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TITLE OF THESIS/*TITRE DE LA THÈSE* Population Growth Patterns Among Alberta Hutterites

UNIVERSITY/*UNIVERSITÉ* University of Alberta

DEGREE FOR WHICH THESIS WAS PRESENTED/ *GRADE POUR LEQUEL CETTE THÈSE FUT PRÉSENTÉE* M.A.

YEAR THIS DEGREE CONFERRED/*ANNÉE D'OBTENTION DE CE GRADE* 1975

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THE UNIVERSITY OF ALBERTA

POPULATION GROWTH PATTERNS AMONG ALBERTA HUTTERITES, 1971

by

LORY MAIR LAING

A THESIS

SUBMITTED TO THE FACULTY OF GRADUATE STUDIES AND RESEARCH IN PARTIAL FULFILMENT OF THE REQUIREMENTS FOR THE DEGREE OF MASTER OF ARTS

DEPARTMENT OF SOCIOLOGY

EDMONTON, ALBERTA

SPRING, 1975

UNIVERSITY OF ALBERTA

FACULTY OF GRADUATE STUDIES AND RESEARCH

The undersigned certify that they have read, and recommend to the Faculty of Graduate Studies and Research, for acceptance a thesis entitled POPULATION GROWTH PATTERNS AM G ALBERTA HUTTERITES, 1971 submitted by LORY MAIR LAING in partial fulfilment of the requirements for the degree of Master of Arts.

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ABSTRACT

This thesis examines a variety of Alberta Hutterite population characteristics as they existed in 1971, in order to determine the recent pattern of Hutterite growth. Growth of the Hutterite population depends primarily upon an unusual fertility experience, therefore emphasis has been placed in this study on the possibility of changing fertility patterns.

The data used to analyze Hutterite population characteristics originate from a request for a special tabulation from the 1971 Census of Canada. Estimates of fertility (crude birth rate, total fertility rate, and age-specific fertility rates); mortality (crude death rate and infant mortality rate); marriage (average age at marriage); and growth (rate of natural increase) are derived from the census data. In addition, Hutterite characteristics such as age distribution, level of schooling, language spoken at home, and period of immigration are also examined. The results of the analysis of 1971 Alberta Hutterite data have been compared to data collected by Eaton and Mayer (1953), who conducted an extensive study of Hutterite demography in 1950.

The results of the analysis reveal significant changes in recent Alberta Hutterite demography in the following areas:

1. The Hutterite crude birth rate has declined from a level of 45.9 in 1950 to 38.4 in 1971 The age-specific fertility rates also declined significantly in every five-year age group between 20 and 49 years. Only the 15-19 year age-specific rate increased.
   As a result of the lower birth rate there is a lesser proportion of the total population between the ages of 0 and 5 years in 1971 compared to 1950.

2. The Hutterite mean age at marriage has risen from 22.0 years to 24.9 years for females; and from 23.5 years to 26.0 years for males. between 1950 and 1971.

3. Hutterite female mortality has declined to the point where there are now more females than males in the age groups over 40; whereas in 1950 males outnumbered females in the latter half of the age distribution.

4. The Hutterite rate of natural increase has declined from 41.5 in 1950 to 35.5 in 1971.

In conclusion there is a brief discussion of possible determinants of these changes, including such possibilities as the adoption of birth control practices, postponement

of marriage to defer childbearing, and increasing prevalence of premarital sexual relations.

ACKNOWLEDGEMENT

The 1971 Census of Canada data used in this thesis were obtained through a request for a special tabulation from Statistics Canada. The financial support for this request came from the Province of Alberta through Mr. Ken Hoeppner and the Liaison Office on Communal Property and Land Use. I would, therefore, like to thank Ken Hoeppner for making this study possible through his support and encouragement.

I am also grateful to the members of my committee, Drs. P. Krishnan, J. Forster, and K. Morgan for their supervision and assistance during the preparation of this thesis.

Special thanks are due Mrs. Freda Penny for her patience and diligence in typing the thesis.

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CHAPTER I

INTRODUCTION

The past and present pattern of growth of the Hutterite population of North America depends primarily on an unusual fertility experience. Mortality conditions among the Hutterian Brethren are similar to those of the average Canadian; and due to certain religious precepts it is in essence a population closed to migration. Therefore fertility performance is the major distinguishing demographic feature of the Hutterite population. It is for this reason that the present study will attempt to monitor the course of recent Hutterite fertility performance, with emphasis on the possibility of changing fertility patterns.

Population History

The Hutterite religious sect had its origins in Switzerland in the 16th century. During the reformation a group believing in adult baptism (subsequently called "Anabaptist") broke away from the established churches. A Swiss group established an Anabaptist church in Zurich in 1525. Their beliefs included adult baptism, the separation of true Christians from worldly affairs, and a belief in non-resistance.

However, about this same time a militant group of Anabaptists led the Peasants Revolt in Germany. The revolt

was crushed and resulted in the persecution of all Anabaptists, militant or pacifist. Some of these people fled to Moravia, where under the eventual leadership of Jacob Hutter, they practiced communal living. Many of Hutter's principles are the basis for the Hutterite life in Alberta today.

The continued persecution forced the "Hutterite group" (the original Moravian Anabaptists) to move periodically. Between 1564 and 1770 they lived in Moravia, Hungary, Transylvania, Wallachia. (Alberta Report, 1972:1). In 1770 Catherine the Great of Russia extended an invitation to German settlers to settle unimproved areas of Russia. The Hutterites took advantage of the offer and lived in Russia quite comfortably until 1870. At that time their military exemption was withdrawn and they were forced to find a new place to live.

A Hutterite delegation travelled to the United States in 1873 and consulted with both railway and government officials. Both groups were anxious to have the Hutterites settle in the U.S. The Americans were quick to point out the freedom of religion guaranteed under the U.S. constitution; but they were not willing to exempt the group from military service. However, it was pointed out to the delegation that any required military service was highly unlikely for the next 50 years. (Alberta Report, 1972:1).

By 1879 100 Hutterite families emigrated from Russia

to the U.S. settling in South Dakota. About half of this group took advantage of the U.S. government's Homestead Act; while the other half established three colonies: Bon Homme, Wolf Creek, and Old Elm Spring. The latter two colonies are the parent groups of all Alberta colonies.

Things went well for the U.S. Hutterites until World War I broke out in 1918. At this point they were again subject to persecution for their non-participation in the military (Alberta Report, 1972:1).

Between 1917 and 1920 several Hutterite groups moved to Canada and established colonies in Manitoba and Alberta. In Alberta the Hutterites constitute two separate groups. The Darius-Leut groups take their name from Darius Walter, their leader. The Lehrer-Leut groups take their name from Jacob Wipf, a teacher (from which occupation the name of the group is derived). The Darius-Leut group, formed seven colonies and settled near Rosebud, Rockyford, McLeod, Cardston, Cayley, and Wilson Siding (all in the southern part of the province). The Lehrer-Leut group formed five colonies, settling near Woolford, Magrath, and Raymond. (Lester, 1966:84).

The number of colonies almost doubled in the next 20 years, in part because some new members arrived from South Dakota, but primarily because of the natural increase of the population. Peters (1965) reports that from an original nine colonies, by 1964 Alberta had 56 colonies,

Saskatchewan 3, and Manitoba 39. The population increased correspondingly (see Table 1 for details).

In a report of the Hutterite Investigation Committe (1959) an explanation is given for the relatively small percentage increase of Alberta Hutterites (10.4%) between 1951 and 1956. It is assumed that the 377 Saskatchewan Hutterites appearing in that province in 1956, actually emigrated fro Alberta some time during the period 1951 to 1956. This s umption is strengthened by the fact that no Hutterites were recorded in Saskatchewan in 1951. Therefore these figures were added to the 1956 Alberta population to show what the increase would have been had the colonists not left Alberta. A complete list of the Hutterite colonies in Alberta as well as their populations, as of 1964 is given in Appendix A.

It must also be noted that although the Hutterite growth, 1951-56, (19.5%) is very similar to that of the province as a whole (19.6%); one may note that the Hutterite increase is solely from natural increase. Alberta's growth has an additional migration component. Between 1951 and 1956 about 34.1% of Alberta's total growth can be attributed to migration. For the period 1956 to 1971 the figure is about 23.9% (Canada Yearbook, 1973:209).

At the rate the Hutterite populations in Alberta and Saskatchewan were growing (approximately 3.9% per year between 1951 and 1956, and 4.3% per year between 1956 and

TABLE 1

Growth of Hutterite Population, Alberta and Saskatchewan, 1951-71

	1951	Percentage Increase	1956	Percentage Increase	1964	Percentage Increase	1971	Percentage Increase
Alberta Hutterite Population	4,135	-	4,564	10.4	5,656	23.9	6,100	7.8
Saskatchewan Hutterite Population	0	-	377	-	999	165.0	-	-
Alta.& Sask. Hutterite Colonies	4,135	-	4,941	19.5	6,655	34.7	-	-
Total Alberta Population	939,000	-	1,123,000	19.6	-	-	1,621,770	44.4

Source: Peters (1965:198) and Province of Alberta Report (1959:9-11).

1964) they would double in size in about 18 years. However, as can be seen from the 1971 figures this in fact did not happen because the rate of growth dropped significantly between 1964 and 1971.

According to the 1959 Investigation Committee Report, there were a total of 392,102 acres held by 55 Hutterite colonies in Alberta in 1958, as well as an additional 3,423 acres held by individuals. The average for each colony was approximately 7,200 acres (with varying proportions of this land being non-arable). Utilizing an estimated total Hutterite population of 5,000, the report states the average colony was comprised of 90 persons. In 1956, the Hutterites of Alberta apparently occupied less than 1% of all Alberta farmland, although the land they did occupy was in the better soil zones (Lester, 1966:82).

'In the early years of the Hutterite expansion after their initial emigration to Alberta between 1918 and 1922, there was little concern expressed by the surrounding population. In fact, with the onset of the depression in the 1930's, the Hutterite presence was actually welcomed. Because of their self-sufficiency, they were not as severely troubled by the depression and were in fact able to buy land, pay their taxes and patronize local businesses. (Peters, 1965:198).

However, with the advent of World War II conditions changed. Farmers became anxious to expand their holdings

because farming was once again a profitable business. To do this they faced stiff competition from the Hutterites. At the same time the Hutterites, as conscientious objectors, were refusing to join the military service. Despite the fact that Hutterites of military age were performing alternative services in forestry and public works projects, the surrounding communities were antagonized. (Peters, 1965:198).

At this point in time legal restrictions were placed on Hutterites who wished to purchase land. In 1947 the Alberta government imposed "the Communal Property Act". The Act specifically stated that no Hutterite colony could purchase or acquire land within 40 miles of an existing colony. It also limited the number of acres of land a colony could hold to 6,400 acres in Zone 1 (which consisted of the best farmland), slightly more in Zone 2, and yet more in Zone 3 (which is marginal land). The Act was slightly modified in 1959, as a result of the Investigation Committee Report. It was modified so that more colonies were allowed to buy land in some of the larger municipalities.

As it worked, a government committee would decide whether an application to purchase new land would be accepted or not. When a farmer agreed with a group of Hutterites to sell some land for a particular price, the committee would hold a hearing at which both the buyer seller had to be present. The director of the committee actually had the

power to permit or refuse the transaction. If the application was refused, the purchasing party could appeal the decision after a year. (Gross, 1965:147).

Later, public objection to Hutterite expansion centered around the idea that Hutterites deprive their children of an adequate education by isolating them and educating them themselves. Peters (1965:67) feels that this type of antagonism and complaint is merely a symptom of a larger problem which has developed primarily because of a changing pattern of rural life; a development for which the Hutterites are not responsible. The same idea was discussed in the Alberta 1972 Select Committee Report. The process of change involves the introduction of modern technology to the farming industry and the subsequent threat to the existence of the small farmer.

Since 1931 there has been a marked decline in the province's rural farm population. The size of farms increased and, according to Peters, the farmer began to have more leisure as a result of increased mechanization. "The traditional community socials and sports events were to some extent replaced by commercial entertainment." (Peters, 1965:67). As roads improved, cars enabled the farmer to have easy access to larger business and commercial centres. Smaller towns suffered economically.

This movement towards farm consolidation and the resultant disintegration of older communities threatened the

"old way of life" of many frustrated farmers. The Hutterites, because of their voluntary isolation and unusual appearance were often identified as the cause of the problem (Peters, 1965:67).

However, despite these feelings of many rural residents of Alberta, the provincial government abandoned the Communal Property Act in 1972 when it was found in conflict with the Alberta Bill of Rights.

Previous Research

Recent research on the Hutterites is limited and most of what is available was published in the early 1950's or 1960's. During that time several studies were conducted by Eaton, et al. (1953, 1955, and 1952), Peters (1965), and Cook (1954) on various aspects of the United States Hutterites.

In the meantime, a handful of studies were completed on the Canadian Hutterite situation. (Lester, 1961; Peter, 1965; Gross, 1955; Province of Alberta, 1959; and Province of Alberta, 1972). None of these investigations have had a specific demographic focus.

The majority of the work on Hutterites (Canadian or American) has had a cultural focus although there have also been some with a biological focus. Of all the research dealing with Hutterites to date, only two studies have dealt rather exclusively and in detail with Hutterite

demographic characteristics. Eaton and Mayer (1953) and Robert Cook (1954) both provide a complete population profile of the United States and the Canadian Hutterites.

Eaton and Mayer describe the relevant circumstances surrounding the stable pattern of rapid growth of the Hutterite population in the U.S. and Canada. They describe several social-psychological tendencies favouring the high fertility, as well as factors tending to lower Hutterite reproduction. All of these will be discussed in more detail in the next chapter. Their analysis of data provides information on average family size, rate of population increase, age and sex structure, mortality, and population fertility, etc.

Robert Cook's research traces Hutterite population growth from their arrival in South Dakota from Russia, between 1874 and 1877, to 1950. His analysis includes information on birth rates, age and sex structure, completed family size, mortality, and average age at marriage. For the most part, Cook's work closely parallels that of Eaton and Mayer.

The government of the Province of Alberta itself has undertaken two separate studies of the Hutterites in Alberta. In 1959 there was the Report of the Hutterite Investigation Committee. This Committee studied the Hutterite situation fully in terms of the then operating Communal Property Act. However, the Committee did not undertake an examination of

detailed demographic data, primarily because no separate figures had been kept of Hutterite reproductive rates by the Bureau of Vital Statistics. In the absence of any data broken down by age-sex groups, it was impossible to develop an accurate profile of the Hutterite population.

With the proposal of the Alberta Bill of Rights Act in 1972, pressure was once again put on the provincial government to re-examine the Communal Property Act. The investigation by a Select Committee led to the Report on Communal Property in 1972. This Report dealt with all aspects of Hutterite life (i.e., their culture, economy, educational system, history, etc.); but again omitted a population profile due to a lack of data.

Given the unique demographic and cultural characteristics of the Hutterite population and the social forces acting on it today, there is a need to know what changes have occurred in Alberta Hutterite family size, age and sex distribution, and rate of population increase in the last 20 years. This thesis is directed toward that end.

CHAPTER II

POPULATION GROWTH AND CULTURE

Population Growth

The Hutterite population is unique in several respects. It has grown rapidly in a fairly stable pattern for 80 years and more under isolated conditions. However, due to general population and agricultural developments in the province as a whole, the Hutterites are subject to increasing external pressure for change. Few other populations in the world come as close to duplicating a theoretical stable population. Eaton and Mayer report that although a statistical model of a stable population has never been found in nature, the Hutterites "come very close to showing its characteristics" (1953:249). They substantiate this with a presentation of population pyramids in which they demonstrate approximately similarly shaped Hutterite pyramids for the decades 1910 to 1950 (Eaton and Mayer, 1953:216). Because the Hutterite population growth pattern is not characterized by cycles like those of most western societies, where economic depressions, wars, or other factors influence population growth, the Hutterite population may be used as a "social laboratory".

In theory, a stable population is a closed population (no in- or out-migration) experiencing the same

mortality and fertility risks for many years. Such a population has an unvarying age distribution, increases at a constant rate, and has constant birth and death rates. It was Lotka (1911) who outlined the idea that continuation of a specified mortality and fertility schedule would lead to an unchanging age distribution called "stable".

The stable age distribution is often closely approximated under the demographic conditions found in many underdeveloped countries. This is referred to as a "quasi-stable" population because it is characterized by steadily falling mortality and constant fertility, rather than both constant fertility and mortality.

Hutterite colonies are virtually closed to migration (both in- and out-migration are negligible although not completely absent). The Hutterite population has experienced a relatively low mortality rate similar to that of the rest of the United States population (Eaton and Mayer, 1953:280), because they have taken advantage of the sophisticated medical care that is available to most Americans. Lastly, the Hutterites have been known to maintain a consistently high level of fertility throughout their history, virtually uninfluenced by any form of birth control. These attributes combine to produce a population experiencing extremely rapid growth. Because the pattern of growth is relatively stable, it facilitates a comparison of vital statistics of the group over time, since the statistics are always based on a

population which despite its increase in numbers remains stable in proportionate age and sex distribution.

In any discussion of population fecundity, there are a few populations in which the average number of births per couple reaches seven. Among populations whose members practise no form of birth control, Freedman, Whelpton, and Campbell (1959) report that the most prolific are the Hutterites, with 10.4 births per couple, and some rural French with 10.0 births per couple.

Jacques Henripin (1954) did a more complete study of rural French Canadian fertility. He found that during the seventeenth century French Canadians were multiplying as fast as Hutterites were in the 1950's. The French Canadian crude birth rate was 53.7 and the crude death rate 21.5 during the period 1681 to 1720. The rate of natural increase was thus 32.2 per thousand population which is lower than that of the Hutterites (reported by Eaton and Mayer, 1953), although Hutterites did not equal the high birth rate of the French Canadians during their peak.

A very high level of fertility continued to characterize the population of Quebec during the middle part of the nineteenth century, after the cessation of immigration and stabilization of the population structure. The crude birth rate around the time of the 1851 census, which provided complete information on the age and sex composition of the population was about 50.0 (Vincent and Henry, 1957). In

their study Vincent and Henry were interested in estimating the possible rate of increase of a stable population characterized by a complete release of potential for procreation as well as by low mortality.

The 1880 Baseline

The first complete count of Hutterites in North America was carried out during the 1880 United States population census. At that time most of the Hutterites had been in the U.S. from three to six years and were living in four colonies.

Eaton and Mayer (1953:210) report three outstanding features of the Hutterite population as shown by the 1880 census:

1. the total number of males and females were nearly equal (221 to 222) indicating "the Hutterites migrated as complete communities, taking all family members with them."

2. males outnumbered females in all age groups over 40.

3. almost half of the population was under 15 years of age (47%).

The 1950 Benchmark

The next complete and detailed count of the North American Hutterite population (United States and Canada)

was carried out by Eaton and Mayer in 1950. (This was done in co-operation with the Hutterites and their elected leaders.) By 1950, the original four colonies had branched out into 93 colonies located in South Dakota, North Dakota, Montana, Alberta, and Manitoba. The detailed data collected covered 80% of the Hutterite population, that is, 71 of 93 colonies (Eaton and Mayer, 1953:212). The same three outstanding features reported from the 1880 census were again reported in 1950.

The data collected by Eaton and Mayer eventually resulted in two very complete descriptions of the Hutterite social biology (Eaton and Mayer, 1953; and Cook, 1954). These two studies serve as the only available points of departure for detailed comparison of present Alberta Hutterite population characteristics.

Cook reported that from 443 Hutterites who migrated from Russia to South Dakota between 1874 and 1877, the population increased over 19 fold, numbering 8,000 by 1950 (Cook, 1954:98). Comparable crude birth and death rates, as well as crude rates of natural increase, for Canada, the U.S., and U.S. Hutterites, are provided in Table 2. The Hutterite crude death rate of 4.4 appears unusually low. This phenomenon can probably best be explained in terms of the relatively high Hutterite crude birth rate (45.9), and the subsequent youthfulness of the Hutterite population. Peters (1965) reports that Hutterite life expectancy

TABLE 2

Crude Birth and Death Rates, and Crude Rates of Natural Increase, Canada, United States, and Hutterites, 1946-51

Population	Period	cbr/000	cdr/000	Crude rate of natural increase 0/00
Hutterites	1946-50	45.9	4.4	41.5
United States	1949-51	27.4	18.1	14.3
Canada	1949-51	24.0	14.3	17.7

Source: Cook, (1954:98) and Canada Year Book, (1954: Table 1, p.178).

approximates that of the Canadian and American white population.

In the early 1950's th Hutterite population was increasing at a rate of 4.1% per year (Eaton and Mayer, 1953:279), which means that it doubled every 16 years. At that time and on the basis of these growth patterns it was predicted there would be 12,600 Hutterites in the U.S.A. by 1960 (Eaton and Mayer, 1953:279); 18,000 by 1970; and 70,000 by the year 2000 (Cook, 1954:97).

The relative youthfulness of the Hutterite population is explained by the high level of fertility. The population is youthful in that a high percentage (44%) of the total population is under the age of 15. The high birth rate creates successive waves of children who, due to favourable mortality conditions, survive to reproductive ages and in their turn provide for constant expansion through their own fertility performance.

A ıough adult Hutterites tend to "live a long time, they are perpetually outnumbered by successive and increasing waves of children, most of whom survive," (Eaton and Mayer, 1953:279-280). In 1950, 51% of all Hutterites were under 15 years of age, 39% were in the reproductive ages 15-44, and 10% were over 45 years of age (Cook, 1954).

Cook reports that there seems to have been a slight increase in completed family size between 1880 and 1950 (1954:100). Women just past their childbearing years

averaged slightly more children than older women (that is, 10.9 children for women aged 45-49 years; and 9.2 children for those aged 70-74). He attributes the increase primarily to improved medical care, which would reduce the incidence of prenatal, infant and maternal mortality. More women would have survived the rigors of many pregnancies and thereby be capable of producing slightly more children who in turn would also have a better prognosis of survival.

"In 1950, the average marriage age for Hutterite women was 22.0, for men 23.5; for the U.S., 20.5 for women, and 23.6 for men at first marriage " (Cook, 1954:103). The relatively higher age at marriage for Hutterites acts as a major factor in reducing total fertility. This trend is a direct result of the religious precept forbidding marriage prior to baptism.

Cook also reports that in 1950 approximately 96% of Hutterite men and 86% of the women between the ages of 30 and 34 were currently married. Among those 45 years of age and over, 99.4% of the men and 98.7% of the women were or had been married (Cook, 1954:103). These figures indicate a high degree of risk of pregnancy the population is exposed to when no methods of birth control are used.

Record levels of fertility were recorded by Cook for Hutterites in every age-specific category except the 15-19 group. The low birth rate of the teenage group was maintained by the prohibition of pre-marital sexual relations

and the postponement of marriage until adult baptism. In accordance with these strict religious doctrines, he reported a low incidence of illegitimate births (10 such births between 1874 and 1950, Cook 1954:100). In fact, the relatively late marriages among Hutterites reduce their birth rate considerably below its theoretically possible level, when it is recognized that 70 per thousand females in Canada and the U.S. in the age group 15-19 gave birth, whereas among Hutterites it was only 12 per thousand (Peters, 1955).

Despite their unusual fertility performance, Hutterites tend to experience similar mortality conditions to the rest of the North American population. Cook reports that although the Hutterite crude death rate of 4.4 per thousand between 1941 and 1950 was much lower than that of the U.S. in 1950 (9.9 per thousand); this is almost entirely due to the fact that over hal of the Hutterite population was under 15 years of age (Cook, 1954:100).

It is interesting to note however, that Hutterite female mortality was higher than Hutterite male mortality, which is contrary to conditions in the larger North American population. Cook found that female mortality was consistently higher than that of males in every age group, except children under 15 and adults over 60 (Cook, 1954:101). This unique aspect of Hutterite mortality is probably a consequence of the reproductive experience of Hutterite females. Eaton and Mayer explain the phenomenon by saying that,

although few Hutterite women die during pregnancy or childbirth, it is likely that frequent child bearing lowers their resistance to morbidity (1953:280). However, as yet the real relationship between fertility and mortality is not clear.

Culture

The major distinguishing religious beliefs of the Hutterites are:

1. community of goods;
2. non-resistance;
3. baptism only by profession of faith (to mature adults who have demonstrated a satisfactory understanding of the Hutterite creed); and
4. a refusal to take oaths and hold public office.

Within each colony there is a Preacher, who takes care of the spiritual needs of the members, and a Wirt (manager), who takes care of the community's economic affairs. The Preacher is chosen by lot whereas the Wirt is elected. (Only the adult males of the colony are allowed to vote.) Both leaders are assisted by an elected body of elders, usually five in number (Lester, 1966:84).

Under the Wirt are several sub-managers who are responsible for specific tasks or different branches in the productive system (such as caring for the chickens, cows, or grain production). These sub-managers supervise the productive process to ensure that Hutterite norms of

"thriftiness and diligence" are maintained (Peters, 1956:28).

The women are organized in a similar fashion but for different types of work. They are concerned primarily with domestic duties such as supervision of kindergarten, nursing, caring for the aged, cooking and cleaning. However, some women are involved in other branches of the productive system such as weaving and agricultural work (Peters, 1965:29).

Each colony tries to be self-sufficient and produce most of the things necessary for daily living. To do this, they utilize the most modern equipment available. During the process of buying equipment and selling surplus produce, the Hutterites are constantly brought into contact with the "outside world." The nature of their agricultural operation makes it impossible for them to remain completely isolated, although they do try to keep these outside contacts to a minimum (Lester, 1966:84).

This Hutterite social system has several characteristics which encourage high levels of fertility. Eaton and Mayer (1968:279-283) outline these factors:

1. The level of Hutterite fertility had been virtually uninfluenced by any form of birth control, because such practices are considered sinful. In addition, Hutterites have always considered having children a joy.

2. Through their system of communal property and their values of strong mutual support and group cohesiveness, the Hutterites guarantee economic support to all families. This lessens the financial burden of a large family.

3. Their relatively recent migration to North America provides them with access to excellent medical care, which they were quite willing to use and pay for. This allows for a high degree of reproductive efficiency, in that both infant and maternal mortality are low.

4. Marriage is virtually universal in the Hutterite population, exposing a large proportion of the female population to the risk of childbearing during their lifetime.

5. Because there is relatively little inter-colony migration or travel, marital separation is minimal. There is also very little divorce. This means that husband and wife are rarely separated during the fertile period; so there is virtually no time when a married woman is not exposed to the risk of pregnancy.

All of the above factors have been termed "intermediate variables" by Davis and Blake (1956:221-235). These

variables represent means of fertility control which come between the social norms regarding family size and actual fertility.

In combination, the above factors contribute to realization of high levels of fertility. However, it should be noted that many of them are not unique to the Hutterite population. Most of North America has similar access to health care facilities. There are also many primitive populations who live uninfluenced by any form of birth control and provide strong group support for child rearing (for example through an extended family system). It is the fact that all five characteristics are present in the Hutterite population that differentiates it from other populations.

Eaton and Mayer (1953:282) point out several factors acting in the opposite direction, that is tending to lower reproductive performance. For instance, Hutterite religious beliefs prohibit sexual relations prior to marriage. The steps taken to maintain the norm include strict supervision of adolescents, strong indoctrination, and punishment of offenders (in the form of excommunication).

Working in combination with the above is the Hutterite norm that no one can be married prior to baptism. Since baptism is administered only on profession of faith by a mature adult, who has demonstrated satisfactory understanding of the Hutterite religion, most Hutterites are not baptized

until they reach the age of at least 20 years. The net result is an older age at marriage and in turn a slightly reduced lifetime exposure to the risk of childbearing.

Eaton and Mayer also mentioned a Hutterite attitude that it is "good" not to marry "too early". The reasons for this are that a girl does not usually want to leave her family "too soon"; and a girl is not usually anxious to take on the extra work and responsibilities of a married woman (Eaton and Mayer, 1953:282).

Some mention is made of isolated instances involving surgical interference with reproduction (for example abortion or sterilization) to protect a mother's health (Eaton and Mayer, 1953:282). Eaton and Mayer put forth the idea in 1953 that certain birth control practices, such as sterilization and the rhythm method, may have been coming into use at that time, primarily amongst women over the age of 35. They had little data to substantiate their claim but preliminary observation of a high incidence of abdominal surgical scars in women over 35 led them to speculate that not all sterilizations were performed for medical reasons. They did feel, however, that the impact on Hutterite fertility would not occur for some time.

The net result of these various social characteristics is the creation of an environment conducive to the attainment of an extremely high level of fertility, but a level much lower than the possible maximum. Hutterites exhibit

one of the highest rates of reproduction in the world, although it does not represent the actual level of fecundity.

Despite the fact that Hutterites are continuing to exist as a highly cohesive social group, it is important not to overstate the degree of homogeneity in their life style. Hutterites do not have unanimous beliefs in all areas of living. Changes have occurred in their culture, although very slowly. The generally low degree of variability between Hutterite families and colonies is due largely to a common history dating back four centuries and a strong religious force encouraging a high rate of in-group marriage. Their voluntary isolation from most outside social influences contributes to the strength of their value system.

Hutterites in Alberta today are experiencing a more severe and direct pressure on their culture than ever before, more so than when persecuted in the old world and during war time in the U.S.A. The competition for prime farm land in which they have become engaged cannot immediately be alleviated with the abandonment of the Communal Property Act. The competition has brought them into closer contact with the "outside world" and makes their previous state of isolation a thing of the past. Visits from outside government officials, salesmen, etc., as well as their own visits to surrounding communities are becoming commonplace.

There is also an "internal" pressure arising.

According to Joseph Eaton (1952:333) many younger Hutterites were, even in 1952, internalizing some of the values and expectations of their American neighbours. At that time they desired more individual initiative and choice. Things once considered luxuries by older Hutterites were being regarded as necessities. The result of this form of internal pressure is that traditional concepts of right and wrong were being challenged.

Eaton describes an institutionalized technique the Hutterites have developed to deal with various pressures for change, which he calls "controlled acculturation" (Eaton, 1952:334). It is his idea that Hutterites tend to "accept cultural innovations before the pressure for them becomes so great as to threaten the basic cohesiveness of the social system " (Eaton, 1952:334). By accepting some of the less disruptive innovations, and rejecting all others, Hutterite leaders have been able to retain the loyalty of most of their youth and preserve their basic institutions. This method of controlled acculturation may be considered either as a way of preventing complete assimilation; or as a process slowly eroding the differences between Hutterites and the surrounding culture.

In this context, it is now very difficult for Hutterite colonies to maintain the close, informal relationships with each other that they once enjoyed. With rapidly increasing population size, it becomes increasingly

difficult to maintain intimate contact and thereby the uniformity of belief and custom which has enabled their survival as an autonomous culture. As their numbers increase so do contacts th the outside world.

It is quite probable that certain religious beliefs, especially those influencing their high rate of reproduction have experienced some form of modification. For example, there may exist today a tendency for a reduction in the frequency of sexual relations with increasing age; or changing values of women wit respect to the advantages of fewer children to care for; or increasing health and other concerns for fewer children. Joseph Eaton speculated on these possibilities 20 years ago. In any case, an examination of present Hutterite birth rates and current family size would serve as a reliable indicator of possible changes in Hutterite beliefs or practice.

CHAPTER III

METHODOLOGY

The data used to analyze Hutterite population characteristics were obtained through a request for a special tabulation from Statistics Canada from the 1971 Census of Canada. The data were in the form of aggregate totals for all Alberta Hutterites with respect to the following characteristics:

1. age (five-year groupings)
2. sex
3. marital status
4. family size
5. number of children per family
6. residence: farm or non-farm
7. level of schooling
8. place and period of immigration
9. language of the home

Prior to 1971, Canadian Censuses did not differentiate between Hutterites and Mennonites as religious groups. Both groups were coded as Mennonites and treated as a single religious category. Although these groups may share some religious precepts, there are very basic ideological differences between the two. In fact, it is the relative isolation of Hutterites in colonies which most obviously sets them apart from Mennonites. In Alberta there are

approximately equal numbers of Hutterites and Mennonites.

For this reason it is impossible to retrieve information on Hutterite population characteristics from Canadian Censuses prior to the 1971 Census, at which time the two religions were recorded separately. In order to make longitudinal comparisons the data collected by Eaton and Mayer in the early 1950's had to be relied on heavily.

Demographic measures of fertility can be classified into two types - direct measures derived from the combination of vital statistics and census data; and indirect measures derived from census age data alone. Among the more common direct measures are: the crude birth rate (C.B.R.); general fertility rate; total fertility rate (T.F.R.); and age-specific fertility rates (A.S.F.R.). Indirect measures of fertility include: the ratio of children aged 0-4 to women aged 15-49; the ratio of children aged 5-9 to women aged 15-49; the percent of the total population aged 5-9 years; and the percent of the total population aged 0-14 years.

The most useful measures of fertility are the direct measures derived from both vital statistics and census data, in that they allow a more meaningful analysis of current or changing fertility levels. Estimates of several principal fertility measures (crude birth rate, age-specific birth rates, and the total fertility rate) were computed using the method presented by Bogue and Palmore (1964).

The series of estimating equations provided by Bogue and Palmore provide a useful tool for arriving at these direct measures of fertility when vital registration data are absent, but when a reasonably good census has been taken. Bogue and Palmore arrived at their estimating equations by analyzing the interrelationships among the direct measures of fertility derived from reliable data for a selection of nations. The criteria for selecting the countries to be studied was that reliable data had to be available on: (1) births by age of mother; (2) population by age and sex; (3) marital status by age and sex, and (4) deaths of infants during their first year of life.

From these data for each country, the various direct and indirect measures were computed and their interrelationships examined. Bogue and Palmore found the relationships to be linear. They then developed a series of linear equations enabling one measure to be estimated from another. Only some of the direct and indirect measures discussed by Bogue and Palmore are computed for this study as follows:

Crude Birth Rate

To begin with, three separate estimates of crude birth rate are computed from the percentages of the total population 0-4, 5-9, and 0-14 years respectively. The coefficients for the linear equations are:

a) cbr = -4.2551 + (2.6263 x percent of population 0-4)

b) cbr = -8.6670 + (3.2723 x percent of population 5-9)

c) cbr = -11.724 + (1.1835 x percent of population 0-14)

Total Fertility Rate

The next measure computed is the total fertility rate which requires, among other data, the ratio of children 0- 4 years to women 15-49 years of age. The total fertility rate is actually the sum of age-specific birth rates of women, at each age from 15 to 49 years. The equation is:

T.F.R. = 5804.3 + 7.6193 (ratio c/w 0-4) + 11.319 (Infant Mortality Rate) - 44.963 (Mean Age at Marriage) - 4928.4 (Index of Fertility Age Composition) - 7.2189 (percentage of women 45-49 Ever Married)

For this equation, the mean age at marriage (M.A.M.) is computed using a technique developed by Hajnal (1953) since no direct figures on age at marriage were available from vital registration. Hajnal's technique will be discussed later.

Also included in this equation is the term "index of fertility age composition" (I.F.A.C.), which refers to a ratio formed by:

[the number of births a particular country's female age distribution (converted to a standard million) would yield if it had the age-specific fertility rates for the world]

[the number of births the world's female age distribution (converted to a standard million) yields when the world's age-specific fertility rates are applied.]

The infant mortality rate (I.M.R.) used in the equation was the rate for Alberta generally in 1971, since it was not possible to obtain such a figure for Hutterites alone. It must therefore be assumed that no gross differences existed between the mortality conditions for Hutterite infants and all other Alberta infants. This is not an unlikely assumption in that Hutterites have access to the same medical facilities as most other Alberta residents through prepaid medical insurance and Hutterite babies are born in conventional hospitals.

The other two elements of the equation (the ratio of children age 0-4 to women 15-49, c/w 0-4, and the percentage of women 45-49 ever married, E.M.) were obtained directly from the census data.

Age-Specific Fertility Rates

Bogue and Palmore provide two different methods for estimating age-specific fertility rates from the total

fertility rate. The first method involves the direct computation of each age-specific rate from the total fertility rate using a series of regression coefficients.

The second method involves estimating one age-specific rate from the total fertility rate then in turn, utilizing this age-specific rate to compute a subsequent age-specific rate. As each rate is computed for a particular age group, it is included in all subsequent calculations for the remaining age-specific rates.

For the purposes of this analysis the second method presented by Bogue and Palmore is used because it achieves a greater degree of precision in the estimates. In examining the linear correlations provided by Bogue and Palmore between the total fertility rate and the various age-specific rates, it is evident that if the age-specific rates are computed independently the correlations range from a low of .711 to a high of .957 (Bogue and Palmore, 1964:319). However, by starting with the total fertility rate and 25-29 year age-specific rate with a correlation of .957, and using this information in subsequent calculations, higher correlations are maintained throughout the series of age-specific rates.

This second method is a somewhat involved procedure that can best be explained in terms of the following steps:

(1) Estimate one of the basic direct measures, in this case the total fertility rate, from the indirect measures and supplementary indices (the ratio of children 0-4 years to women 15-49 years; infant mortality rate; mean age at marriage; index of fertility age composition; and percentage of women 45-49 years of age ever married). The equation for this estimate was given earlier.

(2) Establish the age-specific fertility rate for the age group 25-29 years. This group represents one of the high-rate childbearing age groups. The equation used is:

$$\text{A.S.F.R. 25-29} = -188.23 + 0.0495\,(\text{T.F.R.}) - 0.1925\,(\text{I.M.R.}) + 0.9758\,(\text{percentage of Women 25-29 E.M.}) + 7.6215\,(\text{M.A.M.}) - 13.380\,(\text{I.F.A.C.})$$

(3) With the information obtained from steps (1) and (2) estimate the age-specific rate for the 20-24 age group, using the following equation

$$\text{A.S.F.R. 20-24} = 431.66 + 0.0524\,(\text{T.F.R.}) - 0.3706\,(\text{A.S.F.R. 25-29}) - 0.6431\,(\text{I.M.R.}) - 15.242\,(\text{M.A.M.}) + 0.1720\,(\text{percentage of Women 20-24 E.M.})$$

(4) With the information obtained from steps (1) and (3) estimate the age-specific rate for the 15-19 age group, using the following equation:

A.S.F.R. 15-19 =

-71.631 + 0.0365 (T.F.R.) + 0.4470 (A.S.F.R. 20-24)
-0.7426 (A.S.F.R. 25-29) + 2.4585 (M.A.M.)
+0.6949 (percentage of Women 15-19 E.M.)

(5) Estimate the age-specific rate for the 35-39 group with the information obtained in steps (1) and (4) and the following equation:

A.S.F.R. 35-39 =

-0.5904 + 0.0815 (T.F.R.) -0.4821 (A.S.F.R. 15-19)
-0.3235 (A.S.F.R. 20-24) -0.5225 (A.S.F.R. 25-29)
+0.1529 (M.A.M.) -0.1674 (percentage of Women 45-49 E.M.)

(6) Using the computed age-specific rates for the age groups 25-29 and 35-39, estimate the rate for the 30-34 group with the following equation:

A.S.F.R. 30-34 =

51.734 + 0.1350 (T.F.R.) -0.5457 (A.S.F.R. 15-19)
-0.7687 (A.S.F.R. 20-24) -0.5223 (A.S.F.R. 25-29)
-0.7804 (A.S.F.R. 35-39) -0.1776 (I.M.R.)
-1.0513 (M.A.M.) -0.1227 (Percentage of Women 45-49 E.M.)

(7) Using all of the age-specific rates computed previously, estimate the last two age-specific rates with these equations:

A.S.F.R. 40-44 =

-28.049 + 0.1460 (T.F.R.) -0.7729 (A.S.F.R. 15-19)
-0.6583 (A.S.F.R. 20-24) -0.8306 (A.S.F.R. 25-29)
-0.6515 (A.S.F.R. 30-34) -0.6873 (A.S.F.R. 35-39)
+1.1703 (M.A.M.) +0.0242 (percentage of Women 45-49 E.M.)

A.S.F.R. 5-49 =

-8.2324 - 0.0038 (T.F.R.) +0.0612 (A.S.F.R. 25-29)
+0.0330 (A.S.F.R. 30-34) +0.1047 (A.S.F.R. 35-39)
-0.1118 (A.S.F.R. 40-44) +0.1065 (I.M.R.)
-0.2206 (M.A.M.) +0.0457 (percentage of Women 45-49 E.M.)

This seven step procedure for estimating age-specific fertility rates in effect fits a smooth curve to an originally established level of fertility. The estimations are refined from one step to the next. This means that the estimates for the latter age groups are probably more accurate than those for the early age groups. Unfortunately it is the early age groups which are most significant in terms of childbearing.

A further weakness of the Bogue-Palmore technique for use in this study of Hutterite fertility is that the estimating equations were developed from data collected in a variety of countries during the period 1955-60.

In addition, the "index of fertility age composition" term used in these equations may distort the estimates for the Hutterite population. This supplementary index is included as a refinement for the equations, but was intended for use with respect to whole countries. The Alberta Hutterite population of 8,000 is too small for representation as a country.

In order to measure the accuracy of the crude birth rate as estimated by the Bogue-Palmore technique, another estimate of crude birth rate was calculated using a technique developed by Rélé (1967). Rélé's estimation of crude birth rate is based on knowledge of the population's gross reproduction rate (G.R.R.) and age distribution. The technique involves the following two steps:

(1) Estimation of the "intrinsic birth rate", which is the expected birth rate of a population whose age distribution is similar to that of a stable population with the same age-specific fertility and mortality rates. Because this intrinsic birth rate is tied to a specific age distribution, it is unique for the given fertility and mortality conditions. The crude birth rate on the other hand changes with the actual age distribution of the population.

intrinsic birth rate:

$$y = a + bx + cx^2$$

Where x is the proportion of children 0-4 years to women 15-49 years.

The a, b, and c coefficients of the regression equation were derived from a table provided by Rélé, which he computed from stable populations for a variety of expectations of life and child-woman ratios.

(2) Estimation of crude birth rate from intrinsic birth rate, using a ratio of weighted sum of women in the reproductive age groups to total population:

$$\text{C.B.R.} = b_i \frac{\text{(Weighted sum ÷ Total population) for the given population}}{\text{(Weighted sum ÷ Total population) for the corresponding stable population}}$$

The weights, b_i, used in this estimation are 1,7,7,6,4,1 respectively for the 6 five-year age groups from ages 15 to 44.

The ratio of weighted sum of women in the reproductive age groups to total population for the stable population was derived from a table provided by Rélé (1967, Table 15: page 58). The stable population which was chosen as most closely corresponding the age distribution of the Hutterite population had a G.R.R. of 2.5 and expectation of life at birth of 70 years.

These values of G.R.R. and e_0^0 were determined on the basis of some knowledge of the Hutterite age distribution. The expectation of life was guessed roughly, to the nearest 10. Any error here will have a relatively minor effect on the fertility estimation. The G.R.R. was estimated using the ratio of children 0-4 years to women 15-49 years and the following equation:

$$y = a + bx$$

-where y is the gross reproduction rate, and x is the child-woman ratio for a particular expectation of life,

-the a and b coefficients are provided by Rélé (1967, Table 4: page 22).

Due to the absence of Hutterite vital registration data it was also necessary to estimate the mean age at marriage from the census age data. To do this a relatively simple technique developed by Hajnal (1953) is used. The only information that is necessary is the Hutterite population with respect to age and the proportions single. The procedure is a means of computing the average number of years lived in the single state by those who marry before they reach 50.

One must assume that given a cohort of 100 men or women, the number who remain single at each age as they pass through life, is equivalent to the percentages single in each census age group. One must also assume that no members of the cohort die between the ages of 15 and 55.

Hajnal outlines six steps to follow in computing the mean age at first marriage of those men or women who marry before the age of 50:

(1) Estimate the number of years lived in the single state between the ages of 15 and 50 by the cohort of 100 (including those who have not married by age 50). This is the sum of the proportions single up to and including the 45-49 age groups, multiplied by 5 (the width of the age interval).

(2) Add to this the 15 x 100 years lived as a single person before age 15.

(3) Subtract the number of years lived by those who do not marry by age 50. To do this, (i) average the proportions single in the 45-49 and 50-54 age groups; (ii) multiply the result by 50 and subtract this figure from the result of step (2); and (iii) subtract the result of (i) from 100.

(4) Divide the total (ii) by the number who have married (iii).

Model Life Table Estimates of Birth, Death and Growth Rates

On the basis of information on Hutterite age distribution and expectation of life at birth, Coale and Demeny's

regional model life tables (1966) can be used to obtain additional estimates of crude birth rate, crude death rate and growth rate for the Alberta Hutterite population. A unique stable population is chosen from those presented by Coale and Demeny on the basis of the cumulative proportions of the male and female Hutterites in each five-year age grouping for a specified expectation of life.

Since this information is not available for Hutterites specifically, it was necessary to utilize the expectation of life at birth for Alberta males and females generally. It is, therefore, assumed that the differences in mortality conditions between the Hutterites and the general population of Alberta are negligible.

There is no one stable population which exactly parallels the Hutterite age distribution, however the selection is made as to the stable age distribution which is the closest. The birth, death, and growth rates for the stable population are then used as estimates for the Hutterite population.

The "West" model tables at mortality levels of 23 and 24 were used in these estimates. Mortality level 23 has a female expectation of life at birth of 75.0 years, whereas for males at level 23 it is 71.2 years. Level 24 has a female expectation of life of 77.5 years. These mortality levels were chosen on the basis of an Alberta female life expectancy of 77.30 years and male expectancy of 70.42 years,

in 1971. In examining these stable populations the age distribution which most closely parallels the Hutterite distribution has a G.R.R. of 2.5 for females, and 3.0 for males.

CHAPTER IV

DEMOGRAPHIC CHARACTERISTICS OF ALBERTA HUTTERITES

Hutterite Population Structure

In any analysis of census data the question of the accuracy of the data itself must be considered. There are several conventional tests available to check for possible errors in enumeration or computation. These include examination of age and sex ratios to ensure that no gross differences exist in the data given a basic knowledge of the population (for example there should be approximately equal numbers of males and females).

However, due to the small size of the Hutterite population and the relative reliability of Canadian censuses, no specific tests of the data were performed here. It was assumed that any errors which might have occurred would be slight and therefore have little effect on the analysis.

Age

The Hutterite population remains very young, in the sense of having a large proportion of the total population under 15 years of age, 44% in 1971 (See Table 3). This compares to 31% of the remainder of Alberta's population being less than 15 (See Table 4).

It can also be seen from these two tables that the peak age groupings for the Hutterite population are the ages 0-4

TABLE 3

Distribution of the Hutterite Population by Age and Sex, Alberta, 1971

(in years)	Male	Percent-age	Female	Percent-age	Total	Percent-age
0 - 4	475	15.3	455	15.2	930	15
5 - 9	475	15.3	465	15.5	940	15
10 - 14	445	14.4	395	13.2	940	14
15 - 19	400	12.9	355	11.8	750	12
20 - 24	265	8.6	260	8.7	525	9
25 - 29	245	7.9	200	6.7	440	7
30 - 34	195	6.3	185	6.2	380	6
35 - 39	135	4.4	165	5.5	295	5
40 - 44	115	3.7	140	4.7	255	4
45 - 49	95	3.1	115	3.8	215	4
50 - 54	75	2.4	80	2.7	160	3
55 - 59	65	2.1	65	2.2	130	2
60 - 64	35	1.1	50	1.7	85	1
65 - 69	35	1.1	30	1.0	65	1
70+	40	1.3	50	1.7	90	2
Total	3,095		3,000		6,100	100

Source: 1971 Census of Canada.

TABLE 4

Distribution of Non-Hutterite Population of Alberta by Age and Sex, 1971

Age (in years)	Male	Female	Total	Percentage
0 - 4	77,015	73,650	150,665	9
5 - 9	91,635	88,220	179,860	11
10 - 14	92,635	88,260	181,225	11
15 - 19	81,820	78,345	160,170	10
20 - 24	70,285	71,060	141,340	9
25 - 29	59,605	58,670	118,270	7
30 - 34	50,605	49,055	99,655	6
35 - 39	51,125	47,030	98,155	6
40 - 44	49,560	45,120	94,680	6
45 - 49	44,530	43,730	88,260	5
50 - 54	37,175	36,895	74,070	5
55 - 59	32,690	32,315	65,005	4
60 - 64	26,595	25,395	51,985	3
65 - 69	21,990	20,005	41,995	3
70+	37,335	39,100	76,440	5
Total	824,925	796,850	1,621,770	100.0

Source: 1971 Census of Canada.

years and 5-9 years. For the rest of Alberta they are 5-9 and 10-14 years. This would also seem to indicate a high level of fertility within the Hutterite population.

Table 5 indicates however, that the Hutterite population is not as young as it once was. The broad age categories represented here show that over the age of 19 years there were slight increases in each category in 1971. In fact each rise in the proportions in the later age groups has come at the expense of the 0-5 age group. This youngest group represents 5% less of the total in 1971 than it did in 1950.

This also means there has been a slight increase in the percentage of the total population of reproductive age. However, the increase was only 2% between the ages 20-44 years.

In viewing the older age categories in Tables 3 and 4, it can be seen that after the age group 30-34 the Hutterite population has a smaller percentage in each five-year age grouping than do all other Alberta religions. The result is that only 4% of Hutterites are over 60, while 11% of the general Alberta population is over 60 years of age.

Sex

A different pattern emerges between the Hutterite population and non-Hutterite population of Alberta when sex is examined as well. In almost half of the five-year age groupings (all of them in the older ages of the distribution) Hutterite females outnumber Hutterite males. The only

TABLE 5

Age Distribution of the Hutter[ite] Population 1950 and 1971

Year	Total	0-5 Years	5-19 Years	20-44 Years	45-64 Years	65+ Years
1950	100	20	41	29	8	2
1971	100	15	41	31	10	3

Source: [Hut]con and Mayer (1953:215) and 1971 Census of Canada.

exceptions are the age groups 65-69 years, where there are more men than women; and 55-59 years where there are equal men and women. In most of the younger age groups there are significantly more Hutterite males than females. For the remainder of Alberta's population women outnumber men in only two age groupings (20-24 years and 70+). Previously it was shown Hutterite women were one of the few female groups who did not generally outlive their male counterparts. The explanation given for this was that Hutterite women experienced poor health in their later years as a result of their frequent and extended childbearing. From the present data this would appear to be no longer the case. The Hutterite sex ratio for the population over 40 years of age in 1971 was 87. This does not seem to indicate relative superiority of Hutterite men today.

There has also been some change in the Hutterite sex ratio at birth between 1950 and 1971. In 1950 it was 101, whereas in 1971 it had risen to 103. This may explain the preponderance of males in the lower half of the Hutterite age distribution for 1971.

Marital Status

In 1950 Cook reported that the average age at marriage for Hutterite women was 22.0 years and for men 23.5 years. (1954:103). This compared to the general U.S. population in 1950 was almost the same for men, 23.6 years, and slightly lower for women, age 20.5 years. The somewhat later age at

TABLE 6

Average Ages at Marriage Alberta, United States and Hutterites, 1950 and 1971

Population	Male	Female
Age at marriage, United States 1950	23.6	20.5
Age at marriage, Hutterites 1950	23.5	22.0
Age at marriage, Alberta 1971	23.7	21.4
Age at marriage, Alberta Hutterites 1971	26.0	24.9

Source: Cook, (1954:103), and 1971 Census of Canada.

marriage for Hutterite women could significantly reduce their fertility performance during these prime childbearing years (age 20-29). This is especially true when there exist strong sanctions against pre-marital sexual relations.

The effects of this factor on fertility performance can only have become more pronounced since 1950, because the Hutterite average age at marriage has become significantly higher in Alberta in 1971. For Hutterite men it has risen to 26.0 years and for women, 24.9 years. Due to the Hutterite culture's strong positive value on having children, and the fact that any form of birth control is considered sinful, a couple usually begins to have children immediately after their marriage. By increasing the average age at marriage by almost three years for both sexes, a significant number of births can be prevented during those early years. In order to measure the possible effect of this increase in age at marriage, a technique used by Krishnan (1971) to estimate the percentage change in birth rate attributable to changes in age at marriage was used. The results are discussed later in Chapter V.

Another factor contributing to high fertility is the proportion of the population who marry. In 1950 more than 96% of the men and almost 86% of the women between the ages 30-34 were currently married. (Cook, 1954:103). In 1971 the situation was very similar, 87.2% of the Hutterite men in Alberta were, or had been married; and as in 1950, 86% of

TABLE 7

The Hutterite Population of Alberta by Marital Status, Age, and Sex, 1971

Males

Age	Single	Percentage[a]	Married, Widowed and Divorced	Percentage[a]	Total
15 - 19	395	98.8	5	1.2	400
20 - 24	230	86.8	30	11.3	265
25 - 29	90	36.7	155	63.3	245
30 - 34	20	10.3	170	87.2	195
35 - 39	10	7.4	120	88.9	135
40 - 44	5	4.3	110	95.7	115
45 - 49	5	5.3	90	94.7	95
50 - 54	5	6.7	70	93.3	75
55 - 59	5	7.7	60	92.3	65
60 - 64	-	0	35	100.0	35
65 - 69	-	0	35	100.0	35
70+	-	0	40	100.0	40

Source: 1971 Census of Canada.

[a]The 1971 Census of Canada utilized a technique of rounding all figures to the nearest 5 or 10. For this reason subtotals do not always yield the total reported when summed. It is, therefore, difficult to calculate appropriate percentages.

TABLE 8

The Hutterite Population of Alberta by Marital Status, Age and Sex, 1971

Females

Age	Single	Percent-age	Married, Widowed and Divorced	Percent-age	Total
15 - 19	350	98.6	0	0	355
20 - 24	180	69.2	75	29	260
25 - 29	70	35.0	130	65	200
30 - 34	25	13.5	160	86	185
35 - 39	30	18.2	140	85	165
40 - 44	30	21.4	110	79	140
45 - 49	20	17.4	95	83	115
50 - 54	10	12.5	75	94	80
60 - 64	5	10.0	40	80	50
65 - 69	5	16.7	30	100	30
70+	0	0	45	100	50

Source: 1971 Census of Canada.

[a]Due to the rounding of Census figures, percentages do not necessarily total to 100.

the Hutterite women (See Tables 7 and 8). It is difficult to explain the 10% drop in married men between 1950 and 1971, except that it could be due to an inappropriate sex ratio.

At the earlier ages, 20-29 years, the percentage of Hutterite women who have been or are married is greater than that for males. However, after age 29 the percentage of ever married males becomes increasingly greater than females in each age grouping.

Family Size

Hutterite family size has always been very large. Robert Cook reported a slight increase in completed family size in 1950 from 1880. (1954:100). Women aged 45-49 years in 1950 averaged 10.9 children; while women aged 70-74 years in 1950 averaged 9.2 children. He explained the differential as being due to improved medical care for the younger women and their infants, which would mean they, as a group, were subject to less pre-natal, infant and maternal mortality.

The 1971 Canadian Census data reveal a mean family size of 5.6 persons in the Hutterite population. (See Table 9). This appears to indicate a significant decrease in overall Hutterite family size. The mean family size for all other Alberta religions was 3.7 persons in 1971. Unfortunately, it is impossible to determine a measure of completed family size for the Hutterites from the 1971 Census data.

In line with this development, there has of course been a corresponding drop in the mean number of children per

TABLE 9

Families by Number of Persons in Family
Alberta, 1971

No. of Persons in Family	Hutterites	Percentage	All Other Alberta	Percentage
2	125	14.2	117,275	30.7
3	105	11.9	74,855	19.6
4	115	13.1	81,735	21.4
5	120	13.6	54,180	14.2
6	75	8.5	29,530	7.7
7	125	14.2	13,940	3.7
8	55	6.3	5,425	1.4
9	35	4.0	2,570	0.7
10+	125	14.2	2,260	0.6
Total	885	100.0	381,770	100.0
Mean	5.6			3.7

Source: 1971 Census of Canada.

TABLE 10

Families by Number of Children (0-24 years) per Family, Alberta, 1971

No. of Children Per Family	Hutterite	Percentage	All Other Alberta	Percentage
0	155	17.4	111,755	29.3
1	110	12.4	74,665	19.6
2	95	10.7	83,935	22.0
3	135	15.2	55,770	14.6
4	75	8.4	30,585	8.0
5	115	12.9	14,295	3.7
6	50	5.6	5,765	1.5
7	35	3.9	2,670	0.7
8+	20	13.5	2,325	0.6
Total	890	100.0	381,765	100.0
Mean	4.4		1.17	

Source: 1971 Census of Canada.

Hutterite family. (See Table 10). In 1971 it declined to 4.4 per family. This is a noticeable change from the completed family size of 10.9 and 9.2 reported by Cook in 1954. It is likely that were it possible to determine completed size for 1971 as well, the difference would not be quite as large; but the figures presented do serve to indicate the direction and magnitude of a possible trend towards smaller family size.

Even in 1971, 13.5% of the Hutterite families had eight or more children. However, there was a much larger concentration (55.7%) who were at the other end of the scale and had three children or less, but clearly were far from complete reproductively.

Language Spoken at Home

The vast majority of Alberta Hutterites are of German descent. This is reflected in the figures on language spoken at home. (See Table 11). It shows that approximately 93% of Alberta Hutterites consider German their first language. The next most common language is English, representing a mere 4.5% of the total. The only other language to hold a visible portion of the total is Dutch, with almost 2%.

These figures very definitely indicate the high degree of cultural homogeneity within the Hutterite population. Despite the pressures to utilize English in any business transactions they are managing to maintain the use of German at home for their children. In fact, it is somewhat

TABLE 11

Hutterites by Language Spoken at Home
Alberta, 1971

Language	Number	Percentage
English	275	4.51
French	5	0.08
German	5,690	93.35
Dutch	120	1.96
Other	5	0.08
Total	6,095	100.00

Source: 1971 Census of Canada.

TABLE 12

Hutterites by Farm Residence, Alberta, 1971

	Number	Percentage
Farm - dwelling	5,800	95.2
Not farm - dwelling	295	4.8
Total	6,095	100.0

Source: 1971 Census of Canada.

disappointing that the figures do not reveal a prevalence of English as a second language. It is quite likely that its use is increasing despite the fact that German is most ofter spoken at home.

Residence

As might well be expected the vast majority of the Hutterite population continues to reside on farms (95.2% of the total). As in the case of language spoken at home, this would also seem to indicate a lack of change in general Hutterite lifestyle.

This has significant bearing on the pressure Hutterites have been experiencing recently with respect to the acquisition of new farm lands, both for the expansion of old colonies and the establishment of new ones. It requires vast amounts of land to support several thousand people by farming, even if it is a collective. It is evident, however, that pressure for space has not yet forced the Hutterite population to alter their lifestyle to any great extent to include more non-farming, spatially concentrated activities (i.e., processing or manufacture of farm goods). At least, if this has occurred, it does not show up in the census tabulations.

Level of Schooling

Traditionally, Hutterites have been responsible for their own education and have maintained a school within each colony. For the most part they do not consider formal

education past the grade eight level as a necessity. Anything beyond this does not add much to their ability to study their religion, or participate in farming activities.

This pattern is demonstrated in Tables 13 and 14. Of those attending school full-time in 1971, 41.3% were between grades five and eight; and 53.7% were in grade five or less. Only 5% had proceeded beyond grade eight.

A similar trend applies to those Hutterites who were not attending school full-time in 1971. Of these people 82% had at that time less than a grade ten education. The figures in these two tables apply only to those Hutterites over five years of age, and therefore at or beyond school age.

These figures, when compared to the remainder of Alberta's population reveal a larger proportion of the Hutterite school population concentrated in the lower grades. Of the total Alberta school population 35.5% were in grade nine or above, compared to 5% of the Hutterites.

The same thing applies to that portion of the population who has left school on a full-time basis. For all other Alberta religions, 67.6% did so after reaching at least grade eleven, compared to 17.8% of Hutterites.

Period of Immigration

Table 15 reveals that the major part of Hutterite immigration to Canada occurred before 1945. Before this date 510 people entered the province (all of them from the United States). This group represents only 8.4% of the total

TABLE 13

Level of Schooling Reached by Those Attending School Full-time, Alberta, 1971

Religion	University	Grades 9-13	Grades 5-8	Less than Grade 5	Total
Hutterite	-	75	620	805	1,500
Non-Hutterite Population of Alberta	33,105	128,795	139,870	153,725	455,490
Total	33,105	128,870	140,490	154,525	456,996

Source: 1971 Census of Canada.

TABLE 14

Level of Schooling Reached by Those Not Attending School Full-time[a], Alberta, 1971

Religion	University degree	Some University	Grades 11-15	Grades 7-10	No School to Grade 4	Total
Hutterite	5	-	650	2,625	390	3,675
Non-Hutterite Population of Alberta	51,035	55,225	580,700	229,850	98,805	1,015,615
Total	51,040	55,225	581,345	232,475	99,195	1,019,285

Source: 1971 Census of Canada.

[a]Not attending school full-time refers to anyone attending school three times per week or less.

TABLE 15

Immigration of Hutterites into Alberta

Period	Birthplace	Number	Percentage
Before 1931-1945	U.S.A.	510	8.4
1946-1955	Germany	15	0.2
	U.S.A.	5	0.1
1956-1964	Germany	5	0.1
	U.S.A.	5	0.1
	Other[a]	15	0.2
1965-1968	Germany	5	0.1
	U.S.A.	5	0.1
1969-1971	U.S.A.	5	0.1
Canadian born		5,535	90.7
Total		6,105	100.0

[a]Other: countries other than U.K., Germany, Italy, Poland, Republic of Ireland, U.S.A., Australia, Central America, Hungary, or the U.S.S.R.

Source: 1971 Census of Canada.

Hutterite population in 1971; but 89.5% of all non-native Canadian Hutterites. In fact it is apparent that there has been relatively little Hutterite immigration to Alberta since 1945.

Of those who have immigrated the vast majority have come from the U.S., although a few have come directly from Germany. This does not mean to imply, however, that the former immigre's were all native Americans.

This information serves to indicate the importance of natural increase to Hutterite population growth. Although the population is not entirely closed to migration, unlike most other populations its international movements are minimal. The matter of inter-provincial migration is quite different however. There is virtually no information presently available to indicate the extent of such movement. One can only assume that the Hutterite culture is not by nature migratory, unless forced to be so through persecution or a general necessity to establish new colonies. Even so, the majority of new colonies branching out, appear to have done so within the original province (with the exception of the period 1951-56 when 377 Hutterites left Alberta to settle in Saskatchewan).

For this reason the following discussion of Hutterite fertility and mortality is most important in explaining their remarkable growth pattern.

Hutterite Population Dynamics

Estimates of Fertility

Several estimates of crude birth rate for the Hutterite population were obtained using the three different techniques developed by Bogue and Palmore, Rélé, and Coale and Demeny as previously detailed. These estimates are presented in Table 16.

The range of these estimates is quite extensive, and each one has its relative merits and weaknesses. Rather than selecting one estimate as the "true" measure of Hutterite fertility, they are all presented to provide the interval within which the true estimate lies.

It is significant that the lowest estimates of crude birth rate are those based on the proportion of the population aged 0-4 years. These estimates are consistently lower than those based on the proportion of the population 5-9 years of age. It would appear that more recent fertility (children 0-4) is much lower than it was five years before (children 5-9). Of course that is assuming there were no major differences in infant mortality affecting the two age groups.

In 1956 the general Alberta C.B.R. was 28.0, but by 1971 it had dropped to 18.8. Although the province as a whole experienced a very significant drop in its C.B.R. between 1956 and 1971, the change in Hutterite C.B.R. is

TABLE 16

Estimates of Hutterite Crude Birth Rate From 1971 Census of Canada Data

Estimation Technique	Census Base	CBR 0/00
Bogue-Palmore	Percentage of population 0-4 years	35.9
	Percentage of population 5-9 years	41.7
	Percentage of population 0-14 years	40.7
Rélé	Children(0-4)/women(15-49)	32.9
	Children(5-9)/women(20-54)	40.3
Coale-Demeny	Cumulative proportions in age groups 0-4, 5-9, 10-14, 15-19	38.9

Source: Author's computations.

more outstanding in light of their apparent rejection of birth control practices.

By using the percentage of the Hutterite population 0-4 years of age, it is estimated that the total fertility rate in 1971 was 5,095. This means approximately 5.1 children per woman. This figure is much higher than that for Alberta as a whole (T.F.R. 2,435, or 2.4 children per woman).

The ratio of children 0-4 years to women 15-49 years was used to estimate age-specific fertility rates, using the Bogue-Palmore technique, which are given in Table 17.

Table 17 reveals that although Hutterite fertility remains high, its pattern has definitely changed since 1950. Somewhat surprisingly, considering the rise in average age at marriage for the Hutterites, their 15-19 age-specific fertility rate has risen from 12.0 to 42.4. This is difficult to explain, although it may in part be accounted for by an increasing number of marriages in this age group. However, the Hutterite age-specific fertility rate for those 15-19 years remains lower than that of the general Alberta population.

For all the other age groups Hutterite fertility rates have declined, most significantly in the later ages. In addition, the peak period of fertility previously was between the ages of 30 and 34 at a level of 391.1, whereas in 1971 it was between ages 25 and 29 at only 300.5. The

TABLE 17

Age-Specific Fertility Rates (0/00) For All Alberta, 1971; Alberta Hutterites, 1971; United States, 1946-50; and Hutterites (U.S. and Canada), 1946-50 (per 1000 female population in corresponding age group)

Age (in years)	Hutterites 1946-50	United States 1946-50	Alberta Hutterites 1971	Alberta 1971
15-19	12.0	74.8	42.4	54.0
20-24	231.0	190.3	201.2	159.8
25-29	382.7	163.2	300.5	154.4
30-34	391.1	102.5	238.8	78.1
35-39	344.6	54.2	162.1	31.5
40-44	208.3	15.2	65.2	8.7
45-49	42.1	1.1	8.6	0.5

Source: Cook (1954:99); Alberta Vital Statistics, Preliminary Annual Report, 1971, Catalogue 84-201, table 6, p.15; and 1971 Census of Canada.

general trend appears to be toward high fertility at lower ages and an earlier and more sudden drop in fertility as the female population ages.

By applying the Hutterite age-specific fertility rates to the overall Alberta age distribution, it would be possible to demonstrate that total Hutterite fertility would be less with an older population (such as that of the province as a whole). It is the combination of high age-specific Hutterite fertility and a relatively high proportion of the Hutterite population of reproductive age which contributes to their high level of total fertility.

Estimates of Mortality and Growth Rate

Coale and Demeny's model life table supplied an estimate of crude death rate and growth rate as well as crude birth rate. As was mentioned previously the West model table used was based on a reported life expectancy at birth for Alberta in 1971, of 70.42 years for men and 77.30 years for women. The crude death rate for the corresponding stable age distributions for men and women were 4.2 and 3.5 respectively.

Because the Rélé estimates of crude birth rate are not sensitive to mortality, to the extent that expectation of life at birth may be estimated to the nearest 10, these estimates may be used to arrive at a measure of infant mortality. This is accomplished by applying the Rélé

estimate of crude birth rate Coale and Demeny's west model tables with the appropriate age distribution. The result is a female infant mortality rate of 9.01 and a male rate of 27.88.

These death rates in combination with the crude birth rates applicable to the stable age distributions yield a male growth rate of 38.1 and a female growth rate of 31.9, for the Hutterite population.

The corresponding rates for Alberta as a whole in 1971 were a crude death rate of 6.5 and rate of natural increase of 12.3. The Hutterite crude death rate is lower than that of Alberta as a whole for the same time period, despite exposure to the same mortality conditions. The difference is almost entirely due to the high proportion of the Hutterite population under 15 years of age.

CHAPTER V

INDICATORS OF SOCIAL CHANGE IN THE HUTTERITE POPULATION

Every society or population is subject to constant social change through modification of established patterns of behavior or organization. We are well aware of changes which have occurred in Canada as a whole in the past 25 years, regarding values governing marriage and family size. With increasing concern for the educational and career patterns of women, and values related to pre-marital sexual relations, abortion, and single parenthood; it is not surprising that there should result changes in the timing of both marriages and births.

The Hutterite population of Alberta, despite its isolated condition, does not exist in a vacuum. In fact, because of its rapidly increasing size, it is becoming increasingly difficult for Hutterite colonies to maintain the close, informal relationships with each other that they once enjoyed; and thereby the uniformity of belief and custom which has enabled their survival as an autonomous culture. As their numbers increase so do their contacts with the outside world and their exposure to external stimuli for change.

It is quite probable that certain religious beliefs, particularly those influencing their high rate of

reproduction have experienced some form of informal modification. With these considerations in mind, this study attempted to test the following hypotheses:

1. The Hutterite birth rate in Alberta in 1971 was less than that previously recorded for Hutterites.

2. The growth rate of the Alberta Hutterite population was lower in 1971 than previously recorded rates.

3. As a consequence of the above two trends the age distribution will indicate a lesser predominance of youth (proportion of the total population under 15 years of age).

4. The average age at first marriage of Alberta Hutterites was higher in 1971 than that previously recorded.

The profile of the Alberta Hutterite population as it existed in 1971 presented here, fills in many gaps in our knowledge of this unique religious group. It is important to recognize, however small, the degree to which Hutterite demography has changed, even though the Hutterite population has maintained an amazingly similar profile.

The major changes that have occurred relate to the elements of population dynamics (for example fertility,

mortality, marriage, and growth):

1. Fertility: The Hutterite crude birth rate has declined from a level of 45.9 in 1950 to 38.4 (an average of the estimates) in 1971. This amounts to a 16.3% decline in 21 years. The age-specific fertility rates declined significantly in every five-year age group between 20 and 49 years from 1950 to 1971. Only the 15-19 age-specific rate increased. As a result of the lower birth rate there is a lesser proportion of the total population between the ages of 0 and 5 years. The percentage of the total declined from 20 in 1950 to 15 in 1971.

2. Age at Marriage: The Hutterite mean age at marriage has risen from 22.0 years to 24.9 years for females; and from 23.5 years to 26.0 years for males between 1950 and 1971.

3. Mortality: Hutterite female mortality has declined to the point where there are now more females than males in the age groups over 40; whereas in 1950 males outnumbered females in the latter half of the age distribution.

4. Rate of Natural Increase: The Hutterite rate of natural increase has declined from 41.5 in 1950 to 35.5 (average figure) in 1971. This represents a 14.5% decline.

Determinants of Change

Despite the fact that Hutterites are continuing to exist as a highly cohesive social group, it is obvious that the degree of the decline in their fertility indicated here is not a chance fluctuation. Eaton and Mayer (1953:282) indicated that certain birth control practices such as sterilization and rhythm method may have been coming into use in 1950, primarily amongst women over the age of 35. At that time they had little data to substantiate their hypothesis, other than preliminary observation of a high incidence of abdominal surgical scars in women over 35, which led them to speculate that not all sterilizations were performed for medical reasons. In any case, the implications of such possibilities would not have been visible for some time. It may be that the decline in age-specific fertility shown here is the observable effect of an unofficial change of attitude amongst Hutterite women with respect to the advantages of fewer children.

However, there appears to be a trend in the opposite direction, towards higher fertility, among younger Hutterite women. This analysis reveals the rise in age at

marriage as explaining virtually all of the reduction in crude birth rate. In fact, based on the technique described by Krishnan (1971), the increase in female average age at marriage from 22.0 years to 24.9 years would yield a 29% reduction in crude birth rate. However, the crude birth rate only declined 25% (based on the Coale and Demeny estimate), so it would appear there was an additional factor which limited the actual fertility decline due to age at marriage. This additional factor is probably the increase in fertility of younger Hutterite women, as indicated by the increase in the 15-19 age-specific fertility rate. The apparent increase in fertility of Hutterite women aged 15-19 could be a function of increased participation in pre-marital sexual relations, although it is likely that any pregnancies resulting from such relations would subsequently be legitimized.

Areas of Little Change

Areas in which the Hutterites appear to have changed very little relate to general population characteristics. For example the vast majority (93%) of Alberta's Hutterites have maintained German as their first language, 95% maintain farm residence, and 82% of those Hutterites not attending school full-time have less than grade 10 education. These factors indicate the continuing high degree of cultural homogeneity within the Hutterite population. Despite

external pressures to utilize English in business transactions, and pressure for land to pursue agricultural activities, the Hutterites appear not to have altered their traditional lifestyle. Unfortunately the census tabulations on language spoken at home provide no indication as to knowledge of English as a second language. In addition the census tabulations do not indicate any possible specialization or extension of agricultural activities into such things as processing or manufacturing of goods. It is quite possible that external pressures are not yet great enough to necessitate these changes, but in any case the census data are insufficient to provide any useful information in this regard.

Some Areas that Need Inquiry

The major questions left unanswered in this study concern the reason for the decline in Hutterite fertility in the later ages, and the manner in which it has been brought about. In addition, there is the question of why fertility increased at the younger ages. A much more specific study of current Hutterite attitudes to marriage, pre-marital sex, and family planning attitudes and practices is necessary before these questions can be answered.

More information is also needed on the extent of Hutterite inter-provincial and intra-provincial movements.

It has been assumed throughout the present study that such movements are minimal and, therefore, have little effect on population growth. Traditionally this has been the case, however as fertility patterns appear to have changed, it may be interesting to examine population mobility as another aspect of Hutterite lifestyle subject to change.

CHAPTER VI

SUMMARY AND CONCLUSIONS

The past and present pattern of growth of the Hutterite population of North America depends primarily on an unusual fertility experience. Mortality conditions among the Hutterian Brethren are similar to those of the average Canadian; and due to certain religious precepts it is in essence a population closed to migration; therefore fertility performance is the major distinguishing demographic feature of the Hutterite population. It is for this reason the present study attempts to monitor the course of recent Alberta Hutterite fertility performance, with emphasis on the possibility of changing fertility patterns.

The known characteristics of the Hutterite population have been compared to those of a theoretical stable or quasi-stable population. The Hutterites come very close to representing a stable population, in that they have maintained an approximately similar shaped population pyramid for the decades 1910 to 1950.

In discussing the cultural determinants of Hutterite demography it has been pointed out that they represent a "primitive" population in having cultural patterns favouring high fertility; but are quite "modern" in their acceptance of patterns affecting mortality. Many Hutterite cultural traditions create a social environment favouring maximum

human fertility, however there are also many additional factors which act to lower reproduction below a "true maximum". All of these factors are examined in light of continually increasing external and internal pressures for social change.

The data used to analyze Hutterite population characteristics originate from a request for a special tabulation from the 1971 Census of Canada. Estimates of fertility (crude birth rate, total fertility rate, and age-specific fertility rates); mortality (crude death rate and infant mortality rate); marriage (average age at marriage); and growth (rate of natural increase) are derived from the census data. In addition Hutterite characteristics such as age distribution, level of schooling, language spoken at home, and period of immigration are also examined. The results of the analysis of 1971 Hutterite data have been compared to data collected by Eaton and Mayer (1953), who conducted an extensive study of Hutterite demography in 1950.

The results of the analysis reveal significant changes in recent Alberta Hutterite demography in the following areas:

1. The Hutterite crude birth rate has declined from a level of 45.9 in 1950 to 38.4 in 1971. The age-specific fertility rates also declined significantly in every five-year age group between 20 and 49 years. Only the 15-19 age-specific rate increased.

As a result of the lower birth rate there is a lesser proportion of the total population between the ages of 0 and 5 years between 1950 and 1971.

2. The Hutterite mean age at marriage has risen from 22.0 years to 24.9 years for females; and from 23.5 years to 26.0 years for males between 1950 and 1971.

3. Hutterite female mortality has declined to the point where there are now more females than males in the age groups over 40; whereas in 1950 males outnumbered females in the latter half of the age distribution.

4. The Hutterite rate of natural increase has declined from 41.5 in 1950 to 35.5 in 1971.

In conclusion there is a brief discussion of possible determinants of these changes, including such possibilities as the adoption of birth control practices, postponement of marriage to defer childbearing, and increasing prevalence of premarital sexual relations.

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APPENDIX A

List of Alberta Hutterite Colonies as of 1964:

Lehrer-leut, Alberta

Name	Address	Year Founded	Population
1. Rockport	Magrath	1918	70
2. Old Elmspring	Magrath	1918	119
3. New Elmspring	Magrath	1918	100
4. Milford	Raymond	1918	122
5. Big Bend	Cardston	1920	120
6. Miami	New Dayton	1924	78
7. Elmspring	Warner	1929	78
8. Hutterville	Magrath	1932	142
9. New Rockport	New Dayton	1932	131
10.O.K.	Raymond	1934	95
11.Rocklake	Wrentham	1935	128
12.Sunnysite	Warner	1935	84
13.Macmillan	Cayley	1937	110
14.Crystal Spring	Magrath	1937	124
15.Newdale	Queenstown	1950	108
16.Acadia	Oyen	1952	133
17.New Milford	Winnifred	1953	155
18.Rosedale	Etzikom	1953	129
19.Springside	Duchess	1955	136
20.Handhills	Hanna	1956	111
21.Newell	Bassano	1962	98
22.Bow City	Bow City	1964	83

Darius-Leut, Alberta

1. Stand-off	Ft.Macleod	1918	118
2. West Raley	Cardston	1918	98
3. Wilson Siding	Lethbridge	1918	50
4. Springvale	Rockyford	1918	65
5. Rosebud	Rockyford	1918	119
6. East Cardston	Cardston	1918	70
7. Stahlville	Rockyford	1919	85
8. New York	Maybutt	1924	130
9. Ewelme	Ft.Macleod	1925	105
10.New Rosebud	Beiseker	1926	61
11.Pincher Creek	Pincher Creek	1926	71
12.Granum	Granum	1930	82
13.Wolf Creek	Stirling	1930	67
14.Riverside	Ft.Macleod	1933	64
15.Lakeside	Cranford	1935	90
16.Sandhill	Beiseker	1936	98

Name	Address	Year Founded	Population
17.Cayley	Cayley	1937	67
18.Thompson	Glenwood	1939	60
19.Fairview	Crossfield	1944	130
20.Pine Hill	Ponoka	1948	96
21.Tschetter	Irricana	1948	120
22.Camrose	Camrose	1949	90
23.Ferrybank	Ponoka	1949	103
24.Holt(Irma)	Irma	1949	70
25.Red Willow	Red Willow	1949	120
26.Pibrock	Pibrock	1953	120
27.Scottford	Ft.Saskatchewan	1953	115
28.Spring Creek	Walsh	1956	97
29.Sunshine	Hussar	1956	40
30.Veteran	Veteran	1956	97
31.B.O.	Marwayne	1957	70
32.Huxley	Huxley	1958	104
33.Box Elder	Walsh	1960	95
34.Minburn	Minburn	1960	50
35.Ribstone	Edgarton	1960	90
36.Spring Point	Brockett	1960	95

Source: Peters, 1965