. Population and housing census 1961. Publication 40 (2 volumes). Jerusalem, 1969. For comparisons between census data and current estimates of the population based on previous censuses, vital and migratory records, see also, for the 1961 census: the *Population and housing census 1961*, publication No.7. For the 1972 census: *Population and housing census 1972*, Series No.6. Some of the basic results follow:

	(a) Estimate of population	(b) Census results	Percentage of dis- crepancy (b-a):b
<u>Population May 22, 1961</u>			
Total	2,181,159	2,179,491	-0.08
Jewish	1,938,229	1,932,357	-0.30
Non-Jewish	242,930	247,134	+1.70
<u>Population, May 20, 1972</u>			
Total	3,161,400	3,147,683	-0.43
Jewish	2,695,600	2,686,701	-0.33
Non-Jewish	465,800	460,982	-1.05

A) 1948

Shortly after its establishment, the Central Bureau of Statistics was charged with the task of preparing a registration of the population, which was required for many purposes: compilation of the list of residents in the country entitled to elect the first Parliament of Israel (Knesset); establishment of a basis for a permanent population register (see below: 7.5); issuance of identity cards, and, last but not least, providing the groundwork for a well-ordered population statistics in the future. The vital need for speedy information on the size, composition and distribution of the population as a prerequisite for any statistical activity in the new state may be fully appreciated by recalling the fundamental changes which occurred in 1948, suddenly turning obsolete the statistics of the preceding period: the partition of Palestine (Section 5.5); the mass exodus of the Arab population (Section 5.6); the beginning of mass Jewish immigration (Section 8.6).

Due to the urgency of the tasks to be fulfilled, the registration was carried out after only a few months of planning, and despite war conditions¹. At the time of the registration there was neither a general division of the country nor an internal division of the towns into fixed topographical units. The country was divided for the purpose of the registration into 16 districts, about 570 registration points and over 10,000 registration cells, each of which comprised about 80 inhabitants. In towns the cells were defined on the basis of maps. After the conclusion of the mapping operation, a registration staff was appointed, one registration officer being made responsible for each registration cell. Due to the shortage of manpower caused by the war and budgetary difficulties, most of the work was carried out by volunteers, who offered time and energy for an operation which was considered of vital importance for the new state. The volunteers were largely provided by civil defense organizations, teachers' associations, etc. and had in most cases the advantage of a good acquaintance of the topography and often also of the inhabitants of their respective cells.

During the period of October 19th to November 7th, 1948, the officers filled out a form for each person residing in the cell. The form included: identification questions; date and place of birth; sex and family status; date of immigration (if born abroad); nationality, ethnic group and religion; language used; ability to read and write; occupation or profession; place of residence and place of work.

Military personnel were registered separately by a special authority which cooperated with the Central Bureau of Statistics.

On the official day of registration, November 8th, 1948, the overwhelming majority of the inhabitants had already registered. On that day a 7-hour curfew was imposed (between 5 p.m. and midnight) which was generally gladly observed as a sort of festival of the new country. The registration officers called again during those hours at all dwelling places in their cells, checked whether the inhabitants were at home, and secured their signature, confirming the check-up and presented each inhabitant with a coupon certifying registration and indicating their identity number.

Immediately after the population registration, electoral lists were prepared and identity cards gradually distributed. Permission was granted up to the end of November 1948 to appeal against non-registration or incorrect registration. Due to that and to the keen interest of the population to be registered, it is assumed that the registration coverage was very high.

¹ For a description of this operation and for summaries of its main results, see: *Registration of Population (8.XI.1948). Part A — Towns, villages and regions*. Jerusalem, Central Bureau of Statistics, Special series No.36. *Part B — Characteristics of the Jewish population and types of settlement*, Special series No. 53. For the Non-Jewish population, see *Yediot Statistiot*, Vol.2, No.46 (Hebrew).

Summary statistical results by zones, for 10% samples for major towns and for the entire country were published in the *Statistical Bulletins* and *Statistical Abstracts*. However, due to financial difficulties, detailed results were published only in a summary form and with delay in the two volumes quoted above. The first volume contains detailed demographic information by individual localities and by zones (comparable to that utilized in the census of 1916–18 quoted in Appendix 6.12). The second volume gives an analysis of the development of the Jewish population in the course of time, of its composition by country of birth and time of stay in the country, of its structure by sex, age and marital status, on the use of Hebrew and other languages and on economic characteristics.

B) 1961

There is no law in Israel making it compulsory to take demographic or other censuses at fixed dates. Funds for carrying out the second population census were made available to the Central Bureau of Statistics only towards 1961. This census was preceded by very thorough preparations which lasted about three years. The general aims, questionnaires and stages of work were examined by technical staff, foreign advisers (mainly from the U.S. Bureau of the Census) and a public advisory committee (representing government offices, other public bodies and research institutions)¹.

The objects of the census were defined as follows: a) to count the population of the country on a specific date (the night between the 21st and the 22nd of May, 1961) in order to supply accurate benchmark data for population statistics; b) to furnish data on the resident population according to its demographic, economic and other characteristics, providing both national and local breakdowns. The information collected responded also to the requests of the UN in regard to the 1960 population censuses; c) to update the permanent population register (see 7.5).

The census was conducted in two stages. In the first stage the entire population was enumerated but data were collected only with regard to a few basic questions such as sex, marital status, ethnic-religious group, date and country of birth, and year of immigration. To facilitate this operation a) a preliminary questionnaire was sent by mail asking the families to fill it in before the enumerator's visit, so that the enumerator might find the answers ready and might only have to transfer them in a coded form onto the final questionnaire. b) Before the census, the Population Register sent cards to all the inhabitants. They were asked to keep these cards, check the accuracy of name, address, identity number and hand them over to the enumerators.

Through proper handling of these cards and of new cards given to persons whose details were not properly filed with the Population Register, it became possible to complete and correct the Register. Pairing of Register's information with census information, undertaken later, also made it possible to discover people registered but not enumerated in the census. People who were actually found in the country, through checks conducted after the census, were added to the census, thus making its coverage more complete.

A sample of every fifth family was carried out as a second stage of the census. The sample questionnaire included: questions relating to the housing conditions of the household (number of rooms, services and amenities provided in the living quarters, whether the flat is rented or owned etc.); questions relating to each individual member of the household (such as place of birth; place of residence 5 years before the census; languages spoken); questions relating to each person 14 and over (such as: type of school attended, years of school attended, literacy; a battery of questions concerning the labor force, occupation, branch of the economy, status at work, etc.). Persons who were married were asked how many times they were married, and their age at first marriage; persons born abroad were also asked to indicate the number of children born abroad, children's mortality under five years of age and occupation abroad.

¹ For a detailed description of this census, see *Procedure and definitions*. Population and Housing Census 1961. Publication No.25.

The census was preceded by detailed geographical survey having many aims in view: detailed mapping of all the houses included in each of the about 4,000 districts into which the country was divided for enumeration purposes; division of the towns into a hierarchical network of uniform statistical-geographical areas and of the country into a network of 36 natural zones, for research purposes. The results of the census appeared in a series of 43 volumes (*Population and Housing Census 1961 Publications*) dealing with the following topics: methods; demographic characteristics; marriage and fertility; internal migration; languages; literacy and educational attainment; labor force and other economic characteristics; families; housing, detailed data for each inhabited locality; data for the larger towns and conurbations. Special attention was paid to the unique opportunity of obtaining through the census retrospective information on the demographic and economic conditions of the immigrants in their countries of origin. With regard to certain Jewish communities, such as those from Yemen, Iraq, Libya, and Bulgaria, which immigrated almost in their entirety to Israel, these data are of great historical value.

C) 1972

The census of 1972 was conducted along lines more or less similar to those of the 1961 census. However, some changes were introduced. The number of enumeration districts was increased to about 10,000. The enumerator received individual questionnaires on which the name and identity number of each of the persons who should have been found in his district according to the Population Register had been pre-typed by the computer. He had to check the accuracy of this information; to issue questionnaires to persons not mentioned in the Population Register; and to code basic information for the persons enumerated, for families, dwellings and buildings.

Detailed information on persons with double addresses (for study, work, etc.) and the use of the identity number enabled to eliminate duplications and to update in a more accurate way the Population Register. The methods for the selection of the 20% sample forming the second stage of the census were improved in comparison with 1961. The questionnaire dealt with the same topics as that of 1961 but among other additional questions, information on income was sought.

The results of the census have been published in a *Population and Housing Census 1972 Series*, in which hitherto 11 volumes have appeared. The census has been utilized (as the census of 1961) for conducting additional sample research on selected population groups, such as university graduates.

7.3 STATISTICS OF NATURAL MOVEMENTS OF THE POPULATION. EVALUATION OF THEIR ACCURACY.

The registration system is a continuation of that which existed in Mandatory Palestine (see Appendix 6.4) but it has been largely improved and adapted to the needs of statistical research and of the permanent Population Register (see 7.5), according to the Population Registration Ordinances of 1949 and 1965. The 1965 Ordinance requires parents and persons in charge of a birth (physicians, midwives, etc.) to notify it to the registration clerk within 10 days of the date of birth. Notification of death must be made within 48 hours of the date of death by the persons in charge of the institution in which the death took place, by the physician certifying the death, or in cases where the physician is not available, by any persons present at the time of death.

Births and deaths are registered in four copies, one each for the Ministry of the Interior for enabling addition to or deletion from the Population Register; for the Ministry of Health (for registration of vaccinations to be administered to the child, or to facilitate issuing a burial order); for the Central Bureau of Statistics; and for the notifier.

It may be assumed that registration of births is practically complete, due also to the fact that (with the help of grants from the National Insurance) almost all Jewish births, and the overwhelming majority of Non-Jewish occur in hospitals. Notification of deaths and medical certification may also be considered practically complete with respect to the Jews. Among

Non-Jews there may still be some incompleteness. This was especially true in the past for notification among Bedouins in the Negev; this population has been included in the calculation of vital statistics rates since 1962.

Jewish marriage ceremonies are conducted by about 200 Rabbinical "agents" who are appointed by the Israel Chief Rabbinate, with endorsement by the Ministry of Religious Affairs. After the ceremony the agent fills out a marriage certificate. A copy of this certificate is sent to the Ministry of the Interior (for the Population Register). In big centers, where a large number of marriages occur, the agent authorizes other Rabbis to perform the marriage ceremonies, and the certificates are issued by the respective local religious councils. Divorce certificates are issued by authorized Rabbinical Courts.

Marriages and divorces among Moslems and Druzes are in the hands of Sha'aria Courts and in the case of Christians in those of the officiating ministers. The Ministry of Religious Affairs keeps an account of the number of marriage certificates it hands out to its agents and requires them to check all personal details with those registered in the identity card. Personal details indicated in the marriage certificates are therefore the same as those in the identity cards. This ensures, among others, compliance with the law indicating 17 as the minimum marriageable age for girls (see Section 11.9 for problems which were aroused during the Mandatory period).

The Central Bureau of Statistics receives monthly summaries of the number of marriage and divorce certificates and once a year all the certificates for detailed processing of data. Both coverage of marriage and divorce statistics and quality of details included are generally considered satisfactory¹

Many details have been added to the birth, death, marriage and divorce certificates in comparison with those required during the Mandatory period. At present the main questions asked are the following. Marriages: age, marital status before marriage, country of birth and father's country of birth, occupation, date of immigration, number of children (if any) — for both groom and bride. Divorces: questions identical or similar to the above, and on place of residence, date of separation, reason for requesting divorce, financial arrangements and details on the children.

Birth certificates include questions on the child (sex, date, hour and place of birth, religion and ethnic group, weight at birth, whether multiple birth, and order of birth) and on each of the parents (marital status, date and country of birth and father's country of birth, date of immigration, occupation and number of years of schooling).

Death certificates includes questions on sex, age, marital status, religion and ethnic group, place of residence, place of birth of deceased and father's country of birth, main occupation, place of death; and the medical details on cause of death required by international conventions.

Stillbirths (defined as births taking place after at least 28 weeks of pregnancy, the death occurring before the separation of the foetus from the mother) are also registered. Their registration has presumably been rather complete with respect to the Jews also in the past, while in the case of Non-Jews it has become so only more recently with increase in maternity hospitalization.

Very detailed statistics are prepared annually and are published in special volumes on *Vital Statistics*² and *Causes of Death*³. Summaries of these statistics are published in the annual

¹ See *Vital Statistics 1965-66* (Special Series of the Central Bureau of Statistics, No. 268).

² Until now the following volumes have appeared: 1965-66 (Special Series no. 268); 1967-68 (no. 318); 1969-70 (no. 391); 1971 (no. 431); 1972 (no. 466).

³ Annual publication appearing in the Special Series. The last one is for 1975 (no. 540).

Statistical Abstracts of Israel. In addition, summary volumes have been issued in the special series of publications of the Bureau on topics such as: *Perinatal and Maternal Mortality (1950-54)* (no. 75); *Late Foetal Deaths and Infant Mortality (1950-72)* (no. 453); *Cancer Mortality (1958-61)* (no. 174); *Mortality among Adult Jews* (no. 409); *Suicides and Attempted Suicides (1968-71)* (no. 422); *Jewish Marriages (1947-62)* (no. 194).

With regard to abortions there is no compulsion to notify them, due to the fact that, according to the law, non-therapeutic abortion could result in criminal indictment of the person performing it¹. On the other hand, the police has not in practice pursued abortion, except in very special cases. Therefore, police or judicial statistics do not constitute a reliable source for a statistical study of abortion.

The only current official source of information on abortion is provided by very detailed annual sample surveys of persons discharged from public and private hospitals, classified according to many characteristics, including diagnoses (one of which is "abortion"). Although hospitalized abortion probably does not constitute a large part of total abortions, these statistics are of importance, as they furnish data on differential hospitalized abortivity among the various sections of the population.

Other important non-official sources are: questions on past abortions administered to maternity or obstetrical cases in hospitals, to women registered with Mother and Child Centers, etc.; statistical records of unofficial committees to which female members of the General Workers Sick Fund desiring to interrupt pregnancy may apply to obtain the Fund's help (for a bibliography on these sources see the paper by Bachí quoted above). For other sources, see Section 12.8.

7.4

IMMIGRATION AND EMIGRATION STATISTICS

The State of Israel has continued the tradition existing already under the British Mandate to register all movements across the frontiers (see 6.5). However, registration has become much more accurate and comprehensive, as land borders have been watched more tightly than during the Mandatory period. Moreover, the airborne traffic which is easier to control, has become dominant. On the other hand, touring both of foreign travellers coming to visit Israel and of Israeli residents travelling abroad has become so large that it has been found expedient since 1961 to base most population evaluations on the *de jure* method (as against the *de facto* method previously employed). Therefore, attention is given in the following to statistics of immigration and emigration only (and not to all arrivals and departures across the frontiers).

A) Immigration.

Persons included in the immigration statistics commented upon in Chapter 8 are of various types:

- a) "immigrants" who enter the country to take up permanent residence under the Law of Return or the Law of Entrance (see Section 8.6).
- b) "potential immigrants" (a category instituted in 1969), i.e. persons who are entitled to an immigrant visa or certificate under the Law of Return and intend to enter Israel and stay there for more than three months.
- c) "immigrating citizens", who are children born to Israeli citizens abroad.
- d) tourists who change their status to immigrants or potential immigrants.

¹For an overview of the legal situation and actual practice in regard to abortion, and an analysis of existing statistical sources on abortion, see R. Bachí, *Induced Abortion in Israel*. Paper submitted to the International Conference of the Association for the Study of Abortion, 1968; and a summary of this paper in *Abortion in a changing world*. New York, Columbia University Press, 1970.

Information on a) b) c) at the moment of entering the country is collected from the Border Police, and that on d) is collected later by the District Office of Immigration and Registration of the Ministry of Interior. Questionnaires for a) b) c) d) include details on country of birth, place of permanent residence abroad, nationality, date of birth, sex, marital status, and occupation abroad.

B) Emigration.

The difficulties in making a clear definition of emigration have been discussed in Chapter 9. From a *de facto* viewpoint it is possible to obtain currently statistical information on the difference between the number of residents departing in each period and the number of residents returning (by months, years, etc.). Excess of departures over arrivals can in the long run be taken as a sort of upper bound to size of emigration. However, in order to investigate *de jure* changes in population size, and actual volume and characteristics of emigration, it is desirable to distinguish among residents leaving those who actually remain abroad. This analysis is facilitated by the fact that residents departing fill in a double card, one part of which is handed over to the Border Police on departure, while the other is given on return, so that they can be paired with relative ease. This makes it possible to identify after given periods (say: 3 months, 1, ..., 4, ... years) residents who left and who did not return. Alternative criteria have been suggested and utilized for evaluating the time after which a person who failed to return can be considered an emigrant¹.

C) In the evaluation of *de jure* population additions through migration include categories a) b) c) d) indicated above and:

e) residents who returned after an absence of more than one year².

Detractions due to migrations include:

- f) residents sojourning abroad more than one year; and
- g) potential immigrants who left³.

Detailed statistics of immigration are published annually in special publications⁴ and in the *Statistical Abstracts of Israel* (where data on emigration are also given), and in synopses for long periods.⁵

7.5

PERMANENT POPULATION REGISTER

A permanent population register is kept by the Ministry of the Interior. In this Register name, address, identity number, date and place of birth, date of immigration and a few other details of each resident of the country are filed and updated. This information is largely utilized for purposes such as preparing lists of persons entitled to participate in elections to the Parliament, municipalities or other local bodies; of children who reach school age, of persons reaching military age, etc.

The Register is based on the systematic utilization of a few non-secret items of information⁶ of the census and relevant vital and migratory records.

The Register is kept at present on magnetic tapes. Estimates of the population by localities, sex, age, continent of birth, etc. obtained from the Register have been utilized in various intercensal periods.

¹ For literature on this topic see Section 9.1.

² Includes also entrances for reunion of families.

³ Includes also persons who did not return from a visit to Jordan.

⁴ The latest publication is *Immigration in 1975* (Special Series of the Central Bureau of Statistics, no. 528).

⁵ The latest appeared in two volumes under the title of *Immigration to Israel 1948-72* (Special Series, no. 416 and 489).

⁶ Special legislation has permitted utilization of name, address, identity number, etc. as collected at census for updating the Population Register (see Appendix 7.2, B and C).

Notification of changes of address to the Population Register is compulsory. On the basis of these notifications statistics of internal migration inside localities and between localities (classified by type and by natural zones) are currently undertaken by the Central Bureau of Statistics. These statistics are published in detail in special publications¹ and in summary in the *Statistical Abstracts of Israel*.

These statistics, though very useful for the study of differential mobility by sex, age, etc. and directions of internal migrations, are far from complete. Also statistics of places of first settlement of new immigrants are available but their coverage is not complete.

Additional information on internal migrations was collected at the censuses of 1961² and 1972³.

7.7

CURRENT POPULATION ESTIMATES

Estimates on the size of the population by religion are prepared monthly by the Central Bureau of Statistics. Estimates broken down also by sex, age, marital status (remaining single), continent of birth, length of stay in the country, and place of residence are prepared annually.

single), continent of birth, length of stay in the country, and place of residence are prepared annually.

Since 1954 a Labor Force survey has been taken. This survey is based on a sample of the population aged 14 and over. Its main task is to give updated information on the structure of the adult population by labor force characteristics. However, it is utilized also to obtain information on other aspects of the population structure, on size and structure of families and on special subjects, and sometimes it covers the entire population⁴.

Among the many sample surveys conducted by the Central Bureau of Statistics special mention should be made of the surveys of immigrant absorption conducted since 1969⁵. These surveys are based on samples of immigrants followed up to given periods of stay in Israel (as: 2 months, 1, 3, 5 years). They give very detailed information on housing, work, social life, degree of satisfaction, re-emigration, etc. of new immigrants crossclassified with personal characteristics, cultural and Jewish background abroad. A parallel study is conducted on the absorption of students from abroad⁶.

Many non-official sample surveys have been conducted in Israel which are connected directly or indirectly with demographic problems, in fields such as health, sex life, family planning, etc. However there is no possibility of describing or quoting them here. A few of them which are more relevant for this Monograph are mentioned in Chapters 12 and 13.

A detailed bibliographical list of studies conducted in Israel in the various fields of formal demography and on fields related to population is in preparation⁷.

¹ See, for instance: *Internal Migrations of Jews in Israel 1955-66* (Special Series of publications of the Central Bureau of Statistics, No.262; 1967-68 (No.342); 1969-71 (No.449); 1972-75 (*Supplement to Monthly Bulletin of Statistics*, March 1977, Hebrew).

² Publications Nos. 19 and 33 of the Census.

³ The results have not yet been published.

⁴ The latest special publication in this field is *Labor Force Surveys (1974)*. Special series of the Central Bureau of Statistics, No.513.

⁵ The latest publication in this field is *Survey on Absorption of Immigrants who arrived in 1970/71-1971-72. The first three years in Israel*. (Special series of the Central Bureau of Statistics, No 530).

⁶ The latest publication in this field is *Survey on Absorption of Students from Abroad. Students who began their studies in 1969/70 (fifth interview)*. (Special series of the Central Bureau of Statistics, No.516).

⁷ This bibliography will extend back to the latest Ottoman period. It will be published by the Division of Jewish Demography and Statistics of the Institute of Contemporary Jewry, the Hebrew University of Jerusalem.

APPENDIX 8

SOURCES ON DEMOGRAPHIC STATISTICS AND REFERENCE DATA FOR JUDEA, SAMARIA AND GAZA

8.1 SOURCES OF DEMOGRAPHIC STATISTICS DURING 1948-67

1) *West Bank of Jordan*. The main sources available for Judea and Samaria in that period are Jordanian official statistics for the West Bank. These include the very succinct housing census of 1952 and the detailed population census of 1961, and vital statistics..

2) *Gaza Strip*. No census was carried out after 1931. The statistical unit instituted by the Egyptian Government used to estimate the population by adding the registered natural increase to the initial population evaluation. However, the gross underreporting of deaths caused a continuous inflation in population numbers. This is shown by comparing the last estimate available (for 1966) to the results of the accurate census of 1967 (see 8.2). The geographical distribution of the two sets of statistics give rather similar results. However, the total number (454,960 according to the first source and 356,261 to the second) show a very large difference. As it is known that emigration from the Gaza Strip due to 1967 War was very limited, and that the 1967 census is generally reliable, the conclusion of gross inflation of the estimate from the first source appears clearly.¹

Per 100 in each set of statistics

	Gaza	Jabalila	Deir al Balah	Bureis Camp	Nuseirat	Khan Yunis	Rafah	Other places	Absolute total
1966 Estimate	33.6	10.8	3.3	3.1	4.5	16.5	14.5	14.1	454,960
1967 census	33.2	12.2	5.1	3.6	5.0	14.9	14.0	12.0	356,261

8.2 SOURCES OF DEMOGRAPHIC STATISTICS SINCE 1967

After the Six Day War in June 1967, the Israel Defence Forces became responsible for the administration of the West Bank of Jordan (indicated later in official Israeli statistics as Judea and Samaria), the Gaza Strip, Sinai and the Golan Heights.

A census of the population in these areas was conducted, by applying the same two-stage method employed in the 1961 census of Israel (Appendix 7.2). In the first stage a full enumeration of the population was carried out, in which a few personal details were asked, such as religion, sex, age and birthplace of the head of household, and age and sex of family members. In the detailed second stage a sample of 20% of the population was requested to answer questions on housing conditions, household equipment, welfare assistance received, farming, emigration of family members, educational attainments, number of children born, child mortality, labor force characteristics, etc.

¹ Publication 1 of the 1967 census quoted in Appendix 8.2, p. XX.

Due to the special conditions under which the census was conducted and the interest of the population in being included in the registration, it is likely that the census coverage was almost complete.

Detailed results were published in five volumes.¹ Two other volumes were devoted to East Jerusalem,² which in the meantime had been unified with West Jerusalem.

In the course of time many branches of statistics were developed in Judea, Samaria and Gaza by the Central Bureau of Statistics of Israel. Results are published in the *Administered Territories Statistics Quarterly* and in a special chapter of the *Statistical Abstracts of Israel*. In the demographic field they include current estimates of the size of population, statistics of births, an estimate of natural increase, and statistics of movements of residents and visitors.

8.3 SIZE AND CHARACTERISTICS OF POPULATION AT THE 1967 CENSUS

The census of 1967 enumerated 65,857 in East Jerusalem, 598,637 in Judea and Samaria (the West Bank of Jordan), and 356,261 in the Gaza Strip. In North Sinai, 33,441 persons were enumerated, outside nomads.

1) The main characteristics of the *population movements* obtained from the census were as follows:

a) *Fertility* was found to be high: the average number of children for a non-single woman aged 45–49 was in Judea and Samaria 8.6, in the Gaza Strip 8.3.

b) *Child mortality* was found to be high, too, and considerably higher than that of the Moslem population of Israel. Deaths per 100 children born during the five years preceding the census to non-single mothers aged 15–60 were found to be in Judea and Samaria 21%, in the Gaza Strip 22%.

c) *Emigration* was found to have been very large. The proportion of families reporting having sons or daughters outside the region was 33% in Judea and Samaria, 24% in the Gaza Strip. The majority of the emigrants were reported living in Arab countries. In particular the emigration from the rural West Bank of Jordan toward more urbanized parts of the East Bank of Jordan had been large. The high emigration level explained the rather low population increase of the West Bank during 1952–1961.

2) With regard to *population structure* the census indicated the following characteristics:

a) *Religion*. Moslems constitute the overwhelming majority both in Judea and Samaria (95%) and in the Gaza Strip (99%). The Christians numbered 29,446 in Judea and Samaria and 2,305 in the Gaza Strip. Among 3,287 "others and unknown" in Judea and Samaria, 139 were Samaritans.

b) *Age and sex*. The age distribution found at the 1967 census is compared below to that of the Moslem population of Israel in 1966:

1. Israel Defense Forces. *Census of population 1967*, conducted by the Central Bureau of Statistics. West Bank of the Jordan, Gaza Strip and Northern Sinai, Golan Heights. Publications of the census 1-5.

2. *Census of Population and Housing 1967*. East Jerusalem, Jerusalem, Central Bureau of Statistics (2 parts).

	Percentage aged				
	0-14	15-29	30-44	45-64	65 and over
Judea and Samaria	48.4	20.2	13.9	10.9	6.6
Gaza Strip	50.6	21.4	14.2	9.0	4.8
Moslems of Israel	53.1	23.5	12.3	7.4	3.7

The high proportion of children in Judea, Samaria and Gaza was due to high fertility. The fact that this proportion was somewhat lower than that found among the Moslems of Israel was probably due to the higher child mortality in Judea, Samaria and Gaza. Analysis of more detailed data shows the effect of emigration on age distribution. This is also seen from the fact that the proportion of males to females was particularly low at working ages:

	Males per 1000 females					
	0-14	15-29	30-44	45-64	65 and over	All ages
Judea and Samaria	1,123	839	745	963	1,109	985
Gaza Strip	1,096	746	719	921	1,124	940
Moslems of Israel	1,076	1,118	998	921	1,016	1,061

3) *Type of settlement.* The population of Judea and Samaria was found to be predominantly rural, while in the Gaza Strip 42% of the population lived in the urban settlements and 48% in refugee camps. This is seen from the following figures:

	Judea and Samaria		Gaza Strip	
	Absolute	Percentages	Absolute	Percentages
	numbers		numbers	
Urban settlements, excluding refugee camps	155,235	25.9	149,489	42.1
Refugee camps in urban settlements	19,217	3.2	133,314	37.3
Large villages	41,697	7.0	7,561	2.1
Small villages	337,531	56.4	23,807	6.7
Refugee camps outside urban settlements	37,221	6.2	39,207	11.0
Nomads	1,888	0.3	1,105	0.3
Living outside settlements	5,848	1.0	1,778	0.5
Total	598,637	100.0	356,261	100.0

8.4

DEVELOPMENT BETWEEN 1967 AND 1975

1) *Size of population.* Emigration after the 1967 War reduced the population of Judea and Samaria to 584,100 and that of the Gaza Strip and North Sinai¹ to 357,800 at the beginning of 1969. Since then, both populations have continuously increased, reaching respectively 681,400 in Judea and Samaria and 430,800 in the Gaza Strip at the end of 1975. This corresponds to a yearly growth respectively of 22.2 and 26.9 per 1000.

2) *Movements of population.* In the following, birth rates and rates of population increase are given for 1969–75, which can be derived from official sources. Rates of natural increase are also based on estimates by the Central Bureau of Statistics. Death rates are not available because death registration is still incomplete. However, rough estimates of these rates are also given below, which have been derived indirectly from estimates of natural increase:

Average yearly rates per 1000 population	Judea and Samaria			Gaza Strip and North Sinai		
	1969–71	1972–73	1974–75	1969–71	1972–73	1974–75
Birth rates	44.1	45.3	45.8	45.3	48.3	50.8
Estimated death rates	17.9	16.7	14.7	15.9	15.5	13.7
Estimated natural increase	26.2	28.6	31.1	29.4	32.8	37.1
Population increase	23.3	25.0	18.0	22.0	28.5	31.0

It is seen that birth rates tend to increase, and death rates to decrease. Therefore, the natural increase rapidly grows. This is a phenomenon similar to that which occurred in past decades among the Moslems of Israel. Clearly the population of Judea, Samaria and Gaza was in 1967 still in a much earlier stage of demographic transition than the Moslem population of Israel. Improvements in health and educational services and in economic conditions² in recent years have probably concurred in speeding the reduction in death rates. It may be of interest to compare the above vital rates with those of the Moslems of Israel:

¹ In current statistics data for North Sinai are included in those for Gaza Strip.

² This can be seen from the following indicators:

Indicator (per capita, in IL at fixed 1968 Prices)	Judea and Samaria				Gaza Strip and North Sinai			
	1968	1971	1973	1975	1968	1971	1973	1975
Gross National Product	594	947	1,060	1,211	363	574	733	748
Private Consumption	611	836	979	1,066	393	553	675	750

One of the causes of improvement has been the large increase in the number of persons working in Israel. Unemployment has decreased in Judea and Samaria from 10.1 per 100 of the labor force in 1968 to 1.6 in 1975 and in the Gaza Strip from 9.1 to 0.3.

	1969-71	1972-73	1974-75
Birth rates	50.5	49.2	47.5
Death rates	6.2	5.6	5.4

The birth rates of the Moslems of Israel were in 1969–71 higher than those of Judea and Samaria and Gaza. However, they are now declining, while the latter are increasing.

The death rates of Judea, Samaria and Gaza are still much higher than those of the Moslems of Israel. However, it can be anticipated that they will continue to decline rapidly.

Comparison of natural increase rates and population increase rates indicates that the migratory balance has been moderately negative.

5) *Changes in population structure*

The age structure at the end of 1975 was as follows:

	0–14	15–29	30–44	45–64	65 and over
Judea and Samaria	48.4	25.4	12.4	9.8	4.1
Gaza Strip and North Sinai	49.5	25.8	12.7	9.1	2.8

When compared to the percentages found at the census of 1967, those given above suggest that the effects of emigration of young people has had in recent years much smaller impact on general age structure than previously. Also data on the proportion of males in the population suggest a similar conclusion for general sex structure.

	Males per 1000 females				
	1967	1969	1971	1973	1975
Judea and Samaria	985	997	1,005	1,008	1,012
Gaza Strip and North Sinai	943	949	954	974	979

However sex imbalances at ages 25–49 are still very high.

APPENDIX 9

SOURCES FOR THE DEMOGRAPHY OF THE DIASPORA JEWS

In the last decades of the 19th century and the first decades of the 20th, the majority of the Jews lived in countries in which official censuses and vital statistics provided information on them. The ample statistical material available was subject, in various countries, to extensive analysis; literature on the demography of Jews in many countries of the world was considerable, and some attempts were made to obtain world overviews of Jewish demography. Pioneering work in the comparative Jewish population research was done by the *Bureau für Statistik der Juden* (Berlin) which published the *Zeitschrift für Demographie und Statistik der Juden* (1905–1931).

With the transit of the majority of the Jews to countries where the question of religion is not asked in official statistics, the documentation on Jewish demography became progressively more scarce. Because of this, and the destruction of Jewish research centers in Europe in the wake of Nazi persecution and the Holocaust, there was a decline in world-wide Jewish demographic research.

On the other hand, some interest in Jewish population studies emerged in the U.S.A. where in the post-Holocaust era the largest Diaspora group developed. With modernization of methods for the conduct of local Jewish affairs, there has been in various communities an increasing demand for knowledge on the size, distribution and characteristics of the Jewish population. In the first stages very crude methods of information were employed (such as guesses obtained by supposedly well-informed local leaders; estimates based on the number of absentees from public schools on Yom Kippur, which supposedly furnished evaluations of the number of Jewish children at school age and were used to estimate the size and geographical distribution of the entire Jewish population; distribution of Jewish deaths by ages, employed to reconstruct indirectly the age distribution and the size of the population). Later there was a considerable development of sample surveys on Jewish communities in certain towns, which generally included questions on demographic, socio-economic characteristics and questions on Jewish attitudes. However, it was soon realized that despite their importance, these surveys could not give an overview of the demographic characteristics of the entire Jewish population of the U.S.A., or on adequate assessment of its evolution.

In the 1950's the prospects to rebuild a systematic world-wide Jewish demographic research appeared to be very slight. However marked improvement has taken place since then, despite the enormous difficulties still ahead.

A not inconsiderable number of Jewish institutions throughout the world have accepted the responsibility for conducting nation-wide sample surveys of the Jewish population; in chronological order: Italy 1965; Netherlands, 1966; U.S.A. 1971; Yugoslavia 1971/2; France 1972 (still in progress); South Africa 1974. The Division of Jewish Demography and Statistics at the Institute of Contemporary Jewry (The Hebrew University of Jerusalem) strove systematically to coordinate these and similar studies. In other countries, efforts have been made to organize the collection of vital statistics based on the internal records of Jewish organizations. The Institute of Contemporary Jewry has also been promoting the preparation of detailed data on Jews based on census and vital statistics in those few countries in which information on the Jews is still officially collected.

At the same time considerable efforts were made 1) to obtain copies or photocopies of published and unpublished statistical documentation on the demography of the Jews through-

out the world, going back in respect of some European countries to the middle of the 19th century; 2) to collect detailed bibliographical information on Jewish demography and to keep it continuously updated.

A series of *Jewish Population Studies*¹ is currently being published by the Division, and includes: World Bibliographies on the Demography and Health Statistics of the Jews; current information on research undertaken on the Jewish population; results of current research and findings presented at the demographic Sessions of the World Congress of Jewish Studies held every four years in Jerusalem.

In the past few years worldwide surveys on particular aspects of Jewish demography (such as child mortality, mixed marriages, etc.) have been conducted, and attempts have been made to prepare overviews of all aspects of Jewish demography together.²

Statistical estimates utilized in this Monograph with regard to Jewish Diaspora (size and structure of the population, vital statistics, migrations, etc.) have been prepared in the Division of Jewish Demography and Statistics. In some cases the estimates are only largely approximate. Sources utilized in preparing the estimates are too numerous to be quoted here.

¹ In some of its activities the Division works in cooperation with the Association for Jewish Demography and Statistics.

² See, for instance: R. Bachi, *Population trends of world Jewry* (Jerusalem, 1976); U.O. Schmelz, "Demographic outline of world Jewry". In *Jewish Population Studies 1961-68* (Jerusalem-London, 1970); "An overview of new findings and studies in the demography of the Jews: 1969-71" in *Studies in Jewish Demography. Survey for 1969-71*. (Jerusalem 1975). All in the series of *Jewish Population Studies*, published by the Institute of Contemporary Jewry. See also R. Bachi. Aims and ways of comparative research on the demography of the Jews. In *Papers in Jewish Demography 1973*, Jerusalem, Institute of Contemporary Jewry, 1977, pp. 5-46.

APPENDIX 10

GRAPHICAL RATIONAL PATTERNS

Graph A.10.1 illustrates a method called "Graphical Rational Patterns" (GRP) which was proposed in 1968.¹ The basic aim of GRP is to represent in a distinct and readable form any integer number included between given limits (such as 0 and 100), by means of a small symbol covering an area proportional to the number represented. GRP have been computerized.² In Graph A.10.1 a scale is presented in which any integer number $n = 10t + u$ ($t = 0, 1, \dots, 9$; $u = 1, \dots, 9$) is represented by a GRP formed by u squares of area a and 10 squares of area $10a$. The scale can be adapted to represent any number nk by attributing a value k to the elementary unit square of area a .

Graphs 1.2, 8.2, 8.3, 8.4, 14.1, 14.2, and 15.1 represent percentages by means of Graphical Rational Patterns. Graph A.10.1 gives a key for reading any percentage (1% is shown by the first pattern in the lowest line, 2% by the second pattern. . . ; 10% by the 10th pattern; 11% by the first pattern in the second line from the bottom, etc. . . ; 100% is shown by the last pattern of the highest line).

Graphs 5.1 and 6.1 show by means of Graphical Rational Patterns yearly rates of change. A yearly growth of 0.5–1.5 per 100 is given by Pattern 1, a growth of 1.5–2.5 per 100 by pattern 2, etc.

Graphs 18.1–18.6 show by means of GRP population of places with over 5000 inhabitants. The key used for the representation is as follows:

Class of population	Pattern used	Class of population	Pattern used
5000–15,000	1	95,000–150,000	10
15,000–25,000	2	150,000–250,000	20
25,000–35,000	3	250,000–350,000	30
35,000–45,000	4	350,000–450,000	40
45,000–55,000	5		
55,000–65,000	6		
65,000–75,000	7		
75,000–85,000	8		
85,000–95,000	9		

¹R. Bachi. *Graphical Rational Patterns. A New Approach to Graphical Presentation of Statistics*. Jerusalem, 1968, Israel University Press, New Brunswick, N.J., Transaction, Rutgers, The State University. See also: R. Bachi. Graphical methods. Achievements and Challenges for the future. *Bulletin of the International Statistical Institute*, 1975, vol. 46, Book 2, pp. 441–446. R. Bachi. Proposals for the Development of Selected Graphical Methods, In *Working Paper on Graphic Preservation of Statistical Information*. Washington Bureau of the Census. Forthcoming.

² Thanks are given to Mr. Michael Stie (Laboratory of Computer Graphics, the Hebrew University of Jerusalem) for the preparation of the graphs.

Graph A10.1

Graphical Rational Patterns representing
integers from 1 to 100

91–100										
81–90										
71–80										
61–70										
51–60										
41–50										
31–40										
21–30										
11–20										
1–10										
	1	2	3	4	5	6	7	8	9	10

APPENDIX 11

MEASURES OF PREFERENCE IN SPOUSE SELECTION AND MEASURES OF NUPTIALITY

11.1 INFORMATION AVAILABLE ON CROSS-CLASSIFICATION OF MARRIED COUPLES BY CHARACTERISTICS OF GROOM AND BRIDE

A large quantity of data has been collected in Palestine¹ and Israel² on the distribution of marriages according to population groups of grooms and brides.

This material which should enable us to measure various aspects of homogamy and heterogamy has been only partly analyzed in the publications quoted below.³ Some of the main findings are reviewed in Chapter 10.

11.2 INDICES OF PREFERENCE AND DISLIKE IN SPOUSE SELECTION

Most of the official statistics of Israel on homogamy and heterogamy utilized in Chapter 10 are summarized by means of a very simple index proposed by R. Benini,⁴ which is described below.

Suppose we have a double entry table in which the marriages are cross-classified according to classes (1, . . . , i, . . . , s) of a given characteristic (say: ethnic origin) of grooms and to classes (1, . . . , j, . . . , s) of brides. Let us indicate by n_{ij} the number of marriages between

¹ For the Mandatory period data on births (1938–40) and first births (1945) by ethnic origin and religion of father and mother and on marriages in 1944–45 according to certain characteristics of groom and bride (country of birth and "community" for Jews; church for Christians; place of residence; occupation) were collected by R. Bachi (see: "Statistical Research on Immigrants in the State of Israel", in *Population Studies. Supplement*, March 1950; "La Population Juive de l'Etat d'Israël," *Population*, July–September, 1952, Vol. 7, No. 2, pp. 405–450).

² The current vital statistics of Israel furnishes information on marriages cross-classified by characteristics of grooms and brides (such as country of birth, period of immigration, occupation, place of residence, etc.). See *Marriages among Jews in Israel* (1947–62), Jerusalem, Central Bureau of Statistics of Israel, Special Series, No. 194 and current publications on *Vital Statistics* (1965–66: No. 268; 1967–68: No. 318; 1969–70: No. 391; 1971: No. 451; 1972: No. 466). Data on families, cross-classified by characteristics of their head and his wife (such as country of birth, period of immigration, number of years of study, type of settlement, etc.) were collected in the 1961 census (see *Population and housing census 1961*, Publication No. 36, Jerusalem, Central Bureau of Statistics, Israel).

³ See the papers by R. Bachi quoted above, and: R. Bachi, "Immigration to Israel," in *Round Table on International Migrations*, International Economic Association, Kitzbühel, 1955 partly reproduced in B. Thomas (Ed.), *The Economics of International Migration*, London, Macmillan, 1958; "Trends of population and labor force in Israel," in A. Bonne (Ed.), *The Challenge of Development*. Jerusalem, The Hebrew University, 1958; J. Matras, *Families in Israel*. Jerusalem, Central Bureau of Statistics, Population and housing census 1961, Publication No. 39; J. Matras, "On changing matchmaking, marriage and fertility in Israel," etc. *American Journal of Sociology*, September, 1973; U.O. Schmeltz, "Marriages between Jews of different origin and different duration of stay in Israel," in *A systematic analysis of absorption of immigrants in Israel*, Project F-VII under the supervision of R. Bachi, S.N. Eisenstadt, and D. Patinkin. Report submitted to the Ford Foundation by the Israel Foundation Trustees, Jerusalem, 1974, vol. 2, pp. 1342–1345).

⁴ See R. Benini, *Principi di demografia*, Firenze, Barbera, 1901. See also: R. Benini *Gruppi chiusi e gruppi aperti in alcuni fatti collettivi di combinazioni* *Bulletin of the International Statistical Institute*, 1928, pp. 362–383.

grooms i and brides j ; by $n_{i.}$ the total number of grooms i ; by $n_{.j}$ the total number of brides j ; by $n_{..}$ the total number of marriages. Keeping the marginal totals fixed, the number (e_{ij}) of marriages of type (ij) expected under the hypothesis of independence between characteristics of grooms and brides is $e_{ij} = n_{i.} n_{.j} / n_{..}$; the maximal possible number (M_{ij}) of marriages (ij) equals the smaller value between $n_{i.}$ and $n_{.j}$; the minimal possible number (m_{ij}) of marriages (ij) equals the higher value between 0 and $(n_{i.} + n_{.j} - n_{..})$. If $n_{ij} > e_{ij}$ then the index of preference (in the original work by Benini this is termed "attraction") is calculated by taking $(n_{ij} - e_{ij}) / (M_{ij} - e_{ij})$; if $n_{ij} < e_{ij}$ then the index of dislike (or "repulsion") is calculated by taking $(n_{ij} - e_{ij}) / (e_{ij} - m_{ij})$.

Clearly this index is not sensitive to imbalances between the number of grooms i and the number of brides j , nor does it take into consideration factors which have acted in determining the marginal totals (such as the number of candidates to marriage existing in the sub-populations i and j). However, between the great number of indices which have been suggested,¹ it has the advantage of simplicity. As a matter of convenience, the indices are multiplied by 100, so that the index of preference varies between +100 and 0 and the index of dislike varies between 0 and -100. Indices of preference between grooms i and brides j for all the i together, have been averaged in Chapter 10 by taking along the proper diagonal of the original table the total

$$\sum_{i=1}^s n_{ii},$$

and calculating:

$$\frac{\sum_{i=1}^s n_{ii} - \sum_{i=1}^s e_{ii}}{\sum_{i=1}^s M_{ii} - \sum_{i=1}^s e_{ii}} \quad (\text{if } \sum_{i=1}^s n_{ii} > \sum_{i=1}^s e_{ii}).$$

11.3

INFORMATION AVAILABLE ON NUPTIALITY BY MAIN POPULATION GROUPS

The channels through which basic information on marriages is obtained were already mentioned (Mandatory Palestine: see 6.4; Israel: see 7.3).

Statistical data on marriages for the various population groups (according to religion, and for the Jews, according to country of birth, length of stay, etc.) can be obtained from the following sources:

Current statistics (i) For Palestine, yearly numbers of marriages are available for 1935–47.² Breakdown by ages of grooms and brides (and for Moslems also by previous marital status of brides) is available (although in partly unpublished tables) for 1944, 1945, and 1947.

(ii) For Israel, some data for marriages are available since 1948 and breakdown by marital status by ages of grooms and brides are currently available, with various cross-classifications, also by place of birth, time in the country, etc. since 1952.³

Census statistics (iii) Cross-classifications of population by sex, age and marital status are available from censuses of 1931, 1948, 1961 and 1972 and for a few additional years.

(iv) The census of 1961 also gives for non-single adults data on age at first marriage and number of previous marriages.

¹ See, for instance, the review of indices given by L. Goodman and W. Kruskal, "Measures of association," *Journal of the American Statistical Association*, 1954, Vol. 49; No. 268, pp. 732–64.

² See *Vital Statistics Tables 1922–1945*. Jerusalem, Department of Statistics, Palestine Government, 1947.

³ See sources quoted in Appendix 11.1 and *Statistical Abstracts of Israel*.

On the basis of the statistics quoted above and some other additional sources, a considerable number of nuptiality rates of various types regarding different population groups has been calculated both in current official statistics and by various investigators¹ (see 11.4).

11.4

MEASURES OF NUPTIALITY.

METHODOLOGICAL DIFFICULTIES IN THEIR INTERPRETATION

Utilization of available nuptiality rates for studying long-term nuptiality characteristics of the various population groups in Israel proved to be a rather difficult task. Among the major difficulties, the following deserve special consideration: (1) different population groups have very dissimilar age distributions; some of them are also very irregular and subject to strong changes in the course of time (see Section 10.2, 10.3); (2) nuptiality fluctuates strongly over short periods of time (see Section 11.14). Both 1) and 2) are largely (but not only) connected with strong influences exerted by immigration waves both on population distribution by sex, age and marital status and on short term specific nuptiality rates (see Section 11.7).

It would therefore be desirable to employ nuptiality measures which are both (a) independent from distribution of population by sex, age and marital status; (b) not affected by short time fluctuations. Due to the space limits of this Monograph, it would also be desirable to have such nuptiality measures (c) simple and not requiring complex methodological discussions.

Unfortunately measures having, at the same time, qualities (a), (b) and (c) are not available. Therefore, in this Monograph we have employed measures which fit (c), but only partly either (a) or (b). With regard to more sophisticated nuptiality tables available in the literature² we have only utilized some of their findings (whenever they have general validity, beyond the short stretch of time for which they have been calculated). However, we have generally refrained from quoting their detailed results, as they do not fit either (b) or (c).

In the following, special types of nuptiality measures used in the tables of Chapter 11 are described, as they require some elucidation.

11.5

SYMBOLS EMPLOYED

The symbols employed in the formulas given below are as follows: M_x , M'_x and M''_x indicate respectively the number of marriages (total, first, second or over) contracted in a given period by men (or women) aged x ; M , M' , M'' indicate respectively all marriages (total, first, second and over). P_x indicates the number of men (women) aged x in the population. P indicates the total number of men (women) in the population. P^* indicates the entire population (two sexes together). S_x , C_x , W_x , D_x indicate the number of single, married,

¹ For instance: R. Bachi: "Marriage and fertility in the Jewish Population of Palestine," etc. in D. Gurevich, A. Gertz, R. Bachi, *The Jewish Population of Palestine, etc.*, Jerusalem, Statistical Department of the Jewish Agency, 1944 (Hebrew); E. Bromberger, "The growth of the population in Palestine", *Population Studies*, 1948, Vol. 2, No. 1, pp. 71-91; R. Bachi, "La population juive de l'Etat d'Israël", *Population*, 1952, Vol. 7, No. 3; pp. 405-450; K.R. Gabriel, "The fertility of the Jews in Palestine. A review of research", *Population Studies*, 1953, Vol. 6, No. 3, pp. 273-305; K.R. Gabriel, "Some new data on age at marriage in Israel", *Scripta Hierosolymitana*, Jerusalem, The Hebrew University, Vol. 3, pp. 248-264; K.R. Gabriel, *Nuptiality and Fertility in Israel*, Jerusalem, The Hebrew University, Department of Statistics, 1960. Ph.D. Thesis (Hebrew, with summary in English); J. Yam, *An Introduction to Demography* (based on a course of lectures by R. Bachi), Jerusalem, Academ, 1967, Vol. 3, pp. 422-442, 484-495 (Hebrew).

² Nuptiality tables, based on data cross-classified for both marriages and population according to age, sex, and marital status, have been calculated around the censuses of 1948 and 1961 (see the publications by K.R. Gabriel and J. Yam quoted above). No generation marriage tables are available.

widowed and divorced men (women) aged x in the population. Proportions of each marital status in each age (and sex) are indicated respectively by: $s_x = S_x/P_x$; $c_x = C_x/P_x$; $d_x = D_x/P_x$; $w_x = W_x/P_x$; where $s_x + c_x + d_x + w_x = 1$.

11.6

CUMULATED RATES OF FIRST MARRIAGES

These rates ($1000 \sum (M'_x/P_x)$) indicate the total number of first marriages which would be contracted by 1000 persons surviving from the beginning to the end of nuptial ages, if they had at each age x the specific first marriage rate M'_x/P_x found among people aged x in the year under survey. These rates are related to usual age-specific rates (M'_x/S_x) of first marriage as follows: $M'_x/P_x = s_x(M'_x/S_x)$. Rates $\sum (M'_x/P_x)$ may be subject to strong changes from year to year. To understand why this may happen, consider the example (very important in the Israeli set-up) in which a strong immigration of single persons (or a previous period of comparatively low nuptiality) renders the levels of s_x comparatively high. If the rates M'_x/S_x become "normal" or "high" in the period under survey, then $1000 \sum s_x (M'_x/S_x)$ may become very high. Actually it may reach the apparently absurd result that $1000 \sum s_x (M'_x/S_x) > 1000$. This seems to imply that persons surviving through nuptial ages¹ may have more than a 1000 first marriages. Actually, it means that rates such as those found in the period under survey could not be maintained in a closed population during an entire generation. This in itself may be an interesting result. In fact, the sensitivity of $\sum (M'_x/P_x)$ to short-range fluctuations renders them instrumental in the study of such fluctuations.

On the other hand, for the same reason, this measure can be used only with the utmost caution for analyzing basic, long-range nuptiality characteristics of the population.² Actually its use for this purpose is justifiable only if it is supposed that by taking an average of (M'_x/P_x) over many years we can iron out the effects of short-range oscillations in nuptiality and of inconsistencies between rates (M'_x/P_x) and proportions single, s_x .

11.7

CUMULATED RATES OF ALL MARRIAGES

These rates can be obtained by taking $1000 \sum (M_x/P_x)$. They indicate the number of marriages (of any order) which would be contracted by 1000 persons surviving from the beginning to the end of nuptial ages, if they had at each age the specific nuptiality rate (for any order of marriage) M_x/P_x . Remarks given under 11.6 also apply (with due modifications) to $1000 \sum (M_x/P_x)$.

11.8

AGE DISTRIBUTIONS OF FIRST MARRIAGE CORRECTED FOR AGE DISTRIBUTION OF POPULATION (SEE TABLE 11.3)

These distributions have been derived from rates M'_x/P_x . The percentages of single brides (grooms) marrying at age x is obtained by calculating.

$$\frac{100 M'_x/P_x}{\sum (M'_x/P_x)}$$

¹ We have considered here for the sake of simplicity gross calculations. Actually they may be rendered net by taking into consideration mortality. This has actually been computed with regard to some of the nuptiality tables quoted in the literature.

² $\sum P'/N$ is formally related, under certain conditions, to "proportion ever married" calculated from the usual nuptiality tables (See J. Yam, op. cit., p. 350). However, under the generally accepted conditions in building such tables, the proportion ever married up to any age a is obtained in the tables by subtracting from 1 the product of the probabilities to remain single during a year in each of the nuptial ages up to a . As these probabilities are included between 0 and 1, an "absurd" result like that indicated above cannot be obtained.

These rates can be taken to indicate the age distribution of marriages which would be found in a closed population having no mortality in nuptial ages, and having at each age the nuptiality rates M_x/P_x found in the population in the period under survey. It can be assumed that this age distribution is not affected to any great extent by short term fluctuations in nuptiality.

11.9 SUMMARY MEASURES OF EFFECTS OF NUPTIALITY CHARACTERISTICS

The measures indicated above and in Chapter 11 provide us with direct or indirect knowledge of proportions marrying, of proportions ever married, age at first marriage, and proportion of remarriage. It is desirable to have some summary measure of effects of all these nuptial characteristics together, also in order to evaluate their global influence on fertility. Such a measure can be provided in a very simple although very rough way as follows. Let us consider age spans being of more importance for fertility and comparatively not largely affected by mortality¹ such as (i) 15-49 for women; (ii) 20-59 for men. We can calculate, for (i):

$$\frac{100}{35} \sum_{15}^{49} s_x; \quad \frac{100}{35} \sum_{15}^{49} c_x; \quad \frac{100}{35} \sum_{15}^{49} d_x; \quad \frac{100}{35} \sum_{15}^{49} w_x,$$

and similarly for (ii) by changing age limits.

These values indicate the percentage of fertile period passed in each marital status by a cohort of women (men) surviving between the exact ages of 15 and 50 (or 20 and 60) and having at each age the proportion by marital status actually found in the population under survey.²

11.10 CENSUS DATA ON DISTRIBUTION OF HUSBANDS AND WIFE BY AGE AT FIRST MARRIAGE

Percentages given in Table 11.3B and averages given in Table 11.4B have been calculated on the basis of the distributions of non-single persons of each population group, according to their age at first marriage, as obtained in the 1961 census.³ The calculations are limited to marriages presumably contracted in Israel.⁴

From a detailed analysis of methodological problems involved in this set of statistics, (which cannot be discussed here), we reached the conclusion that limiting the analysis to the marriages contracted, say, during the last thirty years before the census, rather reliable information can be obtained on the long-range distribution of marriages by age. In this distribution, short-term fluctuations and to some extent, the effects of irregularities and changes in age composition of the population tend to compensate each other.

¹ We shall arbitrarily indicate these spans, for short, as the "fertile period".

² The calculations have generally been performed by 5-year groups. This and the fact that many population groups considered in this Monograph are not closed, introduce some inaccuracies in the calculations. However, on the whole they appear to reply to criteria (a), (b), (c) indicated under 11.4.

³ See *Marriage and Fertility*. Population and Housing Census 1961, Publication No. 26. Jerusalem, Central Bureau of Statistics. Age at marriage was calculated in the Census on the basis of information on year of birth and year of first marriage.

⁴ For foreign born Jews the distinction is made in the Census between marriages contracted in Israel and marriages contracted abroad, by comparing year of marriage and year of immigration.

For Israel born Jews, Moslems and Christians, we have supposed that all marriages were contracted in Israel.

Standardized age distributions were built in order to study whether age distributions change according to the period in which marriages were contracted, independently from changes in the distribution of marriages by region of birth of the spouses.

For this purpose we utilized the classification of non-single Jews by age at marriage, duration of marriage and region of birth i (i = Israel; other countries in Asia and Africa; Europe and America). Within each age and duration of stay, we weighed the percentage age distribution of people born in each region i by using fixed weights w_i . We used as weights w_i the following percentages of non-single Jews born in each region i (all durations of marriage, together):

	Born in			
	Israel	Asia-Africa	Europe-America Asia-Africa	Total
Males	19.2	25.3	55.5	100.0
Females	26.3	25.5	48.2	100.0

11.11 DISTRIBUTION OF MARRIAGES OF MOSLEM AND CHRISTIAN BRIDES IN PALESTINE (TABLE 11.14)

The percentages shown in that Table were obtained from the following sources:

1) statistics of marriages in 1944–45. (For Moslem brides: first marriages; for Christian brides; all marriages).

2) unpublished results of a special enquiry performed in 1947 by the Department of Statistics of the Government of Palestine in order to obtain information on the very young ages of brides more reliable than the declarations of age given on marriage certificates. The data were obtained from the following three sources: (i) 3177 women registered in 1944–47 in Government Welfare Centers, giving maternity and child supervision¹ (data were collected by nurses personally knowing the mothers); (ii) 447 poor women in receipt of relief by the Government Social Welfare Department;² (iii) about 3,300 women who were attended by an Arab private practitioner,³ including persons of different social strata and in different localities, both urban and rural.

¹ 2,694 Moslems, 483 Christians; 550 in Jerusalem, 487 in Jaffa, 2,140 in other localities.

² 226 Moslems, 221 Christians; 268 in Jerusalem, 179 in Jaffa.

³ Dr. Canaan.

APPENDIX 12

GEOSTATISTICAL PARAMETERS

1) STANDARD DISTANCE

In the study of the geographical distribution of populations, detailed, say, by regions of a country or census tracts of a town, we are often confronted with the need to analyze bulky data, which are very difficult to interpret, especially by readers unfamiliar with the names and characteristics of each region or census tract.

General characteristics of these distributions — such as location, dispersion, asymmetry, etc. — can be summarized by means of "geostatistical parameters". In calculating such parameters, we may lose part of the detailed information given by the original statistical data but we have the great advantage of condensing the basic information into a few numbers which can be compared easily.

A well known example of a geostatistical parameter is the *center of population* which shows the general location of the population. Suppose we have a small territory in respect to which the earth's sphericity can be neglected. The location of any individual i ($i = 1, 2, \dots, n$) in the population can be indicated on a map by the usual coordinates (x_i, y_i) of the point where i resides. The center of population can be simply calculated as the point having as coordinates (\bar{x}, \bar{y}) , where $\bar{x} = (\sum x_i)/n$ and $\bar{y} = (\sum y_i)/n$.

A very simple measure of dispersion is obtained by calculating the *standard distance* which is the square root of the *distance variance* d^2 . This is the average of the squares of the distance between each individual and the center.

$$d^2 = \frac{\sum (x_i - \bar{x})^2 + \sum (y_i - \bar{y})^2}{n}$$

$2d^2$ equals the average of the square of the distances between all possible pairs of individuals in the population.¹

Standard distances can be used in their absolute values. If calculated for the same population at different points of time, they show changes in dispersion. For instance, an increase in d of the Jewish population of Israel in the course of time indicates an increased spread of the population (Section 18.2C). Standard distances calculated for different sub-populations over the same territory can help in the study of differentials in the dispersion of those distributions.² However, methods have been found which enable us to transform d (and other geostatistical parameters of population distributions) into "pure numbers". This enables us to compare the dispersions of populations or sub-populations over territories having different shapes and sizes. This is also connected to the fact that some of the main characteristics of the shape of a territory can be expressed too by geostatistical parameters. These,

¹ Including distances 0 between each individual and himself.

² See many examples in R. Bachi. "Standard distance measures and related methods for spatial analysis". *Regional Science Association Papers*, Vol. 10, Zurich Congress, 1962, pp. 84–132.

in turn, may be compared to parameters which characterize simple geometrical models.¹

2) CONCENTRATION INDEX

The usual Gini and Lorenz concentration index has been widely used by geographers to study the concentration of a population over a territory. It is well known that this ratio is connected with the usual segregation ratio used for comparing differentials in the dispersion between two populations over the same territory.

The simplest approach for presenting the usual segregation ratio is the following. Let us indicate by A and E two populations or sub-populations (say: born in Asia and born in Europe), by a_i the percentage out of 100 persons A who reside in zone i ($i = 1, \dots, s$; $\sum_1^s a_i = 100$), and similarly by e_i the percentage of people E in i . By calculating $1/2 \sum |a_i - e_i|$ we measure the proportion of people who are to be shifted if we wish to equalize the two distributions. In other words, this is an indicator of dissimilarity in distributions or segregation between populations A and E. This index (and the corresponding index of concentration) has been rightly criticized as being very sensitive to the type of division of territory into zones which is employed. For instance, if we calculate the concentration or segregation index in the U.S.A. by states or by counties or by economic sub-regions, we may obtain very different results. This criticism applies whenever we deal with zones i carved more or less artificially out of a continuous territory. However, it does not apply when we deal with separate villages, which can be conceived as separate dots i on a map. This is just the application mentioned in Section 18.5.

Indices of concentration and segregation are insensitive to the location of the dots i . Therefore, strictly speaking, they should not be considered as geostatistical parameters.

¹ See R. Bachi, *Geostatistical Analysis of Territories*, *Bulletin of the International Statistical Institute*, 1973, vol. 45, Book 1, pp. 121–133. R. Bachi, *Geostatistical Analysis of Internal Migrations*, *Journal of Regional Science*, vol. 16, No. 1, 1976, pp. 1–19.

² O.D. Duncan, R.P. Cuzzort, B. Duncan, *Statistical Geography*. The Free Press of Glencoe, Illinois, 1961, pp. 83–90.

ERRATA

Minor misprints are not listed

Page	Line from the		Printed	Should read
	top	bottom		
vii	12		2	15
42		1-2	Detailed research on	On the basis of detailed research,
62		21	Diamond production	Diamond,
140	6		65% (Panels G and H).	65% of total population increase (Panels G and H).
232-33				Invert the order of these pages
232	1		3)	C)
237	18		13.8	13.9
253		3	destination	distribution
254	6		STANDARDIZED BY SEX	STANDARDIZED BY AGE
264		2 of the table		2.1 is to be referred to "4th and over".
333		11	of whom in	In Israel
338	2		1948-1975	1948-1972
390		6	j	k
393		6	+2,303	2,303
398	2 after the table		population	population in 1931-47
400	5		1,213,000	1,213,800
411	17-18		single), continent, etc.	7.8 LABOR FORCE AND OTHER SAMPLE SURVEYS
419		1	graphs.	graphs of this Monograph.

