Canada’s Changing Age Structure

Implications for the Future
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Acknowledgement

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FOREWORD

Population projections indicate that there will be a major increase over the next several decades in the number and proportion of elderly people in Canada. Throughout the country concern is being expressed about the social, psychological, political and economic implications of the change in the age structure of Canadian society. Concern, however, is not enough. What are needed are "hard" data upon which to base policy and planning.

If such data are to be gathered there is a need to:
- sensitize Canadian researchers to the issues involved in population aging;
- have investigators critically examine existing research for the purpose of identifying gaps and ambiguities;
- formulate cogent, relevant and pertinent Canadian research issues and questions in testable form;
- heighten awareness among Canadian researchers as to research methods, techniques and skills that are unique to the study of population aging; and
- focus the diverse research skills and approaches of an appropriate range of disciplines on the multi-dimensional issues and problems inherent in the study of population aging.

Towards these ends a symposium was held August 20-23, 1981 focused on Canada's changing age structure. Sponsored by Simon Fraser University and supported by a
grant from the Social Sciences and Humanities Research Council, the symposium drew together researchers in the social and behavioural sciences, the humanities and allied disciplines from across Canada. Speakers included nationally and internationally renowned specialists in gerontology and other disciplines with interests in aging.

This volume presents selected papers from the symposium. I am indebted to the authors whose works appear. Also, to John Herzog, Meredith Kimball, Arlene McLaren, Dale Miller and especially Ellen Gee for assisting with editing. I would also like to express appreciation to the Social Sciences and Humanities Research Council of Canada for its financial support of the symposium and to Seton Villa Retirement Centre and Valleyview Hospital for the services they provided.

Gloria M. Gutman, Ph.D.
May, 1982.
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Canada has recently joined the ranks of the old nations or societies. Demographers refer to societies as "young" when less than 4 percent of the population is 65 and over. In Figure 1, pyramids A and B are examples of the typical population structure of young societies or nations. A society is called "mature" by demographers when 4 - 7 percent of the population is 65 and over (Pyramid C in Figure 1). Finally, societies are referred to as "old" or "aged" when those 65 and over exceed 7 percent of the population (Pyramids D-F).

All of the pyramids in Figure 1 extend well beyond age 65, as a matter of fact approximately the top third of each pyramid refers to the population 65 and over. This is shown more dramatically if the cohorts of those 65 and over are aggregated, in which case the top bar of the pyramid becomes very elongated as in Figure 2. It is readily apparent from Figure 2 that Canada's population structure is very top heavy in comparison to young, rapid-growing societies where one typically finds the kind of structure shown in Figure 1, Pyramid A.
FIGURE 1
Source: Employment and Immigration Canada [1], Chart 11 C (ii)
FIGURE 2
ESTIMATED AGE—SEX COMPOSITION OF THE CANADIAN POPULATION, 1980

Source: Foot [2].
There are many nations now experiencing a situation in which over 10 percent of the population is 65 and over. There are even several nations where the percentage of those 65 and over is over 20 percent. Canada's population is changing in a similar direction albeit much more recently. The rate of growth in the population 65 and over is greater than for the population as a whole. Furthermore, the growth rate of the population 80 and over is greater than that of both those 65 and over and the total population.

The Certainties

There are certain statements derived from demographic studies about which one can have reasonable confidence. That is, those which may be referred to as certainties. However, there are other statements which must be considered with skepticism or, in fact, rejected entirely. These latter, to be addressed later, may be referred to as uncertainties.

The assumptions used by demographers in projecting populations are critical to our degree of certainty. These assumptions deal with fertility, mortality and migration. When dealing with the changing future age structure, all of these assumptions are important. However, in looking at projections for the population of those 65 and over there is far greater certainty, right up to the year 2046, because everyone who will be 65 or over by that year is currently alive. If one is not used
to thinking about future populations and particularly, the future aging populations in Canada, this concept bears repeating. Everyone who will be 65 by the year 2046 is alive today; consequently, one can have far greater confidence in the projections to the year 2046 for the population 65 and over than for total population projections.

Fertility assumptions, which have been among the most troublesome in projecting future population structures, have their impact on total age structures; but, not on those already born as they age. Mortality rates have remained relatively constant for long enough to give one greater confidence in projections which rely heavily on mortality assumptions. Migration estimates are extremely variable, but virtually every set of projections incorporates multiple migration assumptions from which one may select the most appropriate. Therefore, when demographers state that the rate of growth of the population over 65, (or over 80) will be greater than that of the total population, one can be very certain that the relationship will hold even if the discrepancy in rates is less than projected. For example, some demographers suggest that the rate of growth of those over 65 will be 46 percent by the year 2000, while others suggest that the rate will range from about 30 percent to 52 percent. Many demographers suggest that the total population will grow at a rate of less than 10 percent by 2000. While these percentages are not certainties, the
relationship between the two sets of percentages are certainties.

Figure 3 presents five unusual population pyramids prepared by Stone and Fletcher [3]. These pyramids show only the cohorts age 60 and over. The first pyramid, for 1960, is quite close to the traditional pyramid-shape, even though it is only for the age/sex cohorts of those 60 and over. The second pyramid is the year 1980, in other words the current structure. The third is the year 2000. The fourth is the year 2020 and the final pyramid is the year 2040. It is important to note that the pyramid for those 60 and over is following the same kind of structural change, becoming more rectangular in shape, as is the total population pyramid.

The key to Figure 3 is important as the cohorts are identified in terms of family-building which is critical to understanding future populations. For instance:
- mainly responsible for family-building during the roaring 20's;
- mainly responsible for family-building in the World War I decade;
- mainly responsible for family-building in the first decade of this century;
- mainly responsible for family-building in the closing years of the 19th century.

And further: principally engaged in World War II; principally engaged in building families during the Great Depression; the Baby Boom parents; the Baby Boom; and the Baby Depression or the children of the Baby Boom generation.

While this is a slightly different orientation than what one may be used to in terms of population pyramids, for
Figure 3

Partial Age Pyramids for the Population Aged 60 and Over by Sex, Canada, 1960-2040

Source: Stone and Fletcher [3]

Cohort
- 1. Mainly responsible for family building during the Roaring Twenties
- 2. Mainly responsible for family building in the World War I decade
- 3. Mainly responsible for family building in the first decade of this century
- 4. Mainly responsible for family building in the closing years of the 19th Century
- 5. Principally engaged in World War II
- 6. Principally engaged in building families during the Great Depression
- 7. Baby Boom's parents
- 8. Baby Boom
- 9. Baby Depression (mostly children of the Baby Boom generation)
the specific purpose of looking at population aging in the context of those 65 and over, it can be very useful.

Using the same key, it is important to look at the total age structure in Canada over part of the same period. (See Figure 4). The top third of each pyramid in Figure 4 is the portion that was dealt with in detail in Figure 3.

While one can be quite certain about those who will be old over the next 65 years, one cannot express this group as a percent of the total population without considering fertility over the next 65 years. Demographers have not been as successful in this as in other projection activities. In discussing 1960 and 1980 we can talk with certainty about the total age structure. However, when discussing the year 2000, it is necessary to project the existence of those persons who are not yet born. Consequently, one must assume the fertility behaviour of those people who are now in the youngest age groups.

Statistics Canada provides several pyramids based on the use of alternative fertility assumptions for the projections. Two of the alternatives are displayed in Figure 4. The difference shown is between a maintenance fertility rate (alternative A) and a diminishing fertility rate (alternative B). It is important to note that the impact of these alternatives is not just at the bottom but, of course, in the total structure of these pyramids.
FIGURE 4  
AGE PYRAMIDS BY SEX, 1960, 1980 and 2000  
Source: Stone and Fletcher [3].  

[Diagram showing age pyramids for 1960, 1980, and 2000, differentiated by sex.]

- Baby Boom
- Baby Boom's parents
- Principally engaged in World War II
- Principally engaged in building families during the Great Depression
- Mainly responsible for family building during the Roaring Twenties
- Mainly responsible for family building during the World War I decade
- Mainly responsible for family building in the first decade of this century
- Mainly responsible for family building during the closing years of the 19th Century
- Baby Depression (mostly children of the Baby Boom generation)
- Grandchildren of the Baby Boom generation
Barring major disasters such as war, famine or disease, one can have reasonable confidence in how the current population will age and what the structure of the future aged cohorts will be. The sex ratios, distribution of marital status, of residence locations, of language or ethnic groups, and of educational levels of the older population are reasonably assured for the next 50 years. However, the projected fertility rates beyond 1991 (only ten more years), or the children of the Baby Boom (See: Figure 1) are to be viewed with much greater skepticism. Therefore when someone says that the population 65 or over will constitute 15 percent or 18 percent or 22 percent of the population of Canada by the year 2011 or by the year 2031, one must be wary. Such a statement is based on imputing fertility behaviour to the grandchildren of the Baby Boom, i.e. to the children of those who are not yet born. Predicting or projecting fertility behaviour for that group is at best risky and at worst unreliable.

It can be useful to review how Canada has become one of the "old" societies. In the past, infant mortality was any population's major problem; life expectancies were reasonably short. Of course there were survivors in every era who are recalled in the tales of old people from literature and histories; but, these were the exceptions. Today, the survivors have become the rule. That is, the relatively dramatic increase in the percentage of the population over 65 differs in structure
from the top row of Figure 1 to the bottom row. These increases have not derived from new knowledge in geriatric medicine, but rather because so many Canadians have survived infancy, childhood and early adulthood, including the risks of occupational, military and maternal mortality, in order to be old.

The life expectancies at birth among people in developing societies are still less than 50 years of age today. The current life expectancy at birth in Canada is 69 years for males and 77 for females. The longer the members of a population cohort survive, the better are their chances for survival. Among those 60 years old today, women can expect to live another 22 years, to age 82, men another 17 years, to age 77. As shown in Figure 5, life expectancy at 65 is 18 years for women and 13.5 years for men, and at 80, about 8 and 6 years. These comparisons point out the gap between males and females, and that the gap between males and females narrows over the life span although the probability of survival for both sexes increases over that span. It should be noted that demographers are beginning to point out some slight improvement in mortality rates among the older adult population but the impact of such changes are and will be minimal over at least the next 30 if not 50 years.

This is perhaps the time to note that females are better survivors than males at all ages. Consequently, the older the cohort in question the larger the number and percentage of females. Most readers will probably
FIGURE 5
LIFE EXPECTANCY AT SELECTED AGES BY SEX, CANADA, 1951 TO 1976

Source: Statistics Canada [4]
have visited a nursing home and been struck by the overwhelming imbalance in the sexes among the residents. Looking at the average age of nursing home residents, the disproportionately large number of women should not come as a surprise. The men have long since died or are the "exceptions", the hardy survivors of the old tales and not to be found in nursing homes.

Another issue of concern, in part related to the sex ratio of those over 65, is the occurrence of widowhood. Figure 6 portrays the situation in Canada of many more widows than widowers. In part, this is related to the longer survival of women; but, it is also related to the typical pattern of marriages. That is, men tend to be older than their spouses. Further, most widowers tend to remarry shortly after being widowed while older widows remarry far less often. Again, this is, in part, related to the sex-ratio but also to societal conventions. Consequently, while almost 75 percent of all men aged 65 and over are married and 15 percent are widowed; among the women approximately 40 percent are married and almost 50 percent are widowed.

Canada's sex ratio at the present time is 77 males to 100 females aged 65 and over which is higher than the U.S. and higher than many of the developed nations. Our higher sex ratio is the result of a large, predominantly male immigration wave in the early decades of this century. Pyramid B in Figure 1, which shows the 1911 population structure, illustrates this phenomenon (see
FIGURE 6
MARITAL STATUS OF PERSONS 65 AND OVER, 1976

Source: Statistics Canada [5].

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<th>Sex</th>
<th>1901</th>
<th>1911</th>
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<th>1931</th>
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<td>Males</td>
<td>138,913</td>
<td>170,613</td>
<td>214,964</td>
<td>294,550</td>
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<td>551,303</td>
<td>674,117</td>
<td>781,865</td>
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<td>Females</td>
<td>132,288</td>
<td>164,704</td>
<td>205,280</td>
<td>281,526</td>
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<td>534,970</td>
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<td>Ratio of males to 1,000 females</td>
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<td>1,031</td>
<td>940</td>
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male bulge at ages 30-39). The cohorts, as they age, reflect the impact of that early predominantly male influx of immigrants. In succeeding years, that is since 1916, Canada has lacked a similarly male dominated wave of immigration. More recent immigration has seen a shift to both male and female immigrants which does not have as much impact on the labour force age structure or the aging age structure. Therefore the artificially higher sex ratio will change rapidly over the next 20 years as the majority of the male immigrants from that early wave pass through the population structure. The accompanying shift in the sex ratio of those over 64 can be expected to be very dramatic.

The recent drop in the birth rate has contributed to the larger percentage of the population being in the older cohorts. If the birth rate had been maintained at the level of the Baby Boom, the increased numbers surviving to old age would have been offset by the higher birth rate and younger cohorts and hence would be a smaller percentage of the total population. In other words, if the top third of the pyramid stayed exactly the same numerically but the bottom third was larger, the percentages of those over 64 would be smaller.

Similar to the rest of the developed nations of the world, Canada's birth rate has dropped and consequently the population structure is aging more rapidly than in the past. The same decreased birth rate trend is beginning to be experienced by developing nations. Infant
mortality and maternal mortality rates are also dropping very rapidly in developing nations. When these decreases are coupled with a diminishing birth rate, the survival of cohorts will create a broader mid-section to the pyramids and very quickly an increase in the aging section of the pyramids. Over the next 50 years the population structure will be aging much more rapidly in developing than in developed nations.

The Uncertainties

Among the most typical indicators used by demographers in relating age structures to economics are dependency ratios. Figure 7 presents the youth dependency ratio, the aged dependency ratio and the total dependency ratio for Canada from 1851 to the year 2001. The youth dependency ratio relates those under age 15 or 20 to those in the labour force age group. A major problem is that the "labour force age group" has multiple definitions: 15-59; 15-64; 20-64; or 20-59, are just four of these age definitions; there are others. (In Figure 7, youth dependency is the ratio of those under 15 to those 15-64.) In the case of the aged dependency, the same problem exists. The aged dependency is calculated as a ratio of those 60 and over, or those 65 and over, to those in the labour force age group again using any one of the many definitions. (In Figure 7, aged dependency uses those age 65 and over as a ratio of those 15 to 64.) Total dependency represents those in the child dependency
FIGURE 7
CANADIAN DEPENDENCY RATIOS, 1851-1971, WITH PROJECTION TO 2001

Source: Employment and Immigration Canada [1], Chart 11C(iii).

Key assumptions:
1—Fertility rate 1.80
2—Net annual migration: 100,000(+)
plus the aged dependency as a ratio of the total labour force age group. It is important to note and remain constantly aware of the variations in definitions.

Perhaps because the dependency ratio is easy to calculate or perhaps because it can be easily understood by lay persons, it is over-used and its ease is deceptive. Dependency ratios are probably among the most inappropriate indicators that we have. What does the relationship of one age group to another tell us about economic dependency? Further, is it economic dependency that is important? There are other kinds of dependency; for example, familial dependency, societal dependency and "manpower" dependency. There are a whole host of different definitions of what dependency means. In other words, not only are there different cohort descriptions or operational definitions, there are also different conceptual definitions of what constitutes dependency in the first place.

Figure 8a includes the two most usual measurements of familial aged dependency. The first example is the number of those 80 and over as a ratio of those age 60-64, and the resulting ratio for Canada for 1980 is 45. The other familial aged dependency ratio, which is somewhat more frequently used, is the number of those 65-84 as a ratio of those 45-49, in which case the ratio is 165. The societal or economic aged dependency is usually measured as those 65 and over divided by those 15-64. In this case, the aged dependency ratio in Canada is 14. If
### FIGURE 8a
**DEPENDENCY RATIOS BY TYPE, CANADA, 1930 to 2000**

**SOURCE:** Statistics Canada [6,7].

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<th>Years</th>
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<td>9</td>
<td>17</td>
<td>n/a*</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>1950</td>
<td>30</td>
<td>137</td>
<td>12</td>
<td>22</td>
<td>n/a</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>1960</td>
<td>38</td>
<td>129</td>
<td>13</td>
<td>23</td>
<td>20</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>1970</td>
<td>43</td>
<td>129</td>
<td>13</td>
<td>24</td>
<td>20</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Projections</td>
<td>1980</td>
<td>45</td>
<td>165</td>
<td>14</td>
<td>25</td>
<td>20</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>1990</td>
<td>53</td>
<td>173</td>
<td>16</td>
<td>27</td>
<td>n/a</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>2000</td>
<td>69</td>
<td>143</td>
<td>17</td>
<td>28</td>
<td>n/a</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*n/a means data not available

### FIGURE 8b
**"MANPOWER" OLD AGE DEPENDENCY RATIOS,* CANADA, 1966 to 1976**

**SOURCE:** Statistics Canada [7].

<table>
<thead>
<tr>
<th>Years</th>
<th>&quot;Manpower&quot; Old Age Dependency Ratio</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Historical</td>
</tr>
<tr>
<td>1966</td>
<td></td>
</tr>
<tr>
<td>1971</td>
<td></td>
</tr>
<tr>
<td>1976</td>
<td></td>
</tr>
</tbody>
</table>

*"Manpower" old age dependency ratio is the ratio of the population aged 65 and over not in the labour force to the population aged 15 and over in the labour force. The projected values for this ratio implicitly hold constant the average unemployment rates of 1975-77. The ratios are shown as percentages.*
one calculates the aged dependency ratio as those 60 and over divided by those 20-59, the dependency ratio is 25. There is also the possibility of a little more accuracy by calculating aged dependency on the basis of those 65 and over and not in the labour force divided by those 20-64 in the labour force, in which case the resulting ratio is 20. These are all 1980 figures; the aged dependency may be 45, 165, 14, 25, or 20 depending on the aged dependency calculations. Figure 8b is another "manpower" aged dependency ratio where: "The manpower ratio is measured as those 65 and over not in the labour force divided by those 15 and over (not 15-64) in the labour force". In this case, one is dealing with those out of the labour force and over a particular age (65 and over) related to those within the total labour force including those 65 and over. The most recent data available for these calculations were for 1976 and the ratio was 18. This is close to the 20 derived in the previous calculation; but, it is different.

The variation in these data speaks for itself; but, the most important issue is what do gerontologists want to know? That is, what can best be answered by the use of any one or several of these dependency ratios? The most frequent response to that question is: what is our aged population costing us? Or, what is the comparative societal cost of raising our youth and caring for our aged? Or, can we afford our aged population (and our youth)? Or our youth? Or both? All of these
conceptualizations are based on a belief that as long as the total dependency ratio, that is the sum of the aged and youth dependency, does not exceed the "magic" number of 100 (or perhaps 75, or maybe 90 or 110), then we can afford the component levels of dependency in our society.

The purpose of this discussion has not been to deny that society needs to know how much it costs to raise its youth, or to care for its aged, or to know how society's public and private funds should be or might be allocated. We really need to know much more about these costs. However, knowing what really constitutes dependency and what societal and generational exchanges take place in Canada is more important than trying to rely on some quick formula. Further, total dependency is the ultimate concern and recalling the problems noted earlier in accurately projecting fertility rates, the youth dependency ratio is problematic. Consequently, the total dependency ratio is even more problematic.

Research Issues

Having presented many of the problems related to demography and population aging, the final section of this paper identifies some research issues. To be dealt with first are those issues which can be enhanced or clarified by the use of demographic knowledge; second, those which demography leads us to study; and third, some issues for which demography is unnecessary or inappropriate.
As shown in Figure 9, research issues that can be enhanced by demography include those related to urbanization and residential densities; societal dependencies and family structures; the 4 percent or 6 percent fallacy in long-term care; age structures, specifically of labour force and institutions; and who will people our society.

In the case of residential patterns, the first issue that can be enhanced by demography, the current impact of urbanization is a major concern. Demographers are able to identify several aspects of what is happening. For example, Figure 10 shows urban patterns from 1800, 1900, 1950, 1975 and projected for the year 2000 for cities of 5,000 population or more compared with those of 100,000 or more. Between 1975 and the year 2000, these areas are projected to change in their relationship to one another. The demographer can also shed some light in terms of residential density.

The questions that demographers ask social scientists are critical because they call our attention to inconsistencies in population based data. For example, in terms of urbanization and residential densities demographers ask the social scientist to explain what is happening with the future of various sized communities. If demographers make a linear projection and if they make the simplistic direct computation from the urbanization data on a world-wide or national scale, the result would be that all communities 5,000 and over will grow or will
### FIGURE 9
RESEARCH ISSUES IN POPULATION AGING AND THEIR RELATIONSHIP TO DEMOGRAPHY

<table>
<thead>
<tr>
<th>Issues</th>
<th>Enhanced by Demography</th>
<th>Raised by Demographers</th>
<th>Demography Unnecessary</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Residential patterns</td>
<td>a) current impact of urbanization</td>
<td>a) future of various sized communities</td>
<td>a) psychology of migration</td>
</tr>
<tr>
<td></td>
<td>b) residential densities</td>
<td>b) &quot;return migration&quot; phenomenon</td>
<td>b) migrant behaviours</td>
</tr>
<tr>
<td>2. Dependency Ratios</td>
<td>a) societal dependency</td>
<td>a) definitions of dependency</td>
<td>a) costs of dependency; e.g. raising children and caring for aged</td>
</tr>
<tr>
<td></td>
<td>b) family structures</td>
<td>b) familial and manpower dependency</td>
<td>b) family or societal inter-generational exchange principles and economics</td>
</tr>
<tr>
<td>3. Long-Term Care</td>
<td>a) 6% fallacy vs. 25% use long term care</td>
<td>a) sex ratios in planning long term care</td>
<td>a) components of long term care</td>
</tr>
<tr>
<td></td>
<td>b) can we afford institutional care vs. community care with time to plan</td>
<td>b) living arrangements in planning long term care</td>
<td>b) delivery mechanisms in long term care</td>
</tr>
<tr>
<td>4. Age Structures</td>
<td>a) structure of specific labour force; e.g. physicians, engineers</td>
<td>a) can we afford: pensions, mandatory retirement, pediatric training, etc.</td>
<td>a) appropriate curriculum modification</td>
</tr>
<tr>
<td></td>
<td>b) structure of institutions, e.g. university enrollments</td>
<td>b) chronological vs. functional age</td>
<td>b) accurate job analyses</td>
</tr>
<tr>
<td></td>
<td>c) structure of policy targets; e.g., mother's allowance, pensions</td>
<td></td>
<td>c) measurement of functional age</td>
</tr>
<tr>
<td>5. Individual Level</td>
<td>a) who will people our society, our cities, our schools, our institutions in next 10-30 years</td>
<td>a) the period vs. cohort vs. aging effect controversy</td>
<td>a) development of the individual; e.g. developmental tasks or stages</td>
</tr>
<tr>
<td></td>
<td>b) what will they be like: identifying group characteristics</td>
<td>b) macro-longitudinal methods; e.g., time series analyses</td>
<td></td>
</tr>
</tbody>
</table>

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FIGURE 10
WORLD URBANIZATION, 1800-2000
Source: Employment and Immigration Canada [1], Chart 11 B(1)
diminish at the same rate. But, the demographer notes that historically this did not happen. Further, current urbanization or lack of urbanization, out-migration to the hinterland, etc, is occurring at different rates in different sized communities, in different ways and in different directions in each of our provinces. No two provinces in this country are alike in terms of the way in which they are urbanizing or deurbanizing and both phenomena are occurring simultaneously in certain provinces. What theoretical knowledge can social scientists bring to bear on the explanation of these phenomena?

Residential densities make marked differences in the way in which we approach the population structure in a given community.

Furthermore, it is imperative to look at the issue of where migration is occurring and what that migration is. Does everybody retire to the west coast? In fact, there are many people who do not. Furthermore, of those who do retire to the coast, for some there is a return migration. Ten to fifteen years later at least one of the couple, usually the widow returns to be with family and friends. What are the implications for the west coast and for non-coastal areas of this reverse or return migration? The situation on the east coast is very different. Has anyone ever retired to P.E.I. who has later returned from P.E.I.? No, because what happens is that the labour force migrates out of P.E.I. and returns
to P.E.I. to retire.

It is necessary to point out that demography will not raise questions nor be useful in all aspects of migration. Researchers need to know a lot more about the psychology of migration, or of migrant behaviour. For example, regardless of age, why do some people migrate and others not?

The second issue category deals with dependency ratios. Societal dependency, discussed earlier in this paper, identified the multiple measures of dependency which demographers have developed in order to find answers for the multiplicity of questions posed by social scientists and policy makers. Also, in dealing with familial dependency, demographers have enhanced our knowledge of family structures. Familial dependency, as a special form of dependency ratio, is based on the structures of families as they move through the population structure or pyramid.

The major question being raised by demographers as a result of their dependency ratio activities is: what is the definition of dependency? Demographers need to know what the social scientist means, in operational terms, by familial dependency, manpower dependency, etc. The demographer also asks the social scientist to begin to study family process along with family structure. Demographers note that familial dependency is not just the product of structure, it is the product of processes as families age and as families change.
The demographer is probably unnecessary when determining the costs of dependency. As most demographers are not economists, it is inappropriate for them to provide economic answers. The task of converting dependency ratios to statements of the cost of dependency should be undertaken by economists. Such cost determinations must include the familial or societal exchange principles that are involved. It should be noted that neither balance theory nor exchange theory are of theoretical concern to demographers and that these principles need to be dealt with by the appropriate disciplines.

The next research issue relates to long term care. Some time ago demographers noted what is referred to as "the 4 percent or 6 percent fallacy". (It has been labelled the 4 percent fallacy in the United States and the 6 percent fallacy in Canada; but in both countries it is the same issue.) That is, they noted that on average six percent of the population aged 65 and over, at any given time in Canada, reside in a long-term care facility. But, it is equally true that 25 percent of the total Canadian population will require long-term care sometime during their life. The arguments that can be based on the 6 percent as opposed to the 25 percent findings are very different. What the demographer asks is: can we afford institutional care as opposed to community care?
Demography and demographic studies have provided social scientists and policy makers the necessary lead time to plan for population aging.

One of the questions that demographers ask is: what is society doing with its planning time? Related to this question are those of the sex ratio and the preferred living arrangements of our aging population in terms of planning for long-term care. On the other hand, demography is unnecessary or inappropriate to the components of, and mechanisms for the delivery of long-term care.

The fourth research issue relates to age structures which may be subdivided into the age structures of specific labour forces, institutions and policy targets. All of these are areas in which the demographer can greatly enhance our knowledge. The demographer, for example, has pointed out future enrollment changes in our universities. Are our universities planning for these changes? The average age of certain medical specialists is very different from medicine in general. Persons in certain occupations are far older on average than the labour force in general. What, one must ask, are the implications of these findings for training, now and in the future?

Can we afford pensions? Can we afford mandatory retirement? Can we afford pediatric training in our medical schools? Can we afford chronological vs. functional age discrepancies? Questions such as these,
raised by demographers, have non-demographic answers. They require the attention of social scientists. There are social science theories and methods that can be used to approach each of these; the research must be undertaken now. The demographer is unlikely to be useful in measuring functional age.

The fifth and last research issue area relates primarily to aggregates of individual level data. Demographers can enhance our knowledge concerning who will people our society, our cities, our schools and our institutions over the next 10 to 30 years or more.

Related to aggregated individual level data, there are several questions raised by demography. It was a demographer who initially raised the period vs. cohort vs. aging effect controversy which is still unresolved. Demographers also have been involved in macro-longitudinal methods and time series analyses. In other words, some research methods are more typically used or developed by demographers. Demography, on the other hand, is certainly unnecessary in studying the development of the child or adult as individuals; that is, in studying developmental tasks or stages.

Another area which requires comment is the demographer's special concern with censuses, health surveys and other large scale or macro surveys. Most especially they are concerned with censuses -- their use, their analyses and interpretations, projections, the adequacy of samples and sampling techniques. This latter
issue is a particular concern of most demographers and one for which they have special skills. If a social scientist wants an accurate sample, it would be wise to confirm it with a demographer. Demographers deal on a daily basis with the necessary relationships of sample size to the various kinds of characteristics of the particular issues being addressed. How many social scientists use demographers for this purpose? Demographers ought to be, and most of them are, eager to be used in this manner.

In summary, there are appropriate areas in which to use demography, there are appropriate ways in which demographers can raise questions and there are also areas which are clearly outside the realm of demography. Having identified some issues, it must be noted that these do not exhaust the issues relating to or appropriate to a population which is aging, nor to gerontology, or to the multi-disciplines represented within gerontology and concerned with population aging. Further, demography or demographic techniques are simply some of the research tools which are available to use. All our tools must be exploited in order to enhance our research knowledge and answer our policy questions.
REFERENCES


SOCIAL IMPLICATIONS OF CANADA'S CHANGING AGE STRUCTURE*

John F. Myles
Department of Sociology
Carleton University

We have gathered here to discuss Canada's future, that is to engage in social forecasting. Given the past record of the social sciences in such exercises it is a task which we should be approaching with considerable humility. There is good reason, of course, why social forecasting has had a patchy track-record, both in the past and the present. No sooner do we announce our projections for the future than the rest of mankind, it seems, sets out to prove us wrong. Social forecasting is an assessment of social probabilities, but the probability distribution upon which our forecasts are based is subject to change by human intervention. Indeed the demand from politicians and the business community for projections of future events -- especially undesirable events -- originates precisely in their desire to avoid such outcomes.

All of this is by way of cautioning against taking the projections of our demographic future with more seriousness than they deserve. The probability that 18-20 percent of Canada's population will be over 65 in

*Portions of this address were extracted from "Population Aging and the Elderly" by J.F. Myles and M. Boyd to be published in D. Forcense and S. Richer (eds.) Issues in Canadian Society, 2nd Edition, Prentice Hall of Canada Ltd.
50 years or so is high but not inevitable. If it is determined that this is an undesirable state of affairs, it is an outcome which policy-makers can avoid, for example, by increasing the flow of young immigrants to Canada.

Another potential confounding factor is fertility. Just as the glut of children produced in the years of the Baby Boom led to a devaluation of large families, so too might a youth shortage generate a demand for children which would increase fertility rates beyond those upon which current population projections are based. Already, Margaret Thatcher's efforts to cut back on welfare state expenditures have been undermined by an unexpected rise in fertility in Britain which in turn has exploded the projected costs of child allowances.

A further reason to approach our discussion of the consequences of population aging with caution is political. After years at the bottom of the academic hierarchy, social gerontologists are now reveling in the attention they are receiving as everyone, it seems, has discovered the so-called "crisis" of an aging society. But, as the example of the United States has already demonstrated, the principle benefits of crisis-mongering in connection with societal aging have accrued to the neoconservative intellectuals and politicians who are bent on dismantling the welfare state. They have discovered that this can only be accomplished by cutting back social security for the elderly, the single largest component of welfare state expenditures. As a result,
the American public has been subjected to a highly suc-
cessful barrage of propaganda. It is claimed that only
if cut-backs are begun now can the future bankruptcy of
the social security system be avoided.

However, I was not asked to tell you that the
population projections in question are likely to be
wrong, but to discuss what the likely consequences will
be if they are right. I, for one, think that the
projections are in the right direction, if at times
somewhat exaggerated. They are exaggerated because
unless the economic effects of an aging population prove
to be extremely fortuitous, I fully expect some form of
social and political intervention to prevent the
realization of the more extreme projections. If they are
in the right direction it is incumbent upon us to reflect
upon their implications. Even if they are not, it is
imperative that we recognize that the social consequences
of population aging lie not somewhere in the distant
future but are already with us.

We should already be aware of the consequences of
societal aging since Canadian society has been getting
older since its inception. In 1851, 2.7 percent of the
population was over 65; by 1901, 5 percent; by 1951, 6.7
percent and in 1980, 9 percent. Canadian society, in
other words, has been aging continuously and what lies
ahead will not be a novel experience but a continuation
of a process which has been going on, with only brief
interruptions, for over a century. Moreover, if we want
to discover what lies in our future we can examine those countries which are already "old" by demographic standards. Sweden, Austria and Germany already have elderly populations which exceed 16 percent, a figure which is not far from what Canada can expect forty or fifty years hence. In short, to talk of the aging of Canadian society is not to talk of the unknown but rather to address a process with which we have considerable familiarity, and for which there exist historical precedents.

In the remainder of this paper I hope to accomplish two things. First I shall attempt to convince you that the more dire scenarios projected for Canada's future as a result of population aging are, in fact, little more than flights of fancy. There is little evidence, in my opinion, to support the view that the aging of Canada's population must inevitably result in economic stagnation, break the "national bank" or produce unprecedented levels of intergenerational hostility and conflict.

Secondly, I hope to persuade you that the real crises of an aging society do not lie somewhere in the murky future but are already with us. Virtually all of our social institutions are organized by and for a youthful population and are ill-suited to meet the needs of today's elderly, much less those of the future elderly. Adjusting our social institutions to meet the needs of an aging society will generate conflict but not between the old and the young. Rather, the conflict will emerge, and
indeed already has emerged, within those social groups whose social, political and economic interests are rooted in a set of social institutions designed to service a youthful population.

The Crises of an Aging Society

The problems usually imputed to an aging society are both political and economic. The increased costs of supporting an older population, the effects on productivity and the blocked mobility channels for younger workers, so it is argued, all serve to generate new social conflicts between the old and young, a conflict which Kingsley Davis [1] has recently characterized as an inter-generational "class struggle." The image invoked is that of a society where embittered grandparents do daily battle in the streets with their overtaxed and ungrateful offspring. In order to evaluate this scenario, it is important to separate its several components. The first component concerns the amount of wealth an "old" society is able to produce in comparison to a "young" society; the second concerns the distribution of that wealth; and the third concerns the likely political consequences of that distributional process. I want to consider each in turn.

The concern with the negative effect an aging population has on the capacity of a nation to generate wealth — that is, on its productivity — is not new. According to William Graebner [2], it is Sir William
Osler, a Canadian, who ought to be credited with the first systematic articulation of this position. In 1905, Osler proclaimed the uselessness of men above forty years of age. "Take the sum of human achievement in action, in science, in art, in literature -- subtract the work of the men above forty" he proclaimed, "and while we should miss great treasures, even priceless treasures, we would practically be where we are today"[3]. While Osler's concern was with older workers and the necessity of removing them from the labour force, the implication of such a view for societies with a growing number of older men and women was not missed.

According to Achenbaum [4], concern with the economic consequences of a "nation of elders" began to appear with some regularity by the 1920's. But it was largely the demographers who began to define the problem in a formal analytical way. In 1948, Alfred Sauvy [5] discussed the economic stagnation which would follow the "demographic stagnation" of an aging society. Entrepreneurship would suffer since the energetic section of the labour force, the young, would be denied access to the positions of power and influence necessary to exercise their creative powers. In a report prepared during World War II, a group of Princeton demographers [6] noted the problem of post-war industrial economies faced with aging populations in an economic system where maximum productivity was assumed to be reached by "men under 35".

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In short, for societies in which political, economic, and social stability are predicated on economic growth and ever-increasing accumulation of wealth, an aging population is seen as constituting a singular danger. With demographic stagnation, so Sauvy argued, came economic stagnation. Elements of this view of Canada's economic future were expressed by the Economic Council of Canada [7] in its report on pensions entitled, One in Three.

I, for one, find it difficult to take these concerns very seriously. The dire effects of an aging population on a society's capacity to produce wealth do not sit easily with either the historical record or contemporary examples of "old" societies. The rapid aging of the European population in the twentieth century corresponds to the most rapid period of economic growth in history. Nor do the examples of the "oldest" populations of Western Europe -- Austria, Germany, Sweden -- provide much support for the view that population aging must lead to economic stagnation. It is difficult to reconcile the view that population aging depresses creativity or the entrepreneurial spirit when one compares the economies of "old" countries such as Sweden and Austria with that of a "young" country like Canada.

But perhaps the more critical question is whether current and projected levels of productivity will be adequate to support an elderly population which, in relative terms, will be more than twice the size of
today's elderly population. Will we not in fact have to
dramatically increase productivity simply to maintain the
same standards of living we have today? To address this
issue it is important to recognize that the process of
population aging has two sides to it. As the elderly
increase to 18-20 percent of the population, the
population of young people -- those 17 years of age and
under -- is projected to decline from approximately 30
percent today to less than 20 percent of the population
in 2031. The result is that the relative size of the
working age population in 2031 will be almost identical
to today's level and in fact will increase between now
and 2010. In sum, the total dependency ratio will actu-
ally go down for the next thirty years or so and then
rise again but only back to current levels. The tricky
question then is whether the savings produced by a
decline in the number of young people will offset the
costs of a growing older population. It is the changing
composition of the dependent population, not its size,
which is the issue for the future.

The usual strategy in evaluating this shift in the
composition of the dependent population is to compare
public expenditures on the young with public expenditures
on the old. The figure typically presented is that, on
average, state expenditures on the elderly are
approximately three times state expenditures on the
young. Hence it is concluded that the declining
expenditures on the young will not offset increasing
expenditure on the old. But all that is being measured in such an exercise is what passes through the public purse, not what the costs are to the economy as a whole. To assess the situation we need to measure both public and private expenditures on both young and old. This is a matter which has not been well studied but at least one German study [8] has concluded that the total cost of raising a child to age twenty is one-fourth to one-third higher than that of supporting someone who is age 60 for the rest of his or her lifetime. And those of you with children of that age are well aware that the costs of child-rearing rarely stop at twenty.

Thus, the real issue, it seems to me, is not the level of wealth available to support an aging population but rather its distribution. Whereas the distribution of resources to the young primarily is done privately within the confines of the household, distribution to the elderly is largely done by the state. Transfers to the young are in the realm of private choice; transfers to the old are made by the state through a system of obligatory taxation. Thus the changing composition of the dependent population means a growing role for the state and considerable expansion of the state budget. The evidence for this is already available in the older Western European countries and, I suspect, is the principle concern of the business community and those conservative intellectuals for whom further state encroachment on the market is an evil to be avoided at
all costs.

But will the public recognize what is occurring and accept the higher tax rates which will be required to support an aging society? Could this not produce the intergenerational "class struggle" to which Kingsley Davis alludes? Again the comparative evidence is instructive for it indicates that we have a long way to go before we can expect a taxpayers' revolt and the creation of a major political fault line between age strata. Throughout the seventies, the United States was spending about 4 percent of GNP on old age pensions, the Netherlands about 6 percent, Sweden about 7 percent and Germany about 8 percent. But Canada was spending only 3 percent. And all of these foreign pension systems were being financed by populations whose real standard of living is considerably lower than that which can be expected for Canada in the next century.

Another way to assess the situation is to compare effective tax rates on earnings in support of the elderly. In 1976 the effective tax rate on earnings to support the public pension system in Canada was only 6.1 percent [9]. Comparable tax rates in 1978 were 12 percent in the United States, 18 percent in Germany, 20 percent in Sweden, 23 percent in Italy, and 25 percent in the Netherlands [10]. In none of these countries have there been signs of battle in the streets between young and old. Indeed, according to Wilensky's [11] estimates, countries such as Sweden, Austria and Germany with the
largest elderly populations, and some of the most generous pension systems in the advanced capitalist countries, have experienced the least amount of social backlash against the expansion of the welfare state and the tax required to finance it.

I do not mean to imply that there will be no intergenerational conflict in the years ahead, only that the experience of countries such as Germany, Austria and Sweden indicates that there is no necessity for it to emerge. I believe there are very good reasons for solidarity between old and young, especially on economic issues. First, the elderly are the elderly parents of the younger generation of producers. In the absence of adequate state support, the demand on the younger generation to provide for their aging parents would be direct and without the advantages of the "pooling of risk" which a centralized system provides. Second, the middle-aged have a self-interest in supporting a strong pension and social service system for the elderly since they can expect shortly to require these themselves. Finally, in the absence of an adequate income system for the elderly, the demand from older workers to remain in the labour force longer will increase, blocking up mobility channels and career opportunities for the young.

But if I do not expect the aging of the Canadian population to produce an intergenerational class struggle, I do expect it to produce a multitude of other forms of struggle and conflict. These struggles will be
reflected in virtually all of our core social institutions and some of these struggles are already upon us.

Where I expect the effects of population aging to be expressed is among different sectors of the younger producing population -- professions, occupations, social institutions -- which are dependent on a particular demographic dynamic and age structure for their power and influence. As the population ages, there is an increasing lack of fit between the institutional infrastructure of Canadian society and the population it serves. Designed primarily to service a youthful population, Canada's major social institutions never have been particularly well suited to meet the requirements of the elderly, and as the numbers of elderly increase this inadequacy becomes more apparent. This growing lack of fit between social institutions and population structure is a source of strain which generates pressure for institutional adaptation and change. Such efforts at adaptation lead to conflict since they require major reallocations of resources away from some sectors and into others. As a result, existing bases of power are eroded and new ones created.

I should like to begin my elaboration of this point by briefly considering an example which is close to our own experience, namely that of the educational system. This may seem somewhat out of place in a discussion of population aging. However, it is true by definition that
if the relative number of old people is increasing, the relative number of young people is decreasing and herein lies the origins of the current "crisis" of the educational system. I think it is useful to reflect upon some familiar facts which characterize this crisis as a way of anticipating the sorts of consequences we can expect in other institutional sectors in the future.

The immediate causes of the crisis are easily discernible. During the expansionary sixties, a system of allocating funds based on the number of student enrollments became firmly entrenched. As long as enrollments were growing, such a system was welcomed by educational institutions. Increased enrollments brought economies of scale and schools were able to expand the quantity, range, and quality of educational services. Academic salaries were also significantly enhanced. With the contraction in enrollments, this process was reversed. Political elites demanded that the rules of the game be followed and that a reduction in clientele be followed by a corresponding reduction in educational services. Threatened by layoffs and lower salary increments, the teaching profession responded with unionization, strikes and a generally increased level of militancy.

It is instructive to reflect upon this response of the teaching profession. First, their militancy was directed at the local community and at the state. They might have lobbied against the increased allocation of state and
social resources to the elderly but they did not. In effect, conflict was generated but not intergenerational conflict.

Even more instructive perhaps is the fact that the age group most directly affected, namely the young, did not respond to the cutbacks with a great deal of militancy but rather with a level of docility not seen among students since the fifties. In effect, the conflict which was produced was not an intergenerational conflict but rather one between different organized sectors of the working age population -- the losers and the winners produced by this demographic shift.

The strategies adopted by educational institutions to this decline in demand from their traditional age constituency are also interesting to consider. Clark et al. [12] suggest that there are three alternative strategies available to the educational system: to expand services to current clientele; to expand services to new clientele; and finally to simply reduce services.

In the present context, the solution which is of most interest is the second one, namely the expansion of services to new clientele. In Canada's post-secondary institutions, this strategy has included efforts to recruit the senior adult into the classrooms of our universities and colleges. In a survey I conducted with my colleague Dennis Forcese several years ago we found that the most common arrangement has been to attempt to attract the senior adult to the campus by means of a
tuition waiver. For the most part, however, response to such inducements has been meager. The question we must ask is: why have the elderly, who have considerable leisure time at their disposal and who tend to have a strong interest in cultural, political and social affairs, generally rejected such inducements? Perhaps the most direct way of answering this question is to consider a hypothetical example.

Mrs. Smith arrives on campus and finds classes dispersed over a large area with limited facilities for getting about. The principles of credentialism which lead to the organization of academic activity around exams and the accumulation of credits are of little relevance to her. When she attempts to relax in a recreation area she is subjected to loud music which she finds noxious. And, while she may find her interaction with younger students interesting, the disparity of central life concerns and the naivety of younger students provide little basis for deep communication or the formation of intimate friendships. In effect, what Mrs. Smith is encountering is a social institution designed and organized for the young. For the elderly to participate in such institutions means they must accommodate themselves to the typical social patterns, concerns, and life styles of the young. The result is that their participation in such institutions is minimal. Where universities and other educational institutions have provided programs designed by and for the elderly,
the response has been quite different. For example, each summer at the University of British Columbia there is a special program for residents of the province aged 60 and over. In 1978, 700 elderly citizens took part.

The success of this, and other educational experiments designed for the elderly student, and the failure of traditional efforts to integrate the elderly within our post-secondary institutions provides an extreme but instructive illustration of the difficulties encountered by the elderly in most sectors of our society. The principles and concerns which underlie the organization of activities reflect badly, if at all, the needs and requirements of an older population.

In order to anticipate the sorts of strains many of our major social institutions are likely to encounter in the future, let us consider the likely implications of a major effort on the part of educational administration to service an older clientele.

The major constraint on such a program of reform, of course, would be external. Despite protestations to the contrary, there are in fact few resources available for education for its own sake in Canada. Much of the post-war enthusiasm for investing in educational facilities was based on a view of the role of education derived from human capital theory. According to this view, investment in education is an investment in human capital, just as investment in plant and machinery is an investment in physical capital. Society should expect to
reap the rewards of such investments in the form of expanded wealth and economic growth. But where there is little expectation of eventually turning a profit, as in the case of education for the elderly, there is generally little enthusiasm for such investments.

But the obstacles to such attempted reforms would also be internal. An educational system organized for the senior adult would require dramatically different educational forms and content than that which faculty have traditionally provided to the young. I suspect that there would be considerable faculty resistance if they were required en masse to alter their traditional notions of appropriate teaching methods and subject matter to appeal to an older clientele. Again the conflicts likely to be produced by such efforts would not be inter-generational but rather between university administrators bent on marketing a new product, and university faculty reluctant to give up their old product line.

But it is not just institutions suffering from falling demand which are experiencing the strain produced by an aging population. A parallel set of conflicts is being generated in those institutions experiencing a rising demand. A notable example is the health care system. Here conflicts are being generated by organized medicine's traditional bias towards curative care and relief of acute conditions whereas the health needs of an aging population require the expansion of preventive and
prosthetic care, that is, the provision of goods and services which minimize the physical, social, and psychological consequences of chronic diseases and disabilities. For the practitioner trained in the art of curative medicine, preventive and prosthetic health care are second-order activities. From the point of view of curative medicine, chronic illnesses represent the profession's failures. Hence efforts are directed at finding new cures -- with relatively little success -- rather than providing facilities and resources to enable the disabled to function at an optimal level.

The curative bias of the present health care system is apparent in the fact that there are relatively few health care practitioners specializing in the care and treatment of long-term, chronic illnesses. As Marc Lalonde [13] observed:

For a health care system whose essential motivation is based on curing the sick, the treatment of the chronically ill is not very satisfying because the treatment is long and in many cases success cannot be measured by cure so much as by controlling the disability created by a chronic condition. (p. 59)

Medical training, the prestige hierarchy in the medical profession, and the distribution of financial rewards all tend to reinforce the clinical mentality which defines "real medicine" in terms of the dramatic medical intervention which reverses the disease process.
Thus, the increased demand for health care created by an aging population requires qualitative as well as quantitative change in the health care system. An aging population requires a fundamental restructuring of the health care system and a redefinition of what constitutes health care. It is this process of restructuring the health care system, if indeed it occurs, which will produce the conflicts and struggles of the years ahead, conflicts between those health care practitioners threatened by a loss of prestige and resources, on the one hand, and the new health care specialists who will emerge to service an older population, on the other.

I believe, however, that the most profound changes and conflicts will be those experienced at the level of the national political economy as a whole; namely, in the organization and the role of the state in both production and distribution. It is at this level that policy-makers both in government and in the business community sense, if somewhat vaguely, that changes are afoot as the result of population aging. It is their uneasiness about the potential outcome of these changes which has, I suspect, led to the growing interest in the topic and the generation of support for conferences such as this.

Among the principal consequences of the aging of Canada's population during the post-war period and the spread of the retirement principle has been the creation of a major new source of capital formation in Canada, namely the pension fund. Although the economic
significance of the funds has been frequently exaggerated, they have become a singularly important new source of economic power in countries such as Canada, the U.S., Great Britain and Sweden. In Canada, for example, the reserves of the Canada Pension Plan have become the single most important source of borrowing for provincial governments. Private pension funds have become the single largest source of new investments in the stock and bond markets. Unless the Canadian pension system as a whole - both public and private - moves from a funded to a pay-as-you-go method of financing, the significance of these funds in the national economy can only increase. This has been recognized for some time in the business community and has generated what has come to be called "the great pension debate". I shall not attempt to review all facets of the debate but its primary focus is not on providing adequate incomes for Canada's elderly but on the structure of economic power in Canada and the role of the state in controlling capital formation. The basic dilemma arises from the inability of the market to provide an adequate retirement income system in Canada. This failure has been amply documented in many places and I will not elaborate on it further here. But the result of this market failure is to increasingly generate pressure for further expansion of the state system of public pensions and a reduction of the role of private plans. There is of course resistance from those firms directly involved in selling occupational pensions - the
insurance and trust companies - but not only there. The business community as a whole and their representatives in the media are equally hostile to such expansion of state pensions because of the potential loss of control over this major source of capital formation. If pensions move inside the state so too will the pension funds which finance these plans, thus at least potentially providing the state with an enormous new source of economic power over future patterns of investment and capital accumulation in Canada. Thus, the enormous reservoir of capital being produced by an aging society in the form of public and private savings for retirement has already become the focus of a major new struggle between the Canadian business class and the Canadian state as witnessed by the National Conference on Pensions held in Ottawa this spring. For the Canadian business class, there is no room for democracy in the determination of new investment flows. Even more interesting would be the potential conflicts which would emerge if organized labour in Canada were to begin to use the power implicit in the control of their members' savings in the plans to pursue their own political, social and economic objectives.

But even with the present state system of income maintenance for the elderly, a greater role for the state in the process of income distribution is virtually assured as a result of the changing age structure. As I mentioned earlier, the total costs of maintaining an old
person are no greater and probably less than the total costs of maintaining a young person in the society. However a much higher proportion of the transfers made to the old pass through the state whereas transfers to the young are made primarily within the private economy through the family. Thus, an aging society means a larger role for the state in the distribution of income. This fact has become one of the principal betes noirs of conservative economists and politicians as witnessed by the incredible attack which has been going on against the U.S. Social Security system for nearly a decade and has finally come to fruition in the recent legislative changes advanced by the Reagan administration.

Thus the struggle produced as a result of population aging has so far not been an intergenerational class struggle at all but simply a new expression of the traditional class struggle which has characterized capitalist societies since their inception -- struggles between capital, labour and the state; struggles between occupational and professional groups; and struggles within occupational and professional groups over the shifting basis of power and access to resources.

Now all of this may seem to suggest that the study of the outcomes of population aging leaves little for the gerontologist to do since the analysis of these larger social processes has traditionally been the domain of other fields of study. I would like to suggest, however, that precisely the opposite is true. The life conditions
and experiences of Canada's elderly are the effects of conflicts and struggles which are already appearing within our various social institutions as well as at the level of Canada's national political economy. In order to explain the experience of growing old in Canada both now and in the future, it is precisely our task to trace back the linkages between the typical life experiences of Canada's elderly to the struggles, and changes which are occurring in these institutional sectors. It is the task for the sociological imagination which C. Wright Mills described over two decades ago, namely that of establishing the link between personal troubles of milieu and public issues of social structure. This, it seems to me, is precisely the challenge to be met by Canadian social gerontology in the eighties.

Conclusion

I want to close with a final note of caution on the way we interpret the projections of Canada's future aging population. Since the turn of the century, Canada, along with the other advanced industrial societies, has been engaged in an historical process whose outcome was the creation of a new social category -- a population of superannuated and dependent elders. Despite its newness, we are apt to forget the novel meaning which became attached to the term "old age" in the twentieth century -- a period in the life cycle, prior to physiological decline, when productive activity virtually ceases.
Indeed it is only since World War II that the retirement principle has become virtually universal. This novel social practice was a response to the specific economic requirements of twentieth century capitalism and the peculiar labour requirements which it produced.

But history has not ended and it would be presumptuous of us to think that chronological age will mean the same thing in the next century as it does in this one. The period defined as old age, and the social relations which it entails for those so defined, has changed continuously throughout history. We should beware, therefore, of extrapolating implications for the future on the basis of what old age means today. I suspect that a major debate in the decades ahead will be not about the elderly as such but about the social definition of old age; that is, about who should be included in this distinctively modern social category and about what inclusion in this social category entails. Many advisors to the Reagan administration are engaged in this struggle at this very moment. They propose to raise the age of eligibility for Social Security to age 68 and thus, with a stroke of the legal brush, reduce the size of the elderly population by millions. The social, legal and political constituency which we call the elderly was created by social, political and economic forces; and it can be destroyed or dramatically altered by the same forces.
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3. Quoted in Graebner, ibid., p. 4.


10. Torrey, B. & Thompson, C. An International


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Professor Myles has presented us with many thoughtful comments about the social implications of an aging Canadian population from a macro economic and political perspective. I am in essential agreement with his major conclusions, which I see as being three-fold:

- that the key issue of the future, in terms of population aging, is not the actual size of the dependent population but rather its changing age composition;
- that aging of the Canadian population has been occurring throughout this century - it is not something new that will suddenly appear; and
- that there is no reason for alarm at the thought of population aging, although many of our social institutions such as the educational system, the health care system and the system of income allocation will have to adjust to a lack of fit between their structures and a changing population composition.

I will begin by making a few comments related to these conclusions, beginning with the "crisis" view of population aging. The view that sees population aging as a crisis exists for a more fundamental reason than the one that Professor Myles mentions, i.e., that political benefits accrue to some people for holding and
popularizing this view. The crisis view is a reflection and manifestation of our very cultural and ideological context. This is so in at least two ways. On the one hand, underlying the crisis view, is fear grounded in our cultural stereotypes of aging and old people. On the other hand, the crisis view is very much related to the dominant ideology of capitalism that exists in North America, particularly in the United States. While Professor Myles sees no reason to fear an increased role of the state in the distribution of wealth, I doubt that the dominant elites in either Canada or the United States would agree.

In other words, an aging population will strain the ideological underpinnings of North American society. The fact that a crisis view has surfaced is itself evidence of the initial strain.

To my mind, the crisis view represents a greater problem than any changes in age composition, per se. I am reminded of the case of Rumania in the early 1970's, where a crisis view of declining rates of population growth led to the banning of all contraceptive items.

Second, I am of the opinion that demography is not destiny. Demographic forces plus, and in relationship with, economic, political, historical, ideological and cultural forces will shape the Canadian society of the future. In this context, I have some reservations about extrapolations about the Canadian future based on the experience of today's older populations such as Germany.
or Sweden. It is certainly true, for example, that Germany combines a relatively old population and a healthy economy, but the strength of the German economy is due to a myriad of factors and probably demographic variables are not the key ones. By looking to other countries to make the point that there is no necessity for population aging to be associated with dire consequence X, Y or Z, we ignore the numerous interrelated factors involved in social change and the unique characteristics of a given society.

Now, I would like to move on and address some implications of population aging of a different order than the ones examined by Professor Myles. Being a demographer by training and now, it appears, by nature, I will proceed by looking at the demographic factors underlying, and related to, population aging.

As you are all well aware, the major demographic factor underlying population aging is reduced fertility. As I see it, decreasing fertility is the major demographic phenomenon of this century; population aging is the unplanned byproduct of planned parenthood.

What social implications emanate from low fertility, the direct cause of population aging? In order to address this question, it is important to clearly distinguish between what demographers call period fertility and cohort fertility. Period fertility refers to the production of babies at a given time, usually a year; hence, period fertility is a cross-sectional
measure. Cohort fertility, on the other hand, refers to the average number of children that women bear throughout their reproductive years. There is no necessary equivalency in the two types of measures. For example, the era known as the Baby Boom was, in Canada, a time when period fertility rates increased quite dramatically but when cohort fertility did not increase.

The historical record in Canada is one of steadily declining cohort fertility and unsteadily declining period fertility. Given this historical picture, my speculation for the future is that cohort fertility or, in other words, family size, will remain low and that period fertility will be subject to fluctuations of varying degrees. Different sets of implications arise from these two fertility scenarios.

We can begin with some likely consequences of small family size. It can be expected that the role and status of women in our society will be affected, given the firm cultural connection between that role and childbearing and childrearing duties. We are already witnessing a change in behaviour - the high levels of labour force participation of women, particularly married women - related, at least in part, to family size. While I am not naive enough to suggest that women's outside-the-home employment is a sufficient condition for a fundamental change in the position of women in society, it will likely play a contributory role.
Also, small family size implies a population with a higher percentage of only children and first-born children. We are only now beginning to realize the significance of birth order on behaviour and attitudes so only very speculative comments can be made. It seems, for example, that achievement needs are greater in only and first-born children than in higher-order children. If it is true that opportunities for career mobility are narrowed with an older population, and if an aging population implies a higher proportion of people with high aspirations, the lack of fit between opportunities and aspirations may spell social unrest. However, the form of the unrest is difficult to predict. I, like Professor Myles, feel that generational conflict is only one of the many possible forms that discontent can take.

Lastly, small family size has implications for the social support networks of old people. Many studies indicate the importance of family in the lives of today's old people. However, tomorrow's old people will have fewer children, grandchildren and siblings to form a network of family support. Of course, other current changes in family structure, apart from size per se, will affect the family life of older people in the future. Here I am thinking of such phenomena as higher rates of divorce and remarriage and single parenthood.

What about the consequences of fluctuating period fertility? Fluctuating period fertility will mean that our population pyramid will continue to have bumps and
dents in it, although probably not of the magnitude of the depression dent and the Baby Boom bump. Some of the consequences of unevenness in the age structure, we are already well aware of. For example, a marriage squeeze, rapid shifts in service needs, age-based variations in job competition.

However, there is a consequence that tends to be overlooked and it relates to one of the mechanisms underlying fluctuations in period fertility. That mechanism is change in the timing of childbearing. When there is a shift downward in age at childbearing, period fertility rates increase. Similarly, a postponement effect, such as we have been recently experiencing, is associated with low levels of period fertility. In other words, our population of the future will consist of a number of age groups with different mean generation times. Simply put: a generation of postponing parents will create a generation of children with old parents; a generation of early childbearers will produce a generation of children with young parents. The social consequences of variations in mean generation time are not well understood, particularly possible effects on the relations between generations. I think we would do well to examine this issue if it is to be a characteristic of our society in the future.

I would also like to point out that fluctuations in period fertility will ensure a dynamic, ever-changing age structure. An "old" age structure is not necessarily a
static one. A perfectly rectangular pyramid may be a convenient way of picturing an old age structure; in reality, things will not be nearly so boring.

Migration is another demographic factor with possible implications for population aging. Canada has a long-standing historical record of relying on international migration as a supposed cure for this or that problem. As Professor Myles points out, it is possible that Canadian policy makers will implement steps to increase the flow of immigrants to Canada in order to delay the process of population aging. While, historically, Canadian immigration policy has never been aimed at "younging" the population, this has indeed been one effect of immigration, given the age selectivity involved in migration.

Whatever the motivations of policy makers, let us assume that immigrants continue to enter Canada, that the bulk of them come from third world countries, and that the majority of in-migrants continues to be young people. If these conditions, which are not unreasonable ones, are met, we face the possibility of intergenerational conflict exacerbated by the fact that racial/ethnic stratification is superimposed on age stratification. Canada's ethnic heterogeneity may create certain strains in population aging quite unique in the western world. If different ethnic groups have substantially different age compositions, and hence differing needs, this may serve as a basis for heightening ethnic conflict. Again,
the form that the conflict might take is difficult to predict, but underlying demographic factors cannot be ignored as playing a contributory role.

Professor Myles has offered us insightful comments on the relationship between three major social institutions and population aging, identifying a lack of fit between these institutions and the changing needs of an aging population. No one here would disagree, I am sure, with the importance of these issues or with his decision to focus upon them.

I have chosen to identify some other consequences of population aging which I think are also important, in order to round out this session on the social implications of a changing age structure. Rather than looking at institutional lack of fit, my theme has been the direct implications arising from the demographic factors underlying, and related with, population aging.

I would like to conclude by saying that an aging population structure will not determine our future society in any definite way. It is our response that will count.
Let me begin with an observation about this Research Symposium. Within the past week I completed a two weeks' visit to The People's Republic of China. Repeatedly at issue was the nation's policy of the one child family. On a number of occasions, I sought to demonstrate to professional hosts and translators that the success of such a policy would soon turn the population pyramid upside down, and that this would have tremendous repercussions for the entire society, especially the future status of the elderly. I found little indication that the Chinese have yet had opportunity to reflect on this consequence of their guided demographic revolution. This point underscores for me the significance of this Symposium. Simon Fraser University is properly to be commended for promoting what may be called "anticipatory gerontology".

Canada has been experiencing, and for a number of decades in the future will continue to experience, aging of its overall population. That is, the median age, with minor fluctuations, has been rising; the percentage of the population 65+ has been increasing; and life expectancy continues to rise. In addition, it is understood that Canada has throughout its history accepted large streams of immigrants, and those streams can be expected to continue, with fluctuations, into the future.
Canada's birth cohorts have experienced life in widely diverse historical contexts, and have responded with varying behaviours, among the more notable of which is variations in cohort fertility. My task shall be to link these and related demographic phenomena to changes in family structures and functions.

A general overview of demographic change in Canada has been provided by Denton and Spencer [1]. They show that there has been a steady decline in the crude birth rate between 1876 and the beginning of the Great Depression, from about 37 per 1,000 to 27 per 1,000. A plunge to about 22 per 1,000 took place as the Depression set in, followed by a rapid rise to above 27 per 1,000 (including peak years of over 30 per 1,000) in the post-World War II period. By 1960 another rapid plunge had begun, taking the rate to an all time low of 15.5 per 1,000 by 1975.

In contrast, the death rate during the same 100-year span shows a steady decline, from about 20 per 1,000 crude death rate in 1876 to 7 per 1,000 in 1976.

The immigration/emigration pattern reflects still another design. The immigration rate, although fluctuating greatly during the past century, has generally been high, with the exception of a period before the turn of the century and a span encompassing the years of the Depression and World War II. The rate generally has exceeded 10 per 1,000 per year, including a period shortly after the turn of the century when the rate surpassed 20 per 1,000. Interestingly, high rates of
emigration, mainly to the United States, have tended to coincide with high rates of immigration, although Canada typically has experienced an annual net gain in population from migration.

Partly because of time constraints, but primarily because of an absence of scholarly depth on my part of Canadian issues, this paper will not be systematic and thorough in its reporting of the demography and family structure of Canada. Neither is the paper to attempt a conceptual tour de force. Rather there are two knowledge and skill domains which I would like to share with you: one is the sociology of age status. As a sociologist who has specialized in the life course for three decades, change in the age composition of populations is of vital interest. Family sociologists have long been cognizant of the significance of changes in demographic structures on family structures, although the ramifications of demographic change have seldom been pursued doggedly.

The second perspective, "countersystem model building", turns us to a futuristic orientation. Gideon Sjoberg and I [2] coined the phrase a decade or so ago to suggest means of criticizing existing social systems as well as to sketch alternative futures.

The countersystem represents the analytical negation of, and logical alternative to, the system or type under examination. It differs from the antisystem model in that countersystem is a tool for analysis rather than a weapon for attacking the
system...the countersystem model invites social scientists to cope rationally and systematically with alternatives to existing systems. ...

[The countersystem model] provides the social scientist with an external standard by which to examine a social order...

[Countersystem models also] are heuristic devices for predicting, or understanding, the possible range of alternatives in the future. Although social scientists increasingly are being called upon to step out from their existential curtain to predict the future, many are doing so by extending past trends in a unilinear manner.... Countersystem analysis beckons sociologists to consider the implications of the persistence, redirection, or dissolution of existing values and structures (pp. 224-225).

In brief, we extended the invitation to social scientists to venture beyond the use of "probability theory" to "possibility theory". Although there is not opportunity here to utilize countersystem model building systematically, this perspective informs and guides the observations which follow.

Jacques Henripin [3] has summarized trends in the Canadian birth rate during the last century as follows:

Amongst the countries that have shared in the development of technological progress, over the course of the past century, Canada stands out by virtue of its high birth rate. The country has closely followed the same movements as in the United States, but has maintained a constant surplus. Since the mid-nineteenth century, the fertility of all women in the 15-50 age group has declined by about one-half; on the average, each woman bore about seven children a hundred years
ago; today this number has reduced to around 3.5. However, this reduction is far from being the same for all ages from 15 to 50; women under 25 years of age are more fertile today than were their ancestors of a century ago . . . (p. 57).

One way of gaining insight into the impact of decline in birth rate on the family is to analyze the decline in the context of birth cohort fertility. The cohort fertility rate of Canadian women and of American women reveals similar trend lines, but with shifts occurring a bit later among Canadians. Throughout the last century Canadian women in each cohort have produced more children than their American counterparts.

Among Canadian women, those of the 1911 and 1912 cohorts have had the lowest completed fertility rates yet recorded (2,891 and 2,896 children per thousand women). The American nadir was the 1908 cohort (2,195 children per thousand [white] women). These were women who entered the childbearing age during the Great Depression of the 1930s. Women born a few years later triggered the Baby Boom after World War II. The 1930 Canadian cohort had more children than the 1899 cohort. (See Table 1.) In other words, Canadian women who this year, 1981, became 70 years of age, had the lowest cohort fertility yet recorded; their daughters, in sharp contrast, exhibited a cohort fertility level which surpassed that of late nineteenth century women. Although it is always risky to translate cohort figures into composition of individual families, it may be suggested that those who
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<th>Year of birth of cohort</th>
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*Adapted from Henripin [3] and Cain [4].
are currently entering old age have a kinship composition, and therefore a store of remembrances and need for services from non-kinship sources, considerably different from the store and the need of those who preceded them and those who soon will succeed them to the role of the elderly.

Thus, it is important, in considering the significance of the family roles of the expanding numbers of the elderly, to be aware of the cohort effect. This is especially important in Canada because of the fluctuations in cohort fertility, in immigration, and in general economic and social opportunities. That is, older people do not bring a standardized set of resources, kinship ties, and memories and expectations, to old age. Studies of familial composition and experiences can highlight these variations.

These fluctuations are associated with still another trend. Until three decades or so ago as many Canadian males survived to old age as females. Part of the explanation lies in male-dominated immigration. During recent decades, however, females have begun to outnumber males. The single older woman, often poverty ridden, provides a distinctive challenge both to kinship systems and to the general society.

In regard to Canadian fertility Henripin [3] also points out that:
Today (1970 or so) women who marry...bear a descendance which is no more than two-fifths of the descendance of the couples who married before 1850. Two particular aspects of this change should be noted: (1) today's very young women have a fertility as high as was that of their ancestors; fertility has been reduced from the age of 20 onwards: by a third in the case of women aged between 20-24, by two-thirds for those between 30-34 and by nine-tenths for those between 45 and 49. (2) The second aspect...is...the progressive disappearance of very large families. Today there are fewer couples who remain childless or bear only one child; on the other hand, the proportion of couples bearing six children and more is decreasing and the drop in large families becomes more accentuated as the number of children is high.

Therefore, there is now a convergence in the behaviour of couples toward a completed fertility of between two and four children. In 1961, half the women ever married aged between 45 and 50 (1911-1915 birth cohort) had borne a number of children ranging from two to four. Moreover...whatever the characteristics used to differentiate married women (province of residence, ..., ethnic origin, religion, ..., income etc.) there is one general phenomenon: as the generations succeed one another, the fertility levels of the different groups tend to converge more and more. But...between the middle of the last century and the second decade of this century, groups tended to be differentiated one from another more and more, ...[yet] one fifth of the [Canadian] women (the most fertile) still provide society with half its children... (pp. 338-339).

Several important points emerge from Henripin's study:

- The age span between kinship generations is shrinking. As motherhood is increasingly concentrated in the late teens and the twenties, it then follows that grandmothers,
and presumably grandfathers, will become younger. And, as a larger percentage of the population survives into their seventies and eighties, great-grandparenthood will presumably become commonplace, and great-great-grandparenthood no longer a rarity. The important issue for family life is whether the social bond will build upon and sustain the biological (or the kinship relationship) bond. With high divorce rates, migration, social class mobility, and general secularization, the cultivation of this social bond remains problematic.

- A standardization of family size and composition has emerged. On the one hand, an increasing percentage of older people can expect to have children and presumably grandchildren, than has been the case. On the other hand, few individuals are to have large numbers of grandchildren. From these two factors comes the potential for widespread and strong grandparent-grandchild relationships. It is my understanding, however, that the trend toward convergence in family size may be at an end. Insofar as post-World War II cohorts have an increasing percentage of childless or one-child families, convergence is interrupted.

- Henripin's finding that one-fifth of women produce one half the children raises a number of questions. Are the one-fifth distinctively equipped to produce and socialize one-half of the oncoming generation? To
what extent do the one-fifth bear an extra burden of providing the costs of raising children - medical, educational, and other expenses - and to what extent have social programs been designed so that the four-fifths will share the burden?

To reverse the dependency issue, there are indications that although more older people will have offspring who have the potential of providing various supports in old age, many others will not have this potential support system. To what extent should Canadian policy toward providing security in old age be built around kinship structures, given the projection presented?

Turning to other issues, the composition of a population and the ethos of a nation - the pluralism, the cultural homogeneity - are determined by several major processes, including: the type and intensity of immigration (or emigration); the degree of heterogamy; the strategy of socialization; and differential fertility and mortality rates.

Canada throughout its history has had an open door policy, at least in comparison with the United States. Thus, a considerable percentage of Canada's older population consists of immigrants. The degree of assimilation of the children and grandchildren of immigrants surely contributes to the problems of identity and security of the elderly, although this contribution seems to have been neglected by gerontologists.
In anticipating family patterns, especially the roles of the elderly within those patterns, consideration of immigration history and immigration prospects is vital. Hawkins [5] has argued that:

Canada has had no settled view of immigration... In Canada, immigration is neither a national myth nor is it widely accepted as an essential element in national development. [Rather] the central fact [of Canadian history] is the existence of two founding races [the French and the British] and the relationship between them...

The central problem of French-English relations, the two solitudes, the existence of two founding races, each with its own language, culture, and long historical tradition, has pre-empted the place of immigration in national mythology (pp. 33-34).

Yet Hawkins' own figures suggest that immigration may shift the focus of Canada's consideration of pluralism from French/English only to a much more complex question—Northern European/Southern and Eastern European, European/non-European, even Black/White.

In 1967, for example, Hawkins' [5] figures show that of 222,876 immigrants, only 72,542 (less than one-third), came from Britain or France, and another 24,005 (11 percent) from the United States and Australia. In 1970, of 147,713 immigrants only 30,907 (21 percent) came from Britain or France. Immigrants from Italy (13 percent in 1967), Greece, Portugal, Germany, the West Indies, China, and India, contributed heavily to the total.
Immigration figures for 1979 [6] show that of 112,096 immigrants, only 12,853 (11.5 percent) came from Britain; 1,900 (1.5 percent) from France, and only 32,858 (29.3 percent) were from Europe. In contrast, 50,540 (45.1 percent) came from Asia.

Also of importance is the total number of immigrants in recent decades. Post World War II immigration to Canada is at least comparable to the immigration deluge experienced by the United States after the turn of the century. The United States, with a population of roughly 100,000,000, absorbed an average of 1,000,000 or so immigrants each year from 1905-1914 [4]. Canada absorbed over 100,000 immigrants per year between 1951-1960 (including 282,000 in 1957), and again between 1964-1977, (including 222,876 in 1967 and 218,465 in 1974), into a population less than one-fifth that of the United States at the turn of the century.

What Canada has done with its legacy of immigration-spawned pluralism is a matter of interpretation, and what it is yet to do is a matter of conjecture. As Darroch and Ornstein [7] point out:

[E]thnic affiliations should not be understood as ascribed states, inherited from the past, but primarily as social responses to specific exigencies of survival and to differential structures of opportunity. Ethnic identities and communities are generated, then, in the interaction between prior cultural standards and immediate conditions (p. 330).
In seeking to understand the attributes and the needs of the elderly, in the contexts of ethnicity and the family, the Darroch-Ornstein observation suggests two lines of research. One calls for reconstructed life histories of the contemporary elderly and aging, to ascertain more precisely the ethnically variant "exigencies of survival" and "structures of opportunity." From these studies will emerge new challenges for policy makers who would provide equitability for the elderly. Insofar as "specific exigencies" and "differential structures" have led to differential resources and skills in old age, is there a public role in the redressing of the vagaries of history as they effect ethnic groups?

The second line of research calls for consideration of the consequences of existential events in producing those exigencies. When, for example, should affirmative action measures be undertaken to reduce the gap in opportunities between native born and immigrant? Or is it wise policy simply to observe laissez-faire? The point to be made here is that, insofar as ethnicity is linked to opportunity, the elderly in a high-immigration society are not standardized products, for which a standardized program of services and protections will suffice.

The issue of heterogamy, especially in a highly pluralistic society characterized by immigrants from frequently shifting national origins, needs to be incorporated into discussion of the family and its future. In one context, participation in heterogamy by
immigrants, or, more likely by immigrants' children or grandchildren, heralds validation by the host culture. Isolation has been overcome; there is acceptance; choice prevails. But, in another context, heterogamy signifies the diminution of authenticity, of identity, and is likely to leave the immigrant elderly isolated, with diminished kinship support.

Heterogamy spells melting pot. Canada apparently has experienced the blending of cultures, even as the British and French patterns dominate. Yet, pockets of ethnic distinctiveness remain. To what extent the continued distinctiveness is forced, a product essentially of racism, and to what extent it is a celebration of the choice of preservation of ethnic identity, is not fully clear. Regardless of the cause, there are consequences for an aging population. The continuity or discontinuity of culture, of language, of religion, of kinship itself, may be at issue.

Apart from the family as haven for the elderly, there are secular policy issues of importance. Is ethnic segregation to be promoted, or even tolerated, in senior centres, in public housing projects, in social programs generally? Under what conditions may ethnic distinctiveness be acknowledged? When will homogeneity be presumed, even imposed?

The issue of socialization strategy, although historically focused on the young, has repercussions for the aging. Does the state support parochial school
education? Is instruction to be provided in the native tongue of the immigrant? Is the history of Canada to be taught from the British perspective, the French perspective, or a variety of perspectives? From choices made in educating children will flow consequences for the well being of the elderly.

A recent phenomenon in the United States, and presumably in Canada, has been the influx of older immigrants: Hungarians, Cubans, Russian Jews, Southeast Asians, Chinese. Their rights to socialization funds, and to special socialization agents, are rarely acknowledged.

Finally, there is the issue of differential fertility (and mortality). The convergence of fertility rates since 1920 has been reviewed. But a return to differential fertility appears to be a likelihood. As young women increasingly enter, and remain in, the labour force, as a zero population growth mentality permeates the middle class, as abortions and contraceptives become widely accepted, will immigrants be called upon to produce the nation's children?

To this point, there may appear to be an obsessive concern with immigration. Let me explain this emphasis. For years I have been intrigued by the presumption of American policy makers that practically all older Americans have identical tastes and needs. The child needs to be given individual attention, to be encouraged to progress at his or her own pace; but older people can be fed from one serving dish, entertained by the same
music, be housed in buildings using a single blueprint, be treated identically by Social Security and Medicare. Momentary reflection convinces one that the elderly in fact bring a vast array of perspectives, of experiences, of talents and needs and aspirations, into their later years. In ruminating upon Canada's aging population and on the vast diversity of that population, and in focussing on the family, emphasis on immigration became a means by which I could call attention to issues hardly identified, and surely not yet resolved.

In the time remaining, let me more directly exploit the liberty granted by countersystem model building. It has been observed widely that in recent centuries a previous domination of the younger by the older has been toppled. Fischer, [8] located the transition in the nineteenth century. Some have suggested that when jobs in emerging industry became available, the young no longer had to wait upon the elderly, and their control of agricultural land, in order to achieve material security. In the twentieth century the young are portrayed as prosperous, as powerful, as envied. As populations age, the focus of power may again be shifting. Control of real property, and the enhancement of its value through inflation; effective use of seniority rights; strong pressures to strengthen pension systems and to accrue additional rights; suggest that the young may soon become beholden to their elders in ways not contemplated a few years ago.
Let me conclude by sketching, very crudely, a few countersystem models. At present it appears that Canada and the United States, both faced with population aging, sort of muddle through issues related to the role of the family in nurturing the elderly. Indeed, if there are ethnic groups, or sectarian groups, which will assume responsibility for their elderly, that may be cheered. But there have been very few actual policy-based encouragements — e.g., tax breaks for those who provide "granny rooms" as additions to residences, or support for offspring or other relatives who may provide vital medical or nutritional or related services to their elderly kin. At the same time, there is a vast array of service delivery programs, seldom well coordinated, waiting to serve as a surrogate family in time of crisis, and sometimes not waiting to serve, but moving in to usurp family prerogatives.

One alternative to muddling through might be to develop a policy to revitalize the kinship role in supporting the elderly; to, for example, socialize the young to respect their parents and grandparents, to provide material and other incentives for relatives to support their old kin, to emphasize maintenance of ethnic and sectarian identities so that covenant-type relationships may be preserved through the generations.

A quite different alternative might be to avoid cultivation of the kinship-based model altogether: to develop a familial relationship without family. Accept
the reality that a large percentage of women will be widows, that divorce is high, that rapid change and frequent mobility place strains upon intergenerational relations, and that individuals enter old age with widely different potentials for kinship support. Cultivate communal living of young and old. Do not be disturbed by homosexual liaison among older people. Modify inheritance laws so that biological kin are not automatically the recipients of the estate when grandmother dies. Redefine zoning laws and single family dwelling definitions. It is my understanding that the Gray Panthers advocate most parts of the above model. Let young and old live together, share their resources, their hurts, and their yearnings.

The practical task, of course, is that of implementation. Is the answer after all to support "muddling through"? If muddling through can be administered with enlightenment, with recognition that successive cohorts have differential needs, that immigrants and others may have special needs and resources, that imagination and patience and new definitions of equal protections of the law are demanded, a reactive rather than a proactive model may be defensible.

Let me introduce one other countersystem model. Typically, retirement has been pegged to the reaching of a specified chronological age. While functional age may be replacing chronological age, both relate to attributes of individuals. A challenge to mandatory retirement
rules at Pennsylvania State University by a Professor who had reached age 65 led my thoughts down a peculiar path.

The Professor had two dependent teenage children; he had, as I recall, contributed to a retirement plan for less than twenty years. He had grown up in Eastern Europe; he was in his twenties when Hitler's forces began to move. Roles as soldier, as prisoner of war, as post-war patient and refugee, and again as student consumed the years during which most men begin careers and families. Thus, a late start in career and as parent; age status asynchronization; and a legal contradiction. As a parent, the Professor had responsibility for minor children; as a 65-year-old, he was to be denied opportunity to fulfill that obligation.

There are a number of variations on this theme that come to mind. Women, for example, may have experienced postponed entrance into a career. Many workers have been victims of long term unemployment. Another factor is that increasing numbers of older workers have dependent parents or other relatives.

A proposal generated by countersystem model building is to consider basing eligibility to continue to work on whether there are those who are dependent on the older worker for support rather than on chronological age or even on functional capacity.

What is certain is that Canadians, as the percentage of the elderly continues to rise, and as traditional family structures and practices fail to meet newly
generated needs of the elderly, will be challenged to monitor existing programs closely and to explore alternative models vigorously.
REFERENCES


DISCUSSION OF LEONARD D. CAIN'S PAPER "POPULATION AGING AND FAMILY LIFE"

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and

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Dr. Cain has performed a valuable service by asking us to consider a number of crucial research issues related to population aging and family life.

I particularly appreciated his presentation to us of the importance of looking backwards and looking forward when he underscored and exemplified the important research opportunities offered by the use of reconstructed life histories and by "countersystem model building" respectively.

Dr. Cain's heavy emphasis on the impact of immigration on aging in families is well-justified. Too often, we treat immigration at the demographic or numerical level, rather than as an important, qualitative consideration in family interaction -- especially in ethnic groups.

I agree with Dr. Cain's observations about heterogamy in ethnic groups as an important intervening variable in determining the degree to which such groups continue to provide family support networks for their elders. But, a relevant extension to his point is to question the degree to which heterogamy is socially manipulable, or even subject to intervention by family and kin, in view of the increasing effects on ethnic families of secularized
education, social mobility and mass media communications.

Family sociologists should pursue Dr. Cain's challenge to monitor changes in social bonds in family life as the age-span between cohorts shrinks. Such studies would improve our understanding of the potentials for support for elderly members within family and kin networks.

Dr. Cain also asks us to think about solutions to old-age dependency in terms of the family structure and composition projected by current demographic predictions; this is sound advice. I would have been interested, however, in having him take on a futurist role and engage in some predictions about forms of marriage (e.g. polygamy) and family groupings 'new' to mainstream North American society, particularly in view of the increasing imbalance in the male/female sex ratio.

Dr. Gutman's preamble to the program for this meeting sets out a framework on what needs to be done to address the research implications of the changing age structure of Canada. This framework reflects a finely-tuned grasp of the intellectual and pragmatic aspects of the task. Unfortunately, it does not make it easier!

Let me delineate the components of the approach I want to take which is in terms of issues and questions in two areas:

1. Appropriate, researchable questions

   - Are we asking the right questions about families and aging?
   - Which questions are answerable now -- or,
potentially, in the future?

2. Approaches and strategies in family gerontology
   - What are the most promising ones?
   - How do we find out how to use what we already know?
   - Are there important approaches/strategies to be learned from other fields?

Notice the absence of topics bearing on "number-crunching" and cohort analysis. It is not to belittle the essential contribution of either demography or methodology to say that there are, in my view, different and more important issues to grapple with at this meeting. All of us can go home and sharpen our demographic knowledge and methodological skills; the literature and our colleagues are replete with such information. The more vexing issues and questions are not so readily accessible via these channels of reference.

**Appropriate Researchable Questions**

Research on aging and families has been conducted in the topic areas of family structure; dynamics; the family life cycle; intergenerational relationships; the impact of divorce, widowhood, retirement; income maintenance; housing options; family-kin support networks. It is safe to assume that research in these areas will continue. And it should. All represent crucially important areas in family and aging about which we lack sufficient, reliable information. But are we dealing with "new"
questions on "old" topics — or "old" questions on "new" topics? For example: Is "de-familization" a major element in relocation stress? If so, what are its characteristics, its dynamics? Do these suggest the possibility of replacement therapy — or "re-familization"? Perhaps Grant and Gutman [1] are heading in this direction in their discussion of intervention programs aimed at modifying the impact of home-to-institution relocation of the elderly.

Are we asking the right questions? Are we following our own scientific inclinations and training biases rather than listening to the questions posed by politicians, planners, policy makers, the elderly themselves and members of their families? Are we hearing the difficult questions, such as:
- Is untimely death preventable?
- Is mental impairment in old age, with its devastating impact on individuals and families, inevitable?
- Will the real "family support network" please stand up!?

Lest this last example seem facetious, let me identify with Marshall [2] who, in a historical review of the development of research and theory in social gerontology, notes that the term "family support network" has become as much of a "buzz-word" today as the term "adaptation" was for an earlier set of scholars.

Are we looking far enough ahead on this question? The demographic evidence assembled by Stone [3] suggests that
the parents of the Baby Boom, most of whom are still below retirement age, will have more children available to provide them with support than the current over-65 group or the Baby Boom generation itself. When the Baby Boom reaches old age, their situation in terms of available family members to form support networks may be quite different, given intervening changes in lifestyle, social mobility and female labour force participation rates. The family support network may not, in fact, be a viable social option. And yet, much of the current planning for the elderly leans heavily on the premise of building the types of programs (e.g. home care), which will enable the elderly person to remain in a community setting with the expected support of a network of family and kin. As far as long-term solutions are concerned, are we misleading the planners?

Even in the short run, much more refined information is necessary as to how the "family support network" varies by region (is it the same in the Atlantic Provinces as on the Prairies?); by urban/rural dimensions; by culture, ethnicity, family size and composition.

Where "family support" means having the aged parent living in the home of children who are middle-aged or "young-old" themselves, costs of such an arrangement should be looked at from all sides. Such costs include the impact on the care-givers. The prevention of undue stress on, or breakdown of, this family support unit may
well be dependent on the amount of planning done before the arrangement is consummated. Professional personnel working with the potential care-givers need not only to assess the strengths and weaknesses of the pre-placement situation objectively from their own perspective, they also need to have the family-support unit confront honestly the kinds of questions posed by Allan [4], which include:

- How well are you handling your own life at this point, with its changes and transitions?
- How does your spouse feel?
- What kind of financial arrangements are being considered?
- What kind of living space will there be -- since cramped quarters can wreck the best relationship?
- Will the parent depend on you and your family for companionship and entertainment?
- Will your own social and recreational mobility be limited?
- Can you honestly expect to live comfortably together -- or do your personalities clash?
- How have previous visits gone?
- Do you treasure your privacy?

Note that these questions do not address the very important and stress-producing areas of "heavy care" -- such things as incontinence, sleep disturbance, wandering, aggressive or socially unacceptable behaviour. If prevention of family stress is an appropriate goal, it
has to start prior to the onset of these major precursors of breakdown in the support unit -- to which the only system-response is often crisis intervention, frequently too little and too late.

The intermittent application of home care, "respite beds", day hospitals and night care may be, for some families, band-aid or stop-gap measures which merely delay, for months or years, a final breakdown precipitated by their role as support units. Lest our current zeal for the "family support approach" to the elderly lead us into this kind of unwitting error, research is needed on the outcomes and impacts of family support situations in terms of both short and long-term costs and benefits to the care-receivers, the care-givers and the total care system. The knowledge base derived from such investigations together with the use of ever-sharpening assessment techniques would improve the secondary and tertiary prevention strategies available for selective application to the elderly and their families.

Approaches and Strategies in Family Gerontology - Cautions

If we want to influence the social context in which families age, policy-relevant demographic data must be adequate in scope and quality. As Stone [3] points out, it must include such variables as: marital status; family status; household composition; education; work force
participation; housing; income; ethnic origin and language. All of these variables are family-related. I would also encourage Canadian replication of Kobrin's study of U.S. census data on non-married, non-parenting adults in relation to their choice of living arrangements. Kobrin identifies higher income, the experience of divorce and being male as high-risk factors for non-family living. (Widowhood has a similar effect for women.) Such studies can provide an effective social epidemiology of the aging family, since non-family living is associated with a variety of crises and breakdown situations (physical, mental, social and emotional).

But, I must caution that the weight of numbers alone will not necessarily influence policy change. The best demographic data obtainable are necessary, but not sufficient elements in the changing of social policies and priorities. Like it or not, interpretation and advocacy have to be added. It is not enough to assemble demographic data and present projections about aging and families to politicians, policy-makers and planners in the hope that rational and appropriate action-steps will follow. It is not going to be possible for investigators to hide much longer behind the patently transparent screen of so-called "value-free science". More likely, society, which funds our research, and its priority-setting leadership will become increasingly insistent that those who generate and possess social knowledge about aging and families assume a major role as
interpreters of that information and as advocates of how it should be applied. Stone [3] recently struck a cautionary note on this point when he said:

Demographers like to say that projections are merely implications of assumptions; but policy-makers want to know which assumptions they should adopt.

Programming Family-Related Research

The very notion that research might be "programmed" appalls the purists. Talk of focussing research activities on specific topic areas where urgent solutions to pressing problems are needed brings cries of "inhibition of academic freedom", "interference with the scientific imagination", "limiting the possibilities for serendipitous discovery", and "the prostituting of science to the quick-fix needs of funding agencies."

All such protestations translate into, "Give us the resources, then go away and leave us alone!" It is unrealistic to think that governments, foundations and other research-supporting agencies are likely to do so. They want important and worrisome issues addressed; difficult questions answered. They want help in problem-solving. This should not disturb the true "family gerontologist". He/she has no well-established, empirically supported theories to defend, no discrete body of knowledge to protect, no exclusive research
methods nor orientations to further purify. Instead, the family gerontologist has a grab-bag of endless, entangled questions and is confronted with a bewildering array of theoretical formulations and research techniques borrowed from other disciplines and knowledge-bases.

Given this state of affairs, I am hopeful an appeal for more "programmed" research will fall on receptive ears. The development of special capacities in addressing certain specific questions and problems in family gerontology is likely to produce better results than haphazard, non-focused efforts. (This approach worked for NASA to put a man on the moon, and for Salk in developing polio vaccine.) The spin-off benefits for the "pure" science areas can be substantial. (Basic astro-physics suffered no loss nor setback because the NASA moon project was so specifically targeted!)

Encouraging signs of programmed research activity are gradually appearing in family-related work in Canada. A small group of young scholars at the University of Guelph is based in a Department of Family Studies. At McMaster, another family-oriented group of researchers has evolved around the Generational Relations and Succession Project (GRASP).

Unless we can focus our limited research energies and resources more effectively, we could be destined to "spin our wheels" in fragmented, non-integrated pursuit of answers to questions nobody (but ourselves) is asking. And this could seriously delay the changes in the social
fabric in which Canadian families age, frustrate many researchers, policy-makers and politicians and do a major disservice to the elderly of tomorrow -- and beyond.
REFERENCES


Social Security in Historical Perspective

The traditional biblical reference to old age declared a man's life to be three score years and ten. It was therefore perhaps appropriate that when Canada first introduced pension legislation for the aged in 1927, 70 was the lower age limit of eligibility. It is only within a little more than a decade that our pension program has become a right for citizens at the age of 65.

Federal government intervention in support funding for the elderly first came through Bill 120, 1907-08, which authorized the issuance of Government Annuities for Old Age. By March 1911, only 1,625 annuities had been sold, 825 for $100; 307 for $200 and 137 for $600. In 1912 a Select Committee of the Federal Government was appointed to inquire into an old age pension system for Canada [1]. According to a brief of the Trades and Labour Congress of Canada [2], the estimated population 65 and over in Canada was 326,148. Based on estimates for the United Kingdom [3] 'Canada would have to pension 105,998'. Slightly higher numbers were calculated based on programs from Australia and New Zealand [4,5]. These were non-contributory programs for the "deserving aged poor".

*The points of view contained in this paper represent the thoughts of the author and cannot be attributed to the Department of National Health and Welfare.
Voluntary and mandatory contributory schemes from European countries were also reviewed.

World War I put a damper on activities and it was not until 1924 that a Special Committee was again appointed to enquire into an old age pension system for Canada [6]. Again the experience of other countries was reviewed and briefs were received from provincial and municipal governments across Canada. The Committee recommended that a pension of $20 per month be paid to persons 70 years and older and that "the rate be reduced according to private income or earnings". The Committee estimated that 98,841 persons would be eligible (40 percent of the elderly population) and that the Federal Government portion of expenditure at $120 per pensioner per annum would be $11,860,920. The enabling legislation was finally passed in 1927 [7].

British Columbia was the first province to introduce a provincial program but by 1929 the five most westerly provinces had entered into cost-sharing arrangements with compatible legislation and by 1935, plans were operating in all provinces under the terms of the federal legislation.

The economic depression of the 1930's, which saw the federal government pay out $800 million in relief payments to provinces under emergency legislation, put a brake on any further progress in this area. World War II again placed great strains on the economy and other initiatives such as Unemployment Insurance (1941), Family
Allowances (1944), and the Veterans Charter (1945) took precedence in the development of our Social Security Systems.

In 1950, the federal government appointed a Committee of the Senate and House of Commons to study existing programs of old age security in Canada and to review similar legislation in other countries, including plans based on contributory insurance principles. Their Report [8] provided the impetus for passage in 1951 of the Old Age Security Act which provided for a universal benefit of $40 per month at age 70 for citizens with 20 years residence in Canada. The Act authorized funding through taxes on personal taxable income, corporate income and sales tax.

At the same time, through negotiations with the provinces, the Old Age Pension Act was repealed and was replaced by the Old Age Assistance Act which provided a maximum benefit of $40 per month for citizens between the ages of 65 and 69 years. This program was administered under matching provincial legislation on the basis of a means test.

Some indication of the cost implications of these changes can be gathered from the following comparisons (see Table I) of federal and provincial expenditures on the elderly in 1950-51 and 1952-53.
# TABLE 1

**Fiscal Year 1950-1951**

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</tbody>
</table>
The 1950 Report on Old Age Security had recommended that the federal government consider introduction of an insurance type of retirement benefit based on contributions made by workers during their employment. In 1960, a report commissioned by the federal government entitled "Economic Security for the Aged in the United States and Canada" reviewed public and private pension plans and provided a blueprint on which to build a public retirement pension program [9]. After considerable negotiations, particularly with the province of Quebec which was preparing to introduce its own social insurance program, the federal government changed its retirement pension proposals to be reconciled with the broader philosophy of coverage proposed in the Quebec Pension Plan [10].

Enabling legislation was passed both by the federal government and by the Quebec government to introduce a funded insurance program which not only provided retirement benefits but also benefits for survivors and for the disabled. The Canada and Quebec Pension Plans operate in a generally parallel manner with respect to contributions and in terms of eligibility for benefits. There are, however, small differences in benefits which do have some impact on the aged. For example, the level of benefit for the disabled beneficiary is higher in Quebec than under the Canada Pension Plan. Since benefits are taxable, the different tax rates in the various provinces also affect the net benefit available to
the beneficiary in a particular province.

Coincident with the introduction of the Canada Pension Plan the decision was also taken to gradually reduce the age of eligibility for Old Age Security (OAS) by one year annually to age 65, and, at the same time to phase out payments under the Old Age Assistance Program. The reduction of eligibility to age 65 for OAS was achieved in 1970.

Revision to the Old Age Security Act in 1966 also provided for the introduction of the Guaranteed Annual Income Supplement for OAS pensioners with little or no personal income. Based on a supplement of $30 monthly for single beneficiaries, the benefit was paid along with the OAS cheque commencing January, 1967. A reduced benefit for each partner was paid to a two pensioner family based on the combined income of the spouses. The supplement was also paid to the pensioner in a one pensioner family on the basis of an equivalent family income eligibility scale. Support for a non-pensioner spouse was fully integrated into the system in 1975 with introduction of the Spouse's Allowance which is paid to dependent spouses 60-65 years of age.

In the various committees concerned with the preceding developments in income security for the aged, the question of indexing of pensions was frequently proposed as a means of maintaining the market value of the pensions. This matter became increasingly important in the maintenance of the purchasing power of the pension.
Between 1950 and 1966, the Consumer Price Index (CPI) in Canada increased by only 2 points per annum on the average. In the next five years the annual average increase doubled to 4 points per annum. During the 70's the annual average increase in the C.P.I. was 10 points.

Through legislative amendments to the OAS program, periodic increases were permitted in the amount of pension and the guaranteed supplement. Finally, in October, 1973, the government authorized quarterly indexing of benefits in accordance with increases in the CPI. The Canada and Quebec Pension Plan benefits were indexed as of January each year commencing in 1975.

These changes were generally in line with the recommendations of the Special Committee of the Senate on Aging in 1966 [11] and by the Conference on Aging sponsored by the Canadian Welfare Council in 1966 [12]. These bodies concerned themselves also with many other major problems of the elderly such as employment, training, community services, health care and housing.

The provision of health care and shelter for the aged was recognized as a public responsibility from the earliest stage of community development in Canada. In the early days an integrated approach was generally taken through the provision of public residential care with access to health services since most homes for the elderly were built under the auspices of a municipality, a religious order or a lay voluntary organization.
Most of the services for the elderly were developed under local initiative with provincial support for capital funding in the developmental stages and grants to hospitals and other institutions on an annual basis. After World War II, the provinces began to develop legislation governing not only the construction and operation of homes for the aged but also for special housing arrangements. With the introduction of the federal Unemployment Assistance Program in 1955, cost-sharing arrangements for support of the "unemployable" was extended to residential care. This arrangement was further extended and clarified when the Canada Assistance Plan replaced unemployment assistance in 1966. Under this program the federal government not only undertook to share half the costs for approved residential care programs funded by the provinces but also for a variety of health care services provided to the indigent population of which the elderly compose a large segment. These included cost-sharing to pay for drugs, dental care, eye glasses, nursing care and residential care for persons in need. The act also provided for cost-sharing in services for persons likely to be in need.

The costs of hospital care were extended to all elderly persons when provincial programs of hospital insurance were introduced. Under premium programs, contributions on behalf of the low income elderly were paid either by the province or the municipality of
residence. These programs developed from early initiatives in the western provinces until by 1961 all provinces were operating Hospital Care Insurance Plans under the terms for cost-sharing set up under the federal Hospital Insurance and Diagnostic Services Act of 1958. A full decade later saw Medical Care Insurance Programs operating in all provinces under the terms of the federal Medical Care Act of 1966.

The availability of full health care services on a universal basis has had a marked impact on access to and use of health care services by low income groups and the elderly in particular. Our national statistics on hospital care [13] record that more than two out of every five days in Canadian hospitals are accounted for by patients in the 65 and over age group. In addition, it is estimated that there are approximately 170 thousand elderly patients in institutions providing extended care [14]. Those in active treatment hospitals accounted for more than one hundred thousand person-years of inpatient care in 1977.

We gain some indication of the health status of the elderly population not in institutions from the Canada Health Survey of 1979 [15]. This survey, which sampled only people living in the community, indicated that out of 2 million persons 65 and over, 146 thousand, mostly men, were still working; three quarters of a million elderly women were keeping house and 177 thousand, mostly men, were too disabled to carry out any regular
activities. (The average person in this group reported three or more health problems such as heart condition, arthritis or other limb and joint disorder or a mental disability.) The remaining elderly population (970 thousand), mostly men, simply described themselves as retired. Of this number 173 thousand men and 113 thousand women indicated that they were forced to restrict their activities to some degree because of a health problem. The average old person reported two or more health problems during the survey year although 290 thousand, equally divided between the sexes, reported no health problem. In addition to those already noted, hypertension, vision and hearing problems, digestive and respiratory conditions were very common.

It is evident that the addition of years to the life of the average Canadian has strong implications in terms of requirements for human resources and services as well as income security.

Population Aging and the Total Economy

In 1851 there were only 65 thousand Canadians (2.7 percent of the total population of 2.4 million) who had reached the age of 65. In our current population of roughly 24 million, the percentage aged 65 and over is close to 10 percent, roughly the number in our total population 130 years ago. [16]

The increase in the number of elderly in Canada has been influenced by intrinsic factors, such as a general
population growth, extended survival through improved health care and a more secure environment that has responded to many of the particular needs of the elderly for special accommodation and supportive services. At the same time, with a heavy influx of working age immigrants since World War II, there has been a tendency for these immigrants to sponsor their parents and relatives to join them in Canada. The working age immigrants in turn grow old and further augment the trend towards the general aging of our population. The sharp decline in births from a peak of 479,000 in 1959 to current levels around 350,000 has also tended to tilt the age distribution in favour of the elderly.

Internationally, Canada holds an intermediate position with respect to aging of the population [17-19]. In countries such as Germany and Sweden, the elderly account for more than 15 percent of the population. In other major European countries, the proportion of aged exceeds 10 percent. Other countries with a proportion of elderly resembling the situation in Canada are the U.S.A., Australia, Japan, Yugoslavia and the U.S.S.R. Somewhat lower proportions of elderly are found in Argentina, the Ukrainian S.S.R., Turkey and Chile, all with over five percent in the aged category. In many of the countries of Africa, Central and South America and Asia, however, the proportion of the elderly remains less than four percent of the total population. In most of these countries the low percent of elderly is attributable to
continuing high birth rates but also reflects a pattern of disease eradication programs which are more likely to reduce the hazards of infections in childhood than to arrest degenerative processes among the aged.

Projections for Canada show a continuing trend towards aging of the population. Various projections [20] indicate that the proportion over 65 may exceed one-fifth of the total population early in the next century. Such conclusions are based on continuing low birth rates and a continuing high level of involvement of women in the labour force.

In a review of population trends last year, I wrote:

the world population ... may increase in the next 75 years from approximately 4 Billion to the order of 10 Billion persons. The composition, however, is expected to alter radically. The population of advanced economies (North America, Europe, Russia, Japan) is expected to decline proportionately from 25 percent to 14 percent, China's population is expected to decline proportionately from 25 percent to 19 percent, whereas the population in the other major areas (Latin and South America, Africa and South Asia) would increase from one-half to two-thirds of the world's total population. [21]

While part of the population changes will be accounted for by high fertility in many of the less developed countries of the world, there is also an assumption in the forecast that life expectancy in these countries will continue to rise to levels approaching the current experience in the developed countries.
In comparing populations it is well to recognize that differences in life expectancy sharply affect the total "person-years" which are available to society as a result of the birth of an infant. For example, on the basis of crude arithmetic, in a country with a life expectancy of 35 years, it is necessary to give birth to two children to provide the same number of person-years to that country that pertain to a birth in another country where the life expectancy is 70 years. If we consider only the adult working years 15 to 70, the differences are even sharper. In the country with 35 years of life expectancy, the average individual will contribute only 20 working years to that economy, whereas in a country with 70 years of life expectancy, the average individual will contribute 55 working years to the economy of that country.

Translating these figures into specifics we can consider typical differences in current life expectancies which relate to the earlier discussions of the aging of population. Countries with as high or higher proportions of elderly as Canada in general have life expectancies comparable to our country. (See Table 2).

<table>
<thead>
<tr>
<th>Country</th>
<th>Male</th>
<th>Female</th>
<th>Year</th>
</tr>
</thead>
<tbody>
<tr>
<td>Canada</td>
<td>70.2</td>
<td>77.5</td>
<td>1975-77</td>
</tr>
<tr>
<td>USA</td>
<td>68.7</td>
<td>76.5</td>
<td>1975</td>
</tr>
<tr>
<td>France</td>
<td>69.2</td>
<td>77.2</td>
<td>1976</td>
</tr>
<tr>
<td>USSR</td>
<td>64.0</td>
<td>74.0</td>
<td>1970-71</td>
</tr>
<tr>
<td>England and Wales</td>
<td>69.9</td>
<td>75.8</td>
<td>1974-76</td>
</tr>
<tr>
<td>Brazil</td>
<td>57.6</td>
<td>61.1</td>
<td>1960-70</td>
</tr>
<tr>
<td>Mexico</td>
<td>62.8</td>
<td>66.6</td>
<td>1975</td>
</tr>
<tr>
<td>Indonesia</td>
<td>47.5</td>
<td>47.5</td>
<td>1960</td>
</tr>
</tbody>
</table>
On the other hand, other countries, with a low proportion of elderly may differ sharply in their life expectancies. For example, Brazil, Mexico, and Indonesia, with less than four percent of elderly persons, the life expectancy figures are sharply different. It is evident that the economic and cultural differences constitute important influences independently on the longevity of the population and the quality of life.

From this hasty pudding exercise we may hopefully recognize that there are complex dynamics at work which inevitably shift our focus from social security and its relationship to the population structure to its role in the total economy.

Information Available

In Canada we are fortunate to have data generally available on the operations of our various social security initiatives that permit us to take an integrated as well as a disaggregated look at the operations of the total system at all levels of government. In the Special Projects Division, we have set up a database of program information on the social security system in Canada. The data has been updated, expanded, further disaggregated and documented annually since it was first set-up in machine readable form in 1976. We have just completed the update for the 1979-80 fiscal year. [22]

The matrices are set up to provide provincial detail and national tables. Not all programs for the elderly
are separately identified in these tables; their cost however is included in the national total.

Canada's total expenditures on Social Security has increased from eight to 14 percent of the Gross National Product since 1960. On the other hand, with irregular variations social security expenditures constitute between 25 to 30 percent of all government expenditures over this same period. The latest year, 1979-80, shows an appreciable decline over the three previous years from 30 percent to 28 percent.

Examined more analytically by taking into account both inflation and population we obtain the following figures. (See Table 3).

<table>
<thead>
<tr>
<th>Year</th>
<th>Per Capita Constant $'s</th>
<th>% Change (Annual)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1979-80</td>
<td>799</td>
<td>-4.1</td>
</tr>
<tr>
<td>1978-79</td>
<td>833</td>
<td>2.2</td>
</tr>
<tr>
<td>1977-78</td>
<td>815</td>
<td>3.0</td>
</tr>
<tr>
<td>1976-77</td>
<td>791</td>
<td>3.4</td>
</tr>
<tr>
<td>1975-76</td>
<td>766</td>
<td>5.5</td>
</tr>
<tr>
<td>1974-75</td>
<td>726</td>
<td>13.1</td>
</tr>
<tr>
<td>1973-74</td>
<td>642</td>
<td>7.2</td>
</tr>
<tr>
<td>1972-73</td>
<td>598</td>
<td>6.0</td>
</tr>
<tr>
<td>1971-72</td>
<td>565</td>
<td>15.8</td>
</tr>
<tr>
<td>1970-71</td>
<td>488</td>
<td>14.2</td>
</tr>
<tr>
<td>1969-70</td>
<td>427</td>
<td>5.5</td>
</tr>
<tr>
<td>1968-69</td>
<td>405</td>
<td>9.6</td>
</tr>
<tr>
<td>1967-68</td>
<td>370</td>
<td>16.9</td>
</tr>
<tr>
<td>1966-67</td>
<td>316</td>
<td>8.3</td>
</tr>
<tr>
<td>1965-66</td>
<td>292</td>
<td>3.1</td>
</tr>
</tbody>
</table>
During the latter half of the 1960's the expenditures in constant dollars, adjusted for population showed a continuous sharp rise. During the early seventies the increase was irregularly steep. Since 1975 however, the level of government spending on Social Security has shown only a small rise, which by the end of the decade has reversed itself to a shallow decline.

In order to gain some perspective on social security costs it is useful to examine the record internationally. The U.S. Social Security Administration carries out an annual survey of Social Security. Based on data from these surveys, information on Social Security expenditures in relation to G.N.P. and contributions in relation to total payrolls is presented in Table 4.

<table>
<thead>
<tr>
<th>Country</th>
<th>Social Security Expenditures as a Ratio per $100 GNP-1974</th>
<th>Expenditures OASDI Programs, 1974</th>
<th>Social Security Contribution as a Percent of Payrolls</th>
</tr>
</thead>
<tbody>
<tr>
<td>Belgium</td>
<td>20.6</td>
<td>5</td>
<td>38.55</td>
</tr>
<tr>
<td>Canada</td>
<td>13.2</td>
<td>7</td>
<td>35.30</td>
</tr>
<tr>
<td>France</td>
<td>21.7</td>
<td>4</td>
<td>47.45</td>
</tr>
<tr>
<td>Germany (F.R.)</td>
<td>22.3</td>
<td>3</td>
<td>33.78</td>
</tr>
<tr>
<td>Japan</td>
<td>6.3</td>
<td>9</td>
<td>18.55</td>
</tr>
<tr>
<td>Netherlands</td>
<td>25.2</td>
<td>1</td>
<td>50.80</td>
</tr>
<tr>
<td>Sweden</td>
<td>24.5</td>
<td>2</td>
<td>31.85</td>
</tr>
<tr>
<td>United Kingdom</td>
<td>14.2</td>
<td>6</td>
<td>16.50</td>
</tr>
<tr>
<td>United States</td>
<td>11.9</td>
<td>8</td>
<td>16.46</td>
</tr>
</tbody>
</table>

* Note — Countries such as United Kingdom, Canada or Sweden have national health systems that rely wholly or largely on general revenues. United Kingdom, United States and Canada also finance assistance or welfare type programs in this manner. West Germany, Canada and Sweden pay for family allowance programs through government funds.
From the table and footnote it is evident that North America spends a lower proportion of G.N.P. on social security than do the countries of Europe and that Canada spends least on OASDI programs. This is consistent with the fact that the elderly constitute a smaller segment of the population in Canada than in the European countries. The table indicates also that the major funding in most other advanced nations is directly drawn from payroll contributions.

It is of particular interest to note the sharp increase between 1971 and 1979 in contributions in relation to payrolls for Sweden, France and United Kingdom. In addition to the changes shown in the table for U.S.A. it is important to recognize that they have recently increased their rate of contributions to social security. Other countries have undertaken to avert deficit financing by raising the ceiling on contributions, slowing down the impact of indexing and tightening rules of eligibility for benefits [24].

The reaction to the growing costs of social security is the focus of a recent article in La Revue Internationale du Travail [25]. It is pointed out that in OECD countries almost 250 billion dollars annually is redistributed in the form of cash transfer payments or payments in kind per services. The question is raised as to when and how today's youth may rebel against what may appear to them to be a burden from the past. On the other hand, the article recognizes that the situation is
dynamic. It is especially critical of the administration and growth of social security programs in developing countries where eligibility factors may be strongly influenced by the pension plans of multi-national corporations with schemes that bear little relationship to the internal domestic economy. It is evident that a retirement pension at age 65 has little meaning to many adults in countries where the life expectancy is only 40 years, as in Afghanistan or Ethiopia [19].

In Canada the subject of old age has been closely examined in the public domain during the past two years. The Lazar Committee [26], the Croll Senate Committee [27] and the recent conference on public pension plans [28] have all examined various aspects of the problem and discussed many alternative approaches to coping with major problem areas identified. In general there is recognition that more flexibility needs to be injected into the social security system to allow individual planning to be developed on a more integrated basis. The whole area of private pension plans is evidently in a state of ferment as a result of inflation and provinces are studying the problem with a view to rationalizing the public and private initiatives in complementary roles. As with the Canada and Quebec Pension Plans it is evident that provision must be made for premature death and disability in terms of realistic risk factors as are now entrenched in Workers' Compensation Programs.
The general reaction to the current situation is well represented by the final paragraph in a recent publication by Dennis Guest [29].

As Canada moves into the 1980's burdened by serious inflation, high rates of unemployment, a weakened dollar and disappointing rates of growth, the climate for further major advances in social security is not propitious. Indeed the most immediate task may well be the struggle to maintain the integrity of those programmes already in place which confer rights to benefit and safeguard the dignity of Canadians.

In this context it may be appropriate to draw attention to activities in U.S.A. that have a bearing on this problem. The first is consideration of recommendations from the First Report of the National Commission on Social Security [30]. The Commission points out that many Americans lack confidence that there will be sufficient funds to pay for their social security benefits when they qualify for them and those on benefits feel they are inadequate. One interesting proposal is that one half of their hospital insurance programs should be paid for from general revenues commencing in 1983; the other half to be financed by payroll taxes. There is also a recommendation that the minimum age for full retirement benefits be increased to 68 years of age over the period from 2000 to 2012 and that increased benefits should be available to persons who delay retirement beyond the normal retirement age.
The other activity I would like to draw your attention to is based on a report by Alex Norman of the School of Social Work at the University of California [21]. Professor Norman reported on an assignment he undertook with funding from the State of California, to replace the Advisory Councils on Aging, which were very inactive, by Regional Councils in Aging which were appointed under government authority with some seed money to get them started. Most of the projects were located in 33 centres in the rural mountainous areas around San Bernadine County. The Councils operated under voluntary leadership and soon began to raise their own funds to enable them to carry out many of the changes they wished to introduce in the areas. Within a year and a half, when he returned to carry out an evaluation, he found the Councils has generated three quarters of a million dollars worth of services either through voluntary work, fund raising or with some church contributions.
REFERENCES


AGING, PENSIONS AND DEMOGRAPHIC CHANGE

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There has been much recent concern over demographic projections related to the post-World War II Baby Boom and recent declines in fertility rates. Most projections lead to what has been dubbed the "Pension Mountain". It is feared that in the third and fourth decades of the next century the ratio of retired to active work force participants will put the Canadian economy under serious stress. This paper examines the issues which have been raised in other studies and attempts to disentangle myth from reality. It begins with an overview of the underlying causes for concern, moves on to consider the problem from a lifecycle perspective, and concludes with a discussion of the role and limitations of planning.

Myths, Uncertainties, and Realities

Among Canadian studies of the changing age structure/pensions problem, the best single treatment is the Economic Council of Canada's [1] One in Three: Pensions for Canadians to 2030. In addition to reporting the findings of a number of companion research studies initiated by or on behalf of the Council, this report summarizes related work conducted elsewhere in Canada and in the U.S.. Unfortunately, even this excellent study seems to perpetuate a number of popular myths, to ignore
the potential for change, and to place an unwarranted emphasis on governmental solutions.

The Council uses the traditional dependency ratio method for high-lighting the problem. Indeed, the title of the report, One in Three, is based on the projection that by the year 2030 one out of every three Canadians over the age of 21 will be over 65 and, therefore, dependent on the working population between 21 and 64 to support them. This creates the impression that "old dependents" will take away fully half of the product of the "productive" work force aged 21 to 64 -- and this is before any consideration is given to young (under age 21) dependents. While a careful reading of the report reveals that the title is more an attention grabber than a statement of fact, several myths underlie the Council's approach.

The first of these I shall call the Dependency Ratio Myth. As Havens has pointed out [see Chapter 1] by simply counting up the number of people in one age group (the over 65's) and relating them to the number of people in another (the 21 to 64's) nothing is said about dependency. While it may be customary today for people not to hold down full-time jobs after they reach age 65 some in fact do. Furthermore, there is no reason why today's customs can't change. Nor is it true that all people work full-time between the ages of 21 and 64. We are already witnessing a dramatic rise in participation rates among women and it is likely that this trend will
The second myth is what I would call the Wage/Productivity Myth. The idea here is that unless one is working for a wage, one is not contributing to a nation's productivity. Now while this may be true in the most primitive of economic societies it is certainly not true of modern economies. We should all know by now that a nation's productivity depends on a blending of its natural resources, labour, capital, and risk bearing. It is obvious then that if labour productivity is to be maintained or enhanced, someone must provide the capital inputs. Moreover, the providers of this capital are entitled to a share of the product.

The third myth may be termed the Dramatic Change Myth. In looking at the 65+/21-64 dependency ratio cited by the Council, one could easily gain the impression that disaster is upon us. But let's place it in context. The dependency ratio stands at about one in five today and has been rising for some time. At the other end of the age spectrum the youth dependency ratio has been falling, and by the Council's own projections, will continue to do so. Moreover, the aged dependency ratio will not approach its maximum for another forty years or so -- even if the projections are correct. The Council adds to its sense of urgency by listing off, one by one, the changes that will have to take place to keep the ratio around its present level. Thus, they note that work-force participation rates by the over-65's would
have to rise from less than five percent to forty-four percent; or that participation rates among women would have to rise from about sixty percent to eighty-seven percent; or that immigration would have to rise from a projected eighty thousand per year to six hundred and forty thousand. That certainly dramatizes the problem, but who ever said only one of those things could change, and nothing else? It is much more likely that we will see all of them change somewhat, and other things as well.

But that brings me to the final myth, the Government Must Solve it Myth. If the dependency ratio is out of control and if private adjustment mechanisms have all failed us, then obviously only collective action through elected governments can save us. But is it inevitable that in the absence of government solutions the "problem" will do us in? I think not. Moreover, if history is any guide, attempts by today's government to solve tomorrow's problems will only make things worse. Democratically elected governments are quite appropriately most concerned with immediate problems -- not the long-term consequences of their "solutions". When voters are feeling pain they are not much in the mood to accept governments inflicting more pain on them to solve problems which may emerge forty or fifty years down the road. The Council's own set of recommendations reflects that belief. After trying to focus attention on a long-term scenario they propose actions to alleviate the problems
of today's elderly (without inflicting much pain on the rest of us) and hope that these "solutions" will not make tomorrow's problems worse.

But is that the best we can do? I would hope not. I think we can try to understand more about the process of providing for our own old-age security, supplemented wherever necessary with dependency on government aid. Private solutions might fail, but there is no sense in assuming that they will before we have examined their consequences. In what follows I will try to outline a framework for examining these questions identifying, as I proceed, what we don't know and proposing how we might go about reducing this ignorance.

**Old Age Security**

One of the reasons we find ourselves in difficulty in trying to come to grips with economic security in old age is that we look at the problem from too narrow a perspective. We tend to think of income security and then only of that income provided by the government. In fact, it is consumption security we should be concerned with and consumption potential can be secured in several ways, of which government assistance is but one. With the economist's penchant for putting things down in equations, let me illustrate:

\[ C = f(W, P, T, D), \]

which says simply that one's potential consumption is a function of one's wages or salary income, property
income, transfer payments received, and dissaving. There are, in this representation, no other possible sources of consumption potential. Let's look at each source in turn.

**Wage income** simply refers to the amount of income received in exchange for selling one's personal services. It could, of course, take the form of an hourly wage, a salary, commissions and fees, or even the drawings a self-employed person takes from his business. The key idea is that it is income earned from personal services.

**Property income** is income derived from the ownership of assets. Obvious examples are financial investments, such as stocks and bonds, mortgages, and various other types of loans held. Perhaps less obvious, but no less important are indirect financial investments such as savings accounts and various other deposits in financial institutions, registered retirement savings plans (RRSP's) and mutual funds. We must also include the earnings on pension fund assets. Even further down the list of property income sources which easily come to mind is real estate. We ordinarily think of shopping centres, office towers, or other massive investments. What we overlook, however, is the investment we have made in our own homes which, by allowing us to escape the payment of rent, allows us to consume more of non-housing goods and services than we could otherwise. Also, real estate equity, as we shall later see, provides us with an important source of dissaving.
Transfer payments, the third source of consumption potential, is any receipt for which we have not rendered a service or given up (i.e., liquidated) an asset. Any such payments we receive are obviously given up by some other member of society. They may be classified as being governmental in origin or private. Examples of governmental transfers are Old Age Security/Guaranteed Income Supplements; Canada/Quebec Pension Plan Payments; various in-kind transfers, such as medicare, denticare, and pharmacare; or tax subsidies (like age exemptions). Private sector transfers include gifts, bequests, or even some parts of pension receipts. The latter category may bear some explaining. Under formula benefit pension schemes, which are typical in Canada, plan members may take out of a plan more than they put in — even with allowances for plan earnings. This is most obvious when a new plan starts paying retired employees much more than they contributed to it, but similar transfers are involved whenever plans are modified to begin paying higher benefits to retired members. The measure of the transfer is the excess of payments received by a member over what he contributed (where earnings on his share of plan assets are counted as part of his contributions).

Dissaving is quite simply the consumption of assets previously accumulated or the incurrence of indebtedness. Withdrawals form savings accounts for consumption may be one form, but there are many others. The sale of securities, reduction of principal on mortgages held for
investment, or the swapping of an expensive home for a smaller, cheaper one would all be examples. So too would be the receipt of pension payments or payments from annuities. But we must be careful here to separate the drawing down of assets (dissaving) from property income (e.g., interest) and transfers.

With such a vast array of consumption potentials available to us, why are we so preoccupied with one source, government transfers? The answer is not obvious, but the question needs to be asked. If we start with wages it is apparent that the day will come for most of us when we will no longer have the physical or mental capacity for work. But even beyond that, most of us would like to think that if we reach old age in reasonably good health we can withdraw from the rigors of full-time employment — to taste the opportunities life offers, but which earlier responsibilities crowded out. That does not seem an unreasonable aspiration.

But what of the other sources of potential consumption — property income, dissaving, and private transfers? Let's begin with the latter. Private transfers make us keenly aware of our dependency on others, and not others in the abstract, but real, living others who offer us their direct support or the deceased who leave us an inheritance or insurance proceeds. Note that in these sources there is an element of voluntarism on the part of the donor. On the other side of the transaction, the recipient of the transfer often feels obligated — at
least obliged to express gratitude. It's difficult to enjoy consumption if it's accompanied by this sense of obligation. Contrast that with government transfers which we can claim by right and which the "donor" is obliged to pay over to the government. Moreover, while we are conscious of the fact that we might be a burden on those who provide us with private transfers, we have faith that government transfers will come from those who are most able to pay them.

Property income and dissaving are another matter. The assets which generate the income belong to us and we may liquidate them or borrow against them if we choose. The difficulty here is that if we are to own such property we must save to acquire it. For many of us that is distasteful -- we want to consume everything we can get our hands on. For others, whose incomes are at the margin of survival, it is impossible. We all, therefore, tend to be more or less myopic, seeing our present needs and desires much more clearly than those that lie in the distant future. That myopia, of course, largely explains the existence of private pension plans and the incentives which are built into such other schemes as RRSP's.

All pension plans contain an element of coercion. Some of the wage we earn is not paid to us immediately, but is paid into the pension plan. If the plan is contributory, an additional amount is withheld from our pay-cheques and paid into the plan. But the coercive aspects of pension plans do not stop there. When we
retire, the rate at which our savings and the earnings they have accumulated get paid over to us is not a matter of our choice but is in accordance with the terms of the plan. If the plan is of the formula benefit variety (and most Canadian plans are) and if the plan is not fully funded, i.e., has not accumulated enough assets to pay all of the promised future benefits, it will contain a transfer payment feature as well. That is, some who are on pension will not have contributed enough assets to pay for those pensions, so that at least some of the benefits they receive will be paid for by the active workers in the plan. Even in the case of a money purchase plan there is some coercion. Money purchase plans and RRSP's provide for the payment of pension benefits based on lifetime annuities. That is, the payments we take out are blended repayments of property income and assets -- a blended repayment which depends on the life expectancy of the recipient and not necessarily on his or her wishes.

These aspects of pension plans and the necessity for even non-members of pension plans to think about whether or not they will outlive the assets they have accumulated have led economists to think about the problem of property income and dissaving in a lifecycle context. From this perspective, the savings accumulation process during the working years and dissaving during the retirement years can be viewed simply as different phases of the same ongoing activity. It is to that aspect of the saving/consumption process which we now turn.
**Lifecycle Saving and Consumption**

In order to bring the saving/consumption issue sharply into focus we begin by considering a world in which transfer payments do not exist. This means that the only means people have to consume is wage income, property income, and dissaving. Initially, we simplify the problem even more by assuming property income is zero, an assumption which we shall later drop. For now, however, the only means of consumption will be wage income and dissaving. This provides a simple framework from which we can get things started.

For concreteness, let's assume that an individual starts working at age 20; that he works until he reaches age 65, earning a $20,000/year wage income throughout his working years; that he will die at age 75, leaving no estate; and that he wants to consume the same amount in every year of his life. Of course none of these things are really known for certain and they would never really remain fixed over one's entire lifetime, but those complications can be introduced later. A little arithmetic shows us that this individual's lifetime wage income will be $900,000. Since his working and retirement years total 55, he will be able to consume at the rate of $16,363.64 per year. Figures 1a and 1b graph the process.

Note that the individual saves (accumulates assets) over the first 45 years and that he dissaves (liquidates assets) over the last ten. Note also that the rate of
FIGURE 1a
LIFETIME DISTRIBUTION OF INCOME AND CONSUMPTION

FIGURE 1b
LIFETIME DISTRIBUTION OF ASSETS
saving ($3,636.36) is much lower than the rate of dissaving ($16,363.64). Finally, we can see (Figure 1b) that the individual's assets start out at zero, reach a peak of $163,636 at age 65, and fall back to zero at age 75. It should not escape your attention that at age 65, when maximum asset values are attained, this individual owns more than eight times as much wealth as he ever earned in any one year.

Even if everybody earned the same wages over their lifetimes and even if they earned at a constant wage rate, there is no reason why there should be an equal distribution of wealth among people of different ages. If there were, older people would lack the means to provide for their own consumption in retirement.

If we now relax the assumption of no property income, while retaining the assumptions of a $20,000/year wage income and constant lifetime consumption a somewhat different picture emerges. For illustrative purposes assume that 6% per year can be earned on assets held. Two consequences are immediately apparent. First, annual consumption will now rise to $19,331.22 per year and second, the maximum amount of assets which need be held drops to $142,279.43. Such is the power of compound interest! Whereas without interest savings our hypothetical individual would have had to save more than 18 percent of his income each year he worked, with 6 percent interest earnings he only has to save a little over 3 percent. Of course with lower interest rates,
more would have to be accumulated and saved, while with higher rates the opposite would be true.

More complicated patterns of earnings and consumption could be considered. Indeed they would have to be to realistically come to grips with the consequences of a changing age structure for saving/consumption behaviour. For our purposes, however, several points may be noted without going into all of the detailed calculations. First, it is clear that a concentration of Canada's population in the upper age groups, as foreseen in current population projections, will lead to an even greater concentration of wealth within those groups. That is not a particularly serious problem unless those who do not have it see it as a concentration of power which ought to be broken up through confiscation. One means of avoiding this kind of confrontation, of course, is to divert most of the money into employee pension plans rather than leave it in the hands of individuals. Second, and this is a more serious problem, is the sheer size of the savings accumulations which will be needed. If this capital cannot be used productively, a shrinking work force (as a percent of total population) might see the rate of return on capital decline. This reduced property income would certainly place the economy under greater stress. Economists have referred to this as the capital deepening problem. With an expanding work force more capital investment is required just to keep the same amount of capital in each employee's hands (capital
widening). When the capital stock is growing faster than the work force, however, it is not necessarily true that all of it can be used productively. Indeed, some economists have pointed to statistics which seem to suggest that while Canada's capital/labour ratio is higher than that of the U.S., our productivity is actually lower. Whether this is a fact or not, it is cause for concern.

Third, it is evident that if life expectancy continues to lengthen and if at least some of the longer life span is due to greater longevity among the elderly, they must either (a) work longer, or (b) draw pensions for a longer period of time. Whether we can afford the luxury of longer retirement will depend upon our willingness to make additional transfer payments or to step up the rate of savings, either one of which means a lower rate of consumption than we would otherwise enjoy. Finally, it's clear that not all of us are equal when it comes to lifetime income and savings potentials. For some, the idea that they could save up enough during their working years to provide for their own retirement is silly. Those who must, for reasons of health or other circumstances beyond their control, work only sporadically, or at low paying jobs ought, like the rest of us enjoy some retirement security. To that extent the lifecycle approach needs to be supplemented with a system of transfer payments. Nevertheless, it remains a useful perspective from which to view the problem.
The Role and Limitations of Planning

What I have attempted to do in this paper is to set out a framework for looking at the problem of retirement security under a changing population age structure. I have tried to point out the dangers of relying too heavily on rules of thumb like dependency ratios or on the acceptance of forecasts as fact. Rather than wringing our hands and asking the government to do something about a problem that is not immediate but long-term, we ought to try to understand what our options are. Simplistic reliance on government transfers is hardly adequate to that task.

By broadening our consideration to various other sources of consumption potential and by exploring income and consumption in a lifecycle setting we can at least take some tentative steps in the direction of finding out what the real issues are. Surprisingly, very little work has been done in Canada using the lifecycle approach. What we need to begin with is an attempt to explain current wealth distributions by age in terms of alternative income and consumption patterns. Much of the necessary data already exist, though they are not in the form or nearly as complete as one would like. By fitting various versions of the lifecycle model to wealth data, the one that seems to best explain current distributions can be extracted and used for examining potential economic scenarios.
By starting with earned income (wage) projections, say, to age 65, estimates of consumption patterns for an "average" individual under existing transfer arrangements, dissaving rates, and property income rates can be obtained. By superimposing a changing age structure on this pattern, national economic magnitudes, such as GNP shares and wealth distributions can be obtained. This should reveal potential imbalances which are likely to arise.

The model can further be used to examine its responsiveness to changes in saving/dissaving rates, GNP growth, wage and property income rates, and modifications in transfer payment schemes. It can also be used to examine the effects of longer life expectancies and lengthened or shortened working lives.

If all of this sounds hypothetical, or even crudely speculative, it is meant to. Economic systems are highly complex in their interactions. Human behaviour is difficult to understand and nearly impossible to control. Nevertheless, by exploring possibilities in even this crude a framework we will be some distance ahead of where we are now. I would not want to bet on any particular outcome, however, and I certainly would not want to constrain the responsiveness of the system by excessive intervention -- particularly given our current understanding. If I have a message to give, that is it. Planning, particularly of the long-range variety, must be done with a great deal of humility. By all means let us
try to understand what is possible — even what we control and what we cannot. But let's not kid ourselves into believing that we can fix up the world of 2030 in the year 1981.
These calculations are based on the following compound interest formulas:

\[
C = W \left[ \frac{(1+i)^N - 1}{(1+i)^N - (1+i)^{-T}} \right],
\]

where \(C\) is the level of consumption, \(W\) is the wage, \(i\) is the interest rate (earnings rate on assets), \(N\) is the number of working years, and \(T\) is the number of years spent in retirement. For example in the text the numbers are:

\[
(1.06)^{45} - 1 \quad C = \$20,000 \quad 45 \quad -10 \quad = \$19,331.22
\]

The amount of the assets accumulated at retirement is simply:

\[
A = S[(1+i)^N - 1]/i
\]

where \(A\) is assets, \(S\) is annual saving, and the other variables are as previously defined. Again, for the example shown in the text the numbers are:

\[
A = (\$20,000 - \$19,331.22) \quad [(1.06)^{45} - 1]/.06 = \$142,279.43
\]

REFERENCES

The issues of population aging touch upon all age groups in all aspects of life. This has been amply demonstrated in other, mostly West European, countries which have much older populations than ours: it is possible to look at what has occurred there when assessing the possible impact of population aging on Canadian society. To the present, however, much of the attention by Canadian researchers, has been restricted to the major increase in the burden that will be placed on the working population by retirees in years to come. While the studies to date [1-3] have generally indicated that the increased burden of public sector expenditure is not likely to be excessive in terms of projected increased tax bases, there certainly have been dissenting opinions as to the results if there is a significant expansion of pensions [4], if the trend to earlier retirement continues [1,5], or if productivity continues to be depressed [6]. Excessive or not, the shifting burden will create tensions that are important from the point of view of social policy on work and leisure: the reduction of these social and economic stresses will be the central theme of this paper.
Three main sections follow. The first presents background material on retirement and what aging of the population implies by way of burden. The next section identifies potentially significant social and economic problems which individuals and society-at-large will face if the trends continue. The final section, focussing on the potential increase in burden on the economy, speculates on directions that social policy might take and identifies some of the associated major research questions.

Background

Demographic Projections

While many different assumptions could be made on which to base projections, government analysts usually assume fertility rates continuing slightly below replacement level, slight declines in mortality rates, and net immigration rates not much different from the current ones. (Note: in practice, policy analysis always includes a "sensitivity analysis" component requiring that a range of fertility and immigration possibilities be investigated.) Statistics Canada Projection no. 3 embodies such assumptions and is presented in Table 1.
**TABLE 1**  
CANADIAN POPULATION PROJECTIONS BY AGE*  

<table>
<thead>
<tr>
<th>Year</th>
<th>Total Population ('000)</th>
<th>0-17 (%)</th>
<th>18-59 (%)</th>
<th>60-64 (%)</th>
<th>65+ (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1981</td>
<td>24,330</td>
<td>28.5</td>
<td>58.1</td>
<td>4.0</td>
<td>9.5</td>
</tr>
<tr>
<td>1991</td>
<td>26,975</td>
<td>25.8</td>
<td>59.0</td>
<td>4.1</td>
<td>11.0</td>
</tr>
<tr>
<td>2001</td>
<td>28,794</td>
<td>23.6</td>
<td>60.4</td>
<td>4.0</td>
<td>11.9</td>
</tr>
<tr>
<td>2011</td>
<td>30,068</td>
<td>21.3</td>
<td>59.8</td>
<td>5.9</td>
<td>13.1</td>
</tr>
<tr>
<td>2021</td>
<td>30,877</td>
<td>20.7</td>
<td>55.9</td>
<td>7.0</td>
<td>16.5</td>
</tr>
<tr>
<td>2031</td>
<td>30,935</td>
<td>19.9</td>
<td>54.0</td>
<td>5.9</td>
<td>20.2</td>
</tr>
</tbody>
</table>

*Statistics Canada Projection No. 3.

Assumptions:  
- net immigration 75,000 p.a.  
- life expectancy increase to 70.2 for men and 78.3 for women by 1986  
- total fertility rate declines to 1.7 in 1991  

**TABLE 2a**  
PROJECTED AGED DEPENDENCY RATIO*  

<table>
<thead>
<tr>
<th>Year</th>
<th>Ratio (65+ to 18-64)</th>
<th>Ratio (60+ to 18-59)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1981</td>
<td>15.3%</td>
<td></td>
</tr>
<tr>
<td>1991</td>
<td>17.5%</td>
<td></td>
</tr>
<tr>
<td>2001</td>
<td>18.4%</td>
<td>26.4%</td>
</tr>
<tr>
<td>2011</td>
<td>19.9%</td>
<td>31.7%</td>
</tr>
<tr>
<td>2021</td>
<td>26.2%</td>
<td>42.0%</td>
</tr>
<tr>
<td>2031</td>
<td>33.7%</td>
<td>48.2%</td>
</tr>
</tbody>
</table>

**TABLE 2b**  
PROJECTED OVERALL DEPENDENCY RATIO*  

<table>
<thead>
<tr>
<th>Year</th>
<th>Ratio (0-17 and 65+ to 18-64)</th>
<th>Ratio (0-17 and 60+ to 18-59)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1981</td>
<td>61.2%</td>
<td></td>
</tr>
<tr>
<td>1991</td>
<td>58.4%</td>
<td></td>
</tr>
<tr>
<td>2001</td>
<td>55.0%</td>
<td>65.5%</td>
</tr>
<tr>
<td>2011</td>
<td>52.3%</td>
<td>67.3%</td>
</tr>
<tr>
<td>2021</td>
<td>59.1%</td>
<td>79.0%</td>
</tr>
<tr>
<td>2031</td>
<td>66.9%</td>
<td>83.4%</td>
</tr>
</tbody>
</table>

*From Table 1
Using the ratio of the population 65 and over to the population aged 18-64 is one quick way of judging increases in burden. The first column in Table 2a displays these calculations and suggests a doubling of the burden over the next 50 years with the bulk of the increase occurring in the relatively short period 2011-2031 which coincides with retirement of the Baby Boom.

Table 2a shows that if the population 60-64 were also to be considered dependent, the burden would more than triple by the year 2031. There would be, however, fewer children and the working age population would make up as high a percentage of the total population in 2021 as in the early 1980's. Table 2b shows this via the overall dependency ratio which declines until 2011 and then increases to about 6 percent above the 1981 ratio by 2031. Again, if the 60-64 year olds were to be considered dependent, the overall ratio would ultimately be more than one-third greater than the 1981 ratio based on age 65 dependency. Table 2, however, does indicate that early retirement could be a major factor affecting burden. These "demographic" based calculations are somewhat simplistic since it is the number actually in the labour force that should count, not the number of "working age", i.e. the translation of burden to a more appropriate basis requires the use of labour force participation data.
Labour Force Participation

Table 3 below shows how the pattern of participation has evolved over the past 20 years.

The trends are towards earlier retirement (particularly among men) and towards greater participation by women. Note, however, that while participation by women aged 55-64 has increased, it decreased relative to younger age groups reflecting the changing balance of these two trends. Table 3b is important because it shows that, despite reduced male participation, the total labour force as a percentage of either the adult population or the total population has been steadily growing for the past two decades or more. While the trends identified can be expected to continue, it is the relative balance among them that is of importance in settling the question of ultimate "burden" on the work force placed by an expanding elderly population.

TABLE 3a
LABOUR FORCE PARTICIPATION RATES (%) BY AGE AND SEX, 1961-1981

<table>
<thead>
<tr>
<th>Year</th>
<th>25-24</th>
<th>55-64</th>
<th>65-69</th>
<th>70+</th>
<th>25-54</th>
<th>55-64</th>
<th>65-69</th>
<th>70+</th>
</tr>
</thead>
<tbody>
<tr>
<td>1961</td>
<td>97.2</td>
<td>85.9</td>
<td>50.4</td>
<td>22.0</td>
<td>30.0</td>
<td>24.6</td>
<td>10.8</td>
<td>3.8</td>
</tr>
<tr>
<td>1966</td>
<td>97.1</td>
<td>85.3</td>
<td>46.7</td>
<td>17.5</td>
<td>35.3</td>
<td>30.2</td>
<td>11.8</td>
<td>3.5</td>
</tr>
<tr>
<td>1971</td>
<td>96.3</td>
<td>82.5</td>
<td>32.8</td>
<td>14.6</td>
<td>40.9</td>
<td>32.8</td>
<td>10.5</td>
<td>2.9</td>
</tr>
<tr>
<td>1976</td>
<td>94.9</td>
<td>76.8</td>
<td>25.4</td>
<td>9.7</td>
<td>52.3</td>
<td>32.0</td>
<td>7.9</td>
<td>2.1</td>
</tr>
<tr>
<td>1981 (Feb)</td>
<td>94.1</td>
<td>75.2</td>
<td>22.5</td>
<td>8.3</td>
<td>62.0</td>
<td>33.3</td>
<td>8.2</td>
<td>2.6</td>
</tr>
</tbody>
</table>

TABLE 3b
OVERALL LABOUR FORCE PARTICIPATION RATES, 1966-1981

<table>
<thead>
<tr>
<th>Year</th>
<th>Percentage of Adults*</th>
<th>Percentage of Total Population</th>
</tr>
</thead>
<tbody>
<tr>
<td>1966</td>
<td>57.3</td>
<td>37.4</td>
</tr>
<tr>
<td>1971</td>
<td>58.1</td>
<td>40.1</td>
</tr>
<tr>
<td>1976</td>
<td>61.1</td>
<td>44.4</td>
</tr>
<tr>
<td>1981 (Feb)</td>
<td>63.3</td>
<td>47.3</td>
</tr>
</tbody>
</table>

*Population aged 15 or over.

Denton, Feaver and Spencer projected labour force participation for the Economic Council of Canada (see Appendix C in [1]) based on a slight decline in activity of older males and a slight increase by women of all ages. They found that the percentage of the population engaged in market activity would increase to 48.8 percent in 1991, would remain-stable during 1991-2011 and then would drop back into the 45.5 percent range by 2031 (stable thereafter). In other words, if substantially earlier retirement did not become the norm, then burden as measured by the ratio of non-participants to participants would not only not increase but would be less than that which prevailed in either the 1960's or the early part of the 1970's. Note that once the size of the population stabilizes, constant participation rates result in fewer new entrants into the labour market.

Some would argue that the participation rate overstates the level of activity because it does not take into account the shortening work week. In this regard a recent OECD study [9], in comparing various countries, found that the index of hours of leisure per annum per person aged 15 and over in Canada stood at 99.4 in 1971-3 versus 100 in 1951-2 (not standardized for age) despite the increase in the overall participation rate. If this trend were to continue then even stable participation rates would have to be associated with an increasing burden.
Because of the apparent importance of retirement age in determining burden, Table 4, presenting 1971 census data, indicates the continuous fall-off in participation starting from age 55, a fact sometimes forgotten when looking at grouped-data. The 1981 census data will be available shortly, at which time an accurate picture of recent trends will be able to be drawn.

<table>
<thead>
<tr>
<th>Age</th>
<th>Males</th>
<th>Females</th>
</tr>
</thead>
<tbody>
<tr>
<td>55</td>
<td>88</td>
<td>45</td>
</tr>
<tr>
<td>56</td>
<td>88</td>
<td>38</td>
</tr>
<tr>
<td>57</td>
<td>85</td>
<td>37</td>
</tr>
<tr>
<td>58</td>
<td>84</td>
<td>39</td>
</tr>
<tr>
<td>59</td>
<td>82</td>
<td>35</td>
</tr>
<tr>
<td>60</td>
<td>79</td>
<td>35</td>
</tr>
<tr>
<td>61</td>
<td>76</td>
<td>34</td>
</tr>
<tr>
<td>62</td>
<td>75</td>
<td>30</td>
</tr>
<tr>
<td>63</td>
<td>70</td>
<td>29</td>
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<tr>
<td>64</td>
<td>63</td>
<td>24</td>
</tr>
<tr>
<td>65</td>
<td>47</td>
<td>15</td>
</tr>
<tr>
<td>66</td>
<td>39</td>
<td>15</td>
</tr>
<tr>
<td>67</td>
<td>36</td>
<td>12</td>
</tr>
<tr>
<td>68</td>
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<td>11</td>
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<td>70</td>
<td>23</td>
<td>8</td>
</tr>
<tr>
<td>71</td>
<td>22</td>
<td>8</td>
</tr>
<tr>
<td>72</td>
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<td>6</td>
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<td>73</td>
<td>15</td>
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<tr>
<td>74</td>
<td>18</td>
<td>4</td>
</tr>
<tr>
<td>75</td>
<td>13</td>
<td>5</td>
</tr>
</tbody>
</table>


A major factor influencing the trend to earlier retirement is the development of the retirement income system, and hence an important determinant of
intergenerational burden from the point of view of both
decreased labour force participation and increased public
sector costs.

Institutional Environment

Perhaps the most significant change in the
institutional environment since World War II has been the
major expansion of the social security system in Canada.
This has been described by Walker [Chapter 4 this volume]
and others [1,10] but a few facts bear repeating. The
last thirty years has witnessed the creation of Hospital
Insurance, Medicare, the Canada Assistance Plan, the
Canada and Quebec Pension Plans, Old Age Security, and a
significant Unemployment Insurance program. The propor-
tion of employees covered by private pension plans has
increased from 31 percent in 1961 to 44 percent in 1978,
and there was the explosion of contributions to
Registered Retirement Savings Plans in the 1970's. All
studies, whether based on U.S. time series [eg., 13,14],
Canadian time series [eg., 15,16], or Canadian
cross-sections [8], have found that increased wealth,
particularly if in the form of pensions, provides an
inducement to retire early. Thus the expansion of the
retirement income system and the secular growth in
lifetime income have led to the significant declines in
labour force participation among the elderly.

The incentive to retire early has not been as great as
sometimes thought. In 1977, following twenty-five years
of increasing benefits, studies of the Survey of Consumer Finance data [eg., 17] found that 27 percent of elderly couples and 65 percent of elderly singles were living in poverty, and that the average family with head aged 65-69 had an income only 54 percent of that with the head aged 45-54. For those with heads aged 70 and over, this ratio fell to 45 percent.

Perhaps more importantly, such depressing statistics demonstrate the weakness of the retirement income system in Canada. That system continues to evolve, however, and three aspects are of particular importance:

- CPP/QPP only became fully payable in 1976 so benefit payouts will continue to be increasing, relative to other sources, for another 20 years;
- private pension plans (and RRSP's) have expanded continuously over the past 30 years and so benefits will also be increasing for some time to come; and
- there has been a recent trend to special "bridging" benefits in employer-sponsored pension plans for employees taking early retirement. Forty percent of plan members are now in plans with such additional benefits for early leavers.

On top of these foreseeable increases an expansion of the pension system would appear likely if the major government studies on pension reform [18-20] and the position of the Canadian Life and Health Insurance Association [21], as well as a majority of employers responding to a recent survey by Mercer Ltd. [22], are
reliable indicators. Significant reform could entail the equivalent of "doubling" the current employer-sponsored pension system (as measured by the present value of liabilities). Changes of this magnitude would clearly provide a much greater incentive to retire because post-retirement income would closely approximate pre-retirement income.

A final change in the institutional framework that will likely occur is the abolition of mandatory retirement on the basis of age — one probable effect of the Charter of Rights contained in the constitutional amendments. While a step in the direction of greater rights, in practice relatively few will be affected in the near future. Estimates from both the 1975 national Retirement Survey [23,24] and the more recent survey of the Conference Board in Canada [25] showed that at most 25,000 people per annum would actually continue working beyond age 65. In the future, however, a new attitude towards "retirement" might develop as a result of a legislated prohibition of age discrimination. Employees, once they lose their conditioning to think of retirement as taking place automatically at age 65, might wish to keep their hand in longer, possibly on a part-time basis.

Employers, currently, do not provide the opportunities to older workers but this could change as a result of particular skill shortages or a generally tighter labour market associated with fewer new entrants. In other words, one might expect the labour market to shift like
any market to take account of the balance of supply and demand.

**Magnitude of the Burden**

Two studies in the past three years have projected the burden of programs targeted on the elderly as a percentage of GNP. The major difference between the two was that the Economic Council of Canada study [1] assumed that the level of OAS benefits would be wage-indexed, whereas Powell and Martin [10] assumed that the current price-indexing would continue. Thus the latter projected that by 2031, 8 percent of GNP would be devoted to major government programs on the elderly while the Economic Council projected a burden of about 11 percent of GNP. In contrast, current costs are less than 5 percent. The driving force in both projections was the increase in the elderly proportion of the population from 9.5 percent to about 20 percent. Neither study took account of private pensions and similar arrangements, or of possible improvements to the retirement income system.

The Powell and Martin projections were redone employing the following assumptions regarding pension reform:
- OAS wage-indexed;
- CPP/QPP remains the same; and
- mandatory private sector plans and/or an increase in CPP/QPP sufficient to guarantee "full" replacement for most earners.
Based on the above, the new projections account for the total resources devoted to the elderly (see Annex for details). In 1976, the total resources, excluding earned income but including investment income were about 6 percent of GNP: this would grow to 16-17 percent by the year 2031 in this projection.

Clearly the relative burden of the retirement income system and other public programs will increase, and it will be greater if early retirement reduces the number of workers. As well, if fertility were to decline further and/or if productivity were to remain low, the projected burden would be much greater - some estimates range up to twice as great a burden if productivity does not increase at all [6]. It will be assumed throughout the rest of this paper that something in the order of the above adjusted projection will hold and that, while major adjustments throughout the economy will be required, there is sufficient time (2031 is still 50 years away!) for them to be effected without major disruption.

The above projections have another significant shortcoming in that they do not take into account transfers among family members nor the declining costs associated with relatively fewer children to raise. It is generally accepted that the per capita public sector cost of children is about one-third that of the elderly [see, for instance 1]. This means that public expenditure as a percentage of GNP will be reduced by the declining numbers under age 20, but not sufficiently to
offset increases due to the elderly. Many argue, therefore, that the real burden on the economy will increase as a result of population aging. A recent German study [26], on the other hand, suggests that total public and private (i.e. social) cost, including the cost to parents, of raising someone to age 20, is one-third to one-fourth more than that required to sustain an average 60 year old over the remainder of his or her lifetime. If accurate, then it could be argued that population aging, in which the overall dependency ratio does not increase, will not lead to a greater burden.

Of course public expenditures on the elderly are totally different in terms of the composition of goods and services from private expenditures on children so major adjustments will be required even if the total expenditure is no greater. Moreover, the clear shift from private to public costs removes the burden from a social/familial context and places it in a political one. The lack of North American studies has meant that the entire issue of an increasing aggregate burden or, perhaps more important, changes in its composition, is still very much up in the air as to the precise magnitude. The above projections do show, however, that a catastrophic problem is not likely to emerge.
Implications of Population Aging: A Social Policy Perspective

A variety of potential problems are suggested by the changing age structure. As noted in the introduction, impacts will be felt by all people in all aspects of their lives. Consider, for instance, some effects already observed and, it might be added, predicted well in advance, at least in terms of directions:
- the rise and fall of school age populations with the attendant over-expansion of the education system and the trauma of current reductions;
- the high levels of unemployment among youth in particular;
- the blocking of career paths with the resulting morale problems [27]; and
- the shifts in market orientation away from youth and towards the somewhat older young adults.

Even if attention is restricted to issues related to retirement, the intergenerational burden, and its evolution over the next 50 years, a number of important issues become apparent particularly if significant pension reform can be assumed.

Economic Issues

The aging of the Canadian population is not characterized solely by the shifting of the age structure, but also by declining (and eventually negative?) population growth. Both factors can affect economic
performance through a variety of mechanisms which are discussed by Serow and Espenshade [28].

To briefly capsulate the issues, there are two main areas of concern: capital accumulation and productivity. Theoretical studies suggest that the aging of a population leads to overall personal savings rate increases so that capital shortages are unlikely. On the other hand, econometric studies [e.g., 5 but see 1 as well] have not found a significant relationship between personal savings and the overall savings rate in the economy, the latter being more stable over time. The interplay between personal, corporate, government and foreign savings is complicated: the behaviour of one sector adjusts to shortages in savings in others.

One difficulty that could develop is a depressed demand side with available capital not being absorbed. This could be an important problem if, for instance, pension reform resulted in a fully-funded pension system that guaranteed for most the maintenance of their living standards in retirement - the pension funds would ultimately equal about one-third to one-half of the country's capital stock.

The size of funds would be another problem because of the extreme concentration. Even if subjected to the discipline of the market, this capital might not be invested as effectively as possible. A related problem worth noting is that the post-war Baby Boom (consisting of those born 1945-1965) will retire during the years
2011 to 2031. This "bulge" in the age structure disappears later and a stable population, characterized by a lower dependency ratio, emerges. The economic problem is how to liquidate the necessary capital stock over the period 2021–2041, to pay the pensions and investment income of the Baby Boom. Pension plans, which in aggregate could control perhaps one-third to one-half the capital stock, serve to illustrate this. They would have to liquidate part of their holdings to pay the pensions but other plans would not be in the market to buy. This problem would be difficult to overcome without disruption.

Economic growth cannot be spurred, in a stable population, by the "broadening" of production but only through its "intensification". Ultimately, economic growth would be limited by technological progress and only "labour-saving" technical progress (i.e. non-neutral) could prevent net investment from declining to zero. This brings us to the other principal issue: labour productivity.

Many argue that declining population growth and an older age structure will lead to labour productivity declines. Keyfitz [27] refers to lower geographic and occupational mobility among older workers and the lack of new positions being opened up and Phelps [29] worries about lower productivity resulting from the lower influx of new, more educated workers. Studies, albeit based on small samples, have suggested the opposite: productivity
of workers does not decline significantly with age. Findings were that consistency improves [30]; accuracy is unaffected [31]; absenteeism rates stay the same [30]; and creative output peaks in the 30-50 age group [32,33] which will make up a fairly constant proportion of the population. More importantly, as Schrank [34] points out, retraining improves performance of workers of all ages and automation does not necessarily require extensive retraining. However, retraining as a method of making older workers more productive relative to younger ones may not be effective; evidence suggests that older workers may not always learn as readily as younger workers [35].

Five years ago, the evidence led Serow and Espenshade [28] to suggest that great concern was probably not warranted, but also that no increase in overall economic performance should be assumed to result from the shifting age structure. The theoretical and empirical knowledge has not changed significantly since, but continued dismal economic performance, particularly smaller productivity increases in most industrialized nations, has raised productivity to a high point on the policy agenda. Whether or not this relative decline is a permanent feature will determine the extent to which diminished population growth becomes a significant problem.
Social Structure Issues

In 1956 Eisenstadt's seminal work on age groups, From Generation to Generation [36], appeared. While his primary focus was on youth groups, the basic hypotheses he investigated, and for which he found supporting evidence, are of a general nature:

- In societies where family and kinship systems are the basic unit (of necessity age-heterogeneous), roles are allocated as a function of age. Age-homogeneous relations are of secondary importance;

- In societies where family and kinship systems cannot ensure, or even impede, attainment of appropriate social status, age-homogeneous groups tend to arise because of individuals need for role performance based on "ascriptive, diffuse, universalistic, and solidarity criteria", and because such roles stabilize the social system.

Eisenstadt also found that the scope of age group activities was greater if the degree of age-related specialization (within the basic, universalistic framework of society) was lower. In modern, highly differentiated and specialized societies where roles are not precisely defined, social stability is based upon rules of choice and the universe of choice to a much greater extent. The result is a system much more susceptible to change, if not instability, and conditions leading to the rise of age groups are such that those age groups can become the focus of potential deviance and
change because the society is not meeting individuals' need.

Let us put this into the context of the elderly population. There has been a trend to earlier withdrawal from work while family life has played an ever diminishing role in society, coinciding with trends to smaller families, greater marriage breakdown, and more single person households (included widows and widowers). In terms of "role expectations", there are few positive roles which the elderly can now play. Thus current social institutions fail to meet the psychological needs as outlined in Eisenstadt's second hypothesis: the elderly are cut off from the rest of society, are not treated as "whole persons" in their dealings with others, and, in fact, are given no significant roles to play in most instances. The result is a potential rise in age-homogeneous groups among the elderly (e.g. the Grey Panthers in the United States).

Wilensky [37], in a slightly different vein, hypothesized rapidly increasing strain resulting from the interaction of the lifecycle and social participation. The combination of hard-pressed young families, who have no time for participating in the life of society, and older couples and solitary survivors, who tend to be segregated in most senses and whose participation declines, would, in his view, promote more "extreme" politics. In other words, the increasing lack of age-related conflict-reducing mechanisms would, a la
Eisenstadt, result in greater conflict among generations. Tindale and Marshall [38] agree with Wilensky. They postulate, in effect, the rise of the elderly as a "class", to use the term loosely, which would stress political action to satisfy their material and possibly social aspirations (Note: again the difference in the routing of intergenerational transfers via the family or the state comes to the fore). Of necessity, the resource allocation mechanisms of society would lead to an eventual clash with younger generations who have to "carry the burden". Foner [39], on the other hand, appears to take a different view. To her, "class-based" politics reduce conflict among the generations because, despite the generally more conservative attitudes of the elderly they tend to be very liberal in voting for specific benefits, just as younger voters do. In Foner's view, "status" politics tend to increase conflict as the elderly have relatively greater power in this realm. Which is right? Both perhaps, once the semantic differences are ironed out. While the elderly are clearly in dire economic straits for the next several years, if significant pension reform were implemented then the elderly would ultimately be pretty well off in terms of income, plus they would be at "leisure" as well. The agenda for the polity would not have to include pension benefit increases, rather attention might turn to the protection of benefits already gained. In other words, "status" politics could come to the fore with the
elderly pitted in the role of defenders of the then status quo (most current elderly would love to be in such an "unfortunate" position!).

We can see already the beginnings of such a clash. In the U.S., the President's Commission on Pensions and the National Commission on Social Security recently proposed that both the normal pensionable age and the age of entitlement to early benefits (in the case of ill-health) be raised. As well, the level of benefits themselves have come under attack. Benefit formulae have been modified in the U.S. and West Germany to reduce the starting pension at retirement. Indexation has also come under fire: Belgium does not index benefits above a certain amount; West Germany has arbitrarily limited adjustments during the last four years, the United Kingdom has changed from wage to price indexing; and France has kept pension adjustments below the scheduled increases. Will this happen in Canada once the relative costs of the retirement income system approach the current level in Western European countries?

The above projections of burden do suggest that the problems in the polity will increase, as is now the case in countries with older age structures. Even if aggregate burden does not increase there would, as noted earlier, be a "channelling" of society's resources to the elderly through "political" institutions (government) rather than "social" institutions (family). But if tensions increase, how might social institutions and
processes be altered to alleviate these?

To summarize, if Eisenstadt's conditions hold, it is possible to forecast the continued rise of the importance to the elderly of age-homogeneous groups, perhaps even in the form of formal associations [37], in which many of their most important social relationships would come to be found. The function of such groups within society could prove to be "disintegrative" if the emerging roles were not generally accepted by society-at-large. For example, if political action augmented the allocation of resources flowing to the elderly, thereby improving both monetary and social status, the economic burden on younger age groups would be increased. The social policy issues, therefore, centre on whether powerful, clearly differentiated, age-homogeneous groups will develop and, if so, how to alter present or introduce new social institutions so that they would function in a way that enhances all of society as well as meeting the needs of their elderly members.

**Earlier Retirement**

If pension reform leads to a significant increase in pension wealth, individuals will retire earlier thereby exacerbating the burden on the economy. The enlarging of the "elderly" population and the bringing of new concerns and energies to it are likely to enhance the importance of elderly age-groups within the social structure. Moreover, to the extent that higher income increases the
independence of the aged, many current dependencies, often based on familial relationships, with younger age-groups could be curtailed.

To what extent will these occur? Unfortunately about all we know of the retirement decision is that greater (pension) wealth leads to earlier retirement. The lack of a good model of the retirement decision prevents us from getting a handle on future behaviour at retirement in a new institutional environment. To complicate matters we know that there is a great deal of misinformation on which decisions are based.

Modelling the information distortion, including that derived from attitudes developed in earlier times, presents a major challenge. To illustrate, the 1975 Retirement Survey [40] found wide discrepancies between the expectations of the pre-retired and the reality of retirement in terms of opportunities for activities; widespread ignorance of even basic social security programs; and a great desire to have access to more information. Similarly, the Alberta survey on retirement [41] found that the pre-retired misjudged the extent to which they would participate in various activities. This problem will become increasingly acute as the population ages. While most people appear to adjust well to retirement [40-42], if the transition to retirement is being based on ignorance, opportunities will be lost.
Part of a Research Program

A Social Policy Perspective

The aging of the population is unlikely to lead to social and economic chaos, but tensions will certainly be created. Some aspects of social policy might be directed towards problems of the older population age structure which are not directly related to retirement: for example, it could focus on deinstitutionalization of the elderly and home care programs; on promoting a higher birth rate; on increasing immigration; on refocussing medical research; etc. Other aspects will, however, focus on the reduction of social and economic stresses related to work and leisure and it is this focus which is dealt with in the rest of this paper.

Two broad scenarios suggest themselves. While it can be assumed that the pension benefits will increase in the future, one scenario is that those increases would be cut back later by reducing benefits and/or raising the pensionable age to counter and reverse the trend to earlier retirement. As discussed earlier, this is what has been happening in other countries. While such measures may lead to an increase in the amount of labour force participation, they are also likely to lead to a deterioration in the "quality" of participation as will be discussed later. This "pessimistic" scenario, arising because of the assumption that relations between cohorts will have deteriorated significantly, need not occur if
sufficient adjustments in social policy take place, and if the elderly respond by increasing their social, and possible economic, activity. Whether or not this "optimistic" scenario, one based on reduced compulsion vis a vis work expectations, comes to pass is by no means certain even if policy makers do all the right things in their perception.

In fact, a great deal of humility is needed when discussing social policy and its perspective on problems because of the severe limits as to what can be known and what can be accomplished. Social policy, or economic policy for that matter, generally concentrates on the identification of ways of relieving the burden of problems. Problems are usually so "messy" that social policy cannot be targeted on cures, only on relieving the symptoms. The result is that problems can grow worse after a program is implemented. For instance, Seattle-Denver Income Maintenance data showed that providing families with a guaranteed income rather than mothers with welfare (the latter program discriminated against married couples because of the "employable" head) led to an increase in marriage breakdown rather than the expected decrease. In other words, the greater assurance of income allowed the unhappy partners to split with less risk.

A different example of social policy shortcomings is that a program, designed to meet one objective, can impact adversely on another objective. If one objective
of social policy was to strengthen the family relationships of the elderly, and another was to improve the income of the elderly, a sort of catch-22 occurs. As pensions increase further and greater services are provided to the elderly to ameliorate the situation of those living on their own, the incentives to form three-generation households, or even to live in the same neighbourhood as their children, are greatly diminished. While programs could be designed to partially offset such effects, as in Norway's program of incentives for maintaining three generation households, great success should not be anticipated. Similarly, pensions designed to alleviate poverty among the elderly provide an incentive for people to retire, thereby cutting their income and potentially making the overall distribution of income worse. A general effect of major social security programs is to expand the range of choice open to individuals, and it should be expected that they will exercise the full range.

It is arguable that if the pessimistic policy scenario comes about, it would represent a "panic" solution to the problems of burden and, as such, could well exacerbate the problem. Certainly if the motivation of older workers were lowered because of being forced to remain in the labour force, the resulting reduction in productivity could well offset any savings in benefits.

Social policy in the areas of work and leisure cannot completely reduce the stress that would lead to the
pessimistic scenario. Some things can be accomplished, however, by altering the environment of social interaction with incentive/disincentive programs such as social security, subsidized housing, New Horizons, Foster Grandparents; disseminating information through the use of subsidized pre-retirement programs; and establishing legal frameworks such as prohibition against age discrimination. It should not be expected, however, that actuarially neutral initiatives will significantly cut costs; their success must be measured by other criteria. Given the interest and the lead time for planning, social policy in this area could focus on:

- facilitating economic institutions to deal with changing flows of capital and with the need to enhance technological progress;
- reducing the dichotomy between working years and retirement years, perhaps by encouraging more "work" among the elderly and more time in education by middle-aged workers; and
- developing an acceptable universe of choice for active social participation by the elderly - choices which are supported by all major elements of society.

We already see social programs and economic policy, in Canada and elsewhere, addressing these issues. Witness the controversy over pension plan funding, and programs to facilitate social participation by the elderly.

The rest of this section expands on the above themes and outlines a tentative and partial research program in
terms of the major areas of investigation.

**Magnitude of the Burden**

In the section describing the magnitude of the burden it was noted that we do not know much about intra-family transfers. This gap in our knowledge is significant for two reasons. First, even straightforward burden projections cannot be done satisfactorily. The second is more theoretical but potentially more important: the "rational expectations" hypothesis suggests that people offset their intra-family transfers, that is, gifts to children, gifts to parents, bequests, and the like, to take account of government programs. While this appears to be the case, the impact of programs depend upon the amount of the offset. Without data on how such transfers have evolved over time, the impact cannot be accurately described and limits the certainty in predicting which broad scenario for social policy will emerge.

**Productivity, Capital Accumulation and Economic Growth**

As already noted in the discussion of the economic issues, there is no clear impact of pensions on personal saving. In fact, little is known as to whether or not:
- increases in social security benefits reduce personal savings significantly;
- increases or decreases in personal savings are offset by changes in savings in other sectors (i.e. whether or not aggregate saving is affected by changes in
personal saving);
- changes in aggregate saving affect economic growth, and if so, how; and
- tax policy, regulation of financial institutions, and the like are the best mechanisms if overall levels of saving/investment are to be influenced.

Similar gaps in information can be enumerated regarding technological progress and its relationships to research and development whether public or private, education, training, etc. Most work in this area has generally employed aggregate time-series analysis, but this type of analysis is not sufficiently sensitive. While the data are not generally available at this time, moving towards periodic cross-sectional analyses would substantially increase our understanding; longitudinal studies, similar to those done in the U.S., would be even better. Aggregate data show that American saving and giving behaviour differs radically from Canadian behaviour. U.S. studies, while useful, cannot, therefore, be employed directly in social policy development unless we know why Canadian behaviour is so different. In other words there is need for Canadian studies. Considerable effort needs to be devoted to developing a greater range of data, including intra-family transfers.
Productivity of Individuals

Three basic assumptions regarding older workers are often made, namely, that they:
- are not as well educated as their younger counterparts;
- are not as capable, physically, as younger workers; and
- are less highly motivated in their jobs than younger employees who are fighting for promotion.

While younger workers have, on average, several years more education than older workers, projections by the Economic Council of Canada [1] suggest that this gap will disappear early in the next century. It will, therefore, not likely be a factor in the long-run. The currency of the education of older workers will remain an issue to be addressed.

Although it is true that physical capabilities may deteriorate with age, there is a wide variation in these capabilities at all ages. Generally, deterioration is a symptom of poor health. Presently, a large proportion of those who retire before 65 do so because of ill health; there are strong pressures to further increase early retirement opportunities for this group.

Thus, there is little reason to believe that persons unable to produce because of physical limitations would insist on working, particularly as increases in pension benefits make the "attractions" of continued participation minimal.
The third assumption, lack of motivation, is also highly variable within, and between, age groups. One would expect, however, that provided sufficient retirement income was guaranteed, very few individuals would want to continue working unless they were highly motivated. There is, in addition, some evidence to suggest that many workers begin to reduce their work effort about two years before they are forced to retire, regardless of their age [2]. Parkinson, in looking at the performance of those nearing retirement, found significant declines in many aspects of work two to three years prior to the normal retirement age, whether that age was 50 or 65. In other words, workers appear to begin to "disengage" from their jobs prior to, and in anticipation of, the date at which they will be required to retire. Thus the social norms with respect to retirement themselves appear to affect prior work performance and motivation.

There are ways of determining workers' ability to perform tasks which could be used in the more broadly based studies required for future policy. One of these is the "GULHEMP" scale (General physique, Upper extremities, Lower extremities, Hearing, Eyesight, Mentality, and Personality) devised over twenty years ago by Koyl [43] for use as a personnel evaluation tool in the public service of Canada, and now used on a continuing basis by the de Haviland company and a few other private sector employers. Use of such tools in a
variety of situations on a wide cross-section of workers, combined with measured output, would allow us to determine how factors generally influence individual productivity. As well, further research needs to be done on the ways that loss of competence can best be assessed and that productivity can be measured. This will become increasingly important as mandatory retirement is phased out.

An important dimension of "competence" is motivation, and literally thousands of research papers have been published in this area. It will suffice to note that motivation changes as one gets older, as is clear from the revealed preference of older people for additional leisure, and that we need to know why these changes occur if labour force participation or "social participation" by the elderly are to be encouraged.

The "optimistic" scenario outlined is based on the assumptions that benefits which in any case will be higher than today, will not be cut nor will workers be forced to stay in the labour force. If, however, the more "pessimistic" scenario prevails, productivity of older workers would become a relatively more important research topic. Motivation, in particular, would become a crucial issue. Research, rather than being directed at ways of facilitating social participation, would have to be targeted on finding ways of keeping disgruntled older workers sufficiently motivated to perform well.
Again, periodic studies based on a sufficiently broad cross-section of workers of all ages are required for results to be employed in the design of policy.

**Retirement Decision**

Related to the problem of motivation of workers is the decision to retire. As discussed earlier, we do not now have a good model of the decision, largely because of the lack of appropriately structured data. In Canada no sufficiently rich cross-sectional data are available, while in the U.S.A. even their longitudinal data are inadequate on certain factors such as health status.

It is perhaps significant that the core of the retirement decision, namely how information is used, has all but been ignored in the economic research. Arguably, a fruitful program of research could be developed starting from this question before developing highly aggregated quantitative models: small scale in-depth studies would be followed by the development of good periodic cross-section data bases which would be more in the order of magnitude of the Survey of Consumer Finances than the Retirement Survey. Ideally, a longitudinal data-base would be created but this is likely to be precluded in the foreseeable future because of the cost.

Besides aiding policy-makers, such studies would help design adequate information programs. Roughly half of those nearing retirement feel the need to participate in some sort of program but under 10 percent actually have
had access to programs. Indications are, however, that those who have participated have no better understanding of the retirement income system [40].

**Job Redesign and Training**

Once it is known with some precision how factors combine to affect productivity and motivation, the policy concerns in either scenario would point to the need to study:

- how to redesign jobs so that all workers, but especially older ones, find their jobs more interesting and important to their lives;
- how to redesign pension plans and other benefit programs to provide the needed flexibility so that workers' desire for more leisure, which increases with age, can be met; and
- how to train all workers, but older ones in particular, so that their skills do not become dated.

The evidence suggests that the scope for improvements in older individuals' employment-related experience is large. Tables 5 and 6 show that 11 percent of retired men and 7 percent of retired women were working or looking for work but that fewer than half of these were doing so "for the money". The Retirement Survey also found that 55 percent of pre-retired men and 40 percent of the women expected to work part-time after retirement; again only about half reported money as the primary motivating force. Thus, there is apparently a
### TABLE 5
LABOUR FORCE ACTIVITY OF RETIRED RESPONDENTS

<table>
<thead>
<tr>
<th></th>
<th>Men</th>
<th>Women</th>
</tr>
</thead>
<tbody>
<tr>
<td>Not working or looking for work</td>
<td>89%</td>
<td>93%</td>
</tr>
<tr>
<td>Working:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>under 15 hours per week</td>
<td>3</td>
<td>2</td>
</tr>
<tr>
<td>over 15 hours per week</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>Looking:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>for part-time</td>
<td>4</td>
<td>2</td>
</tr>
<tr>
<td>for full-time</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>100</td>
<td>100</td>
</tr>
</tbody>
</table>

SOURCE: Ciffin, Martin and Talbot [40].

### TABLE 6
RETIRED RESPONDENTS' REASONS FOR WORKING OR FOR LOOKING FOR WORK

<table>
<thead>
<tr>
<th>Reason</th>
<th>Men</th>
<th>Women</th>
</tr>
</thead>
<tbody>
<tr>
<td>To earn money</td>
<td>44%</td>
<td>45%</td>
</tr>
<tr>
<td>To keep physically fit</td>
<td>25</td>
<td>12</td>
</tr>
<tr>
<td>To keep in touch with people</td>
<td>11</td>
<td>20</td>
</tr>
<tr>
<td>Other</td>
<td>20</td>
<td>23</td>
</tr>
<tr>
<td></td>
<td>100</td>
<td>100</td>
</tr>
</tbody>
</table>

SOURCE: Ciffin, Martin and Talbot [40].
significant potential for part-time attachment, although few currently have the opportunity to engage in such work post-retirement. In coming years, if the retirement income system eliminates almost entirely the remuneration motive for older workers, these other factors will have to play predominant roles in job redesign. If the more pessimistic scenario prevails, jobs may have to be redesigned to keep productivity up.

Younger workers, however, cannot be excluded from consideration in redesign for two reasons. First, after years in a dull job with few demands, the incumbent will not be motivated to continue performing well. Second, learning skills should be prevented from atrophying. It is generally believed that professionals and the self-employed are the most likely to prefer to continue working and the national and Alberta retirement surveys [23,41] both support this. Knowing why this is the case could help us to develop and tap enthusiasm for work, an issue which should figure prominently in any research program.

If continued participation and a gradual withdrawal from work are to be encouraged, pension plans and other benefits would need to be altered to deal with work after the normal age of retirement and part-time employment both before and after retirement. With respect to pension plans, alternative schemes include:
- partial pensions for the "partially retired";
- actuarial increases for deferred retirement;
- actuarial decreases for early retirement;
- pension paid irrespective of retirement;
- work after the normal retirement age to count as a pensionable service;
- accrual of partial benefits for part-time work; and
- a move to a "career adjusted earnings" benefit formula, as in the CPP, rather than "final average" plans. (The latter do not lend themselves easily to the changes needed to encourage part-time work, particularly if at a lower rate of pay.)

It should be noted, however, that no scheme will save any costs if it is actuarially neutral. Rather, the policy goals would be to reduce "burden" by increasing output and by improving age-group relations through the positive roles played by the elderly. Similar types of options can be introduced for life insurance plans, disability and sickness insurance, etc. The main research question as to the options that give the greatest opportunities and incentives for participation does not relate to the program design per se but rather to employee and employer reactions.
Table 7 shows that interest in continuing education has been on the rise. This desire to continue learning might be able to be encouraged further via labour regulation in such matters as required paid sabattical leaves, and incentives such as RRSP-like mechanisms. As well, job-related training of both younger and older workers could be given a great deal more attention than is currently the case in Canada.

**TABLE 7**
PARTICIPATION RATE* IN CONTINUING EDUCATION

SOURCE: Statistics Canada [44].

<table>
<thead>
<tr>
<th>Level</th>
<th>1973-74</th>
<th>1976-77</th>
</tr>
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<tbody>
<tr>
<td></td>
<td>Elementary</td>
<td>Community</td>
</tr>
<tr>
<td>Part-time credit</td>
<td>11.3</td>
<td>7.2</td>
</tr>
<tr>
<td>Formal non-credit</td>
<td>28.7</td>
<td>10.3</td>
</tr>
<tr>
<td>Total</td>
<td>40.1</td>
<td>17.5</td>
</tr>
</tbody>
</table>

*No. per 1000 population aged 15 and over not enrolled full-time.
Belbin [45] provided a summary of findings that is useful in assessing the feasibility of such initiatives with respect to older workers. He noted that older adults can learn but that there are a number of factors that must be taken into account in designing a program, including:

- practice: learning is easier if the individual has practised learning. Skills are not lost and attitude is better;
- pace: fixed length courses are difficult. Each must be able to progress at his or her own rate;
- format of information: this has been found to affect extent of learning;
- physical loss: older workers have often suffered some deterioration in physical capabilities that must be accounted for;
- content: material must be relevant; and finally
- motivation: this is perhaps the most important factor.

Belbin then reviewed experimental training programs and Table 8 summarizes his findings.

In summary, older workers can be trained, but continued research is necessary as to the best methods and content for particular areas of learning and for particular employment/education situations.
<table>
<thead>
<tr>
<th>Difficulties increase with age</th>
<th>Suggestions as to how the training program could be suitably adapted</th>
</tr>
</thead>
</table>
| 1. tasks involving the need for memorizing | a) avoid memorization by making use of cues which guide the trainee;  
b) treat tasks as a whole rather than broken down into discrete parts. If necessary, parts should be learned in cumulative stages;  
c) ensure consolidation of learning at each stage. |
| 2. 'interference' from other activities or from other learning | a) restrict the range of activities covered;  
b) employ longer sessions than customary for younger trainees. |
| 3. need to 'unlearn' something for which the older learner has a predilection | a) ensure correct learning;  
b) employ automatic feedback system to convince the older learner of his errors. |
| 4. need to translate information from one medium to another | a) avoid aids which necessitate a change of logic or a change in the plane of presentation;  
b) learning tools must be designed to enable content to be directly related to practice. |
| 5. tasks as 'paced' | a) allow trainee's own pace;  
b) allow trainee to structure his own program within limits;  
c) individual learning targets. |
| 6. complex tasks | a) break down into stages of increasing complexity. |
| 7. confidence problems | a) use written instructions;  
b) avoid over-structuring too soon in the course;  
c) long induction periods. |
| 8. mentally passive learning | a) discovery learning;  
b) meaningful material and tasks. |
Opportunities for Social Participation

We indicated previously many elderly and near-elderly who will wish to remain part-time in the labour force: half for reasons other than money. It is likely that more would want to participate if realistic opportunities existed. However, even if a program could be implemented to attract people back to the labour force we can only expect limited success, especially given reform of the retirement income system. Not including those under retirement age not in the labour force, ultimately between one-third and one-half of all adults could be in a situation where there was little or no extrinsic reward to continued work. From the point of view of society, "resources" of such magnitude could ill-afford to be wasted nor could the potential cleavages between cohorts be allowed to become too deep. The challenge for planners then is to devise incentives and opportunities for these "resources" to be used. In the short-run people are available to participate, but there is a problem of low incomes among the current elderly when money remains a significant factor for many. Because of the importance of the issue, it is worth exploring some possible ideas in more depth.

Before doing so, a concern of Streif and Scheider [42] should be noted. They enumerated several useful working assumptions in discussing new roles:
- disengagement is inevitable, but it may occur quickly or slowly;
- most people need some kind of activity;
- the elderly continue to have the general social need for autonomy and independence;
- old age is devalued in society (i.e., major roles not assigned significant status); and
- the elderly have free time.

To the extent that a "roleless role", namely minimal expectations and demands, is currently prescribed, and the psychological needs for appropriate roles as specified by Eisenstadt are unfulfilled, there are many opportunities in developing new types. It is suggested that useful experimental research can be pursued in three areas: community service programs, industry-based programs, and entrepreneurial enterprises.

That many older persons possess skills and abilities readily adaptable to helping others and, in certain circumstances, would be willing to engage in government financed community service projects is readily apparent from the success of such semi-volunteer programs as Foster Grandparents and Senior Companions in the United States. However, much of the success of these two programs for low-income older persons is the apparent result of the availability of stipends, albeit at the minimum wage. The importance of this factor in the long-run is not known.

The prospect of stipends, while important, is not the only motivation to involve government in encouraging work-like post-retirement activities. This is not to say
that the earnings are unimportant, but rather that they may be less important than some other aspects of the job. For example, semi-volunteer and volunteer services would seem to be one effective way for many retired persons to recapture the feeling of doing something useful. The services could be targetted towards elderly persons or any other group in need, such as day care for children. Bowles [46], in describing the Senior Companions Program, points out that the services provided to other aged persons involve a combination of natural helper, companionship and para-professional functions.

The elderly participants could perform such activities as just being there to talk to, reading aloud, assisting with self-care, emergencies, home management and exercising. They could also perform a social advocacy role through regular liaison with other community agencies and services, such as the various home care programs organized or being organized in Canada, housing authorities, and social assistance and public health programs.

It should be noted that as the elderly population increases cost pressures alone are likely to reinforce the trend towards their deinstitutionalization. Thus there will be an increasing need for those with the skill and commitment to engage in providing the types of services mentioned above - a need which some of the elderly themselves might be able to satisfy.
Clearly, if these kinds of services are to be effective, much more is needed than just having volunteers with a desire to help others. Particular skills are required which can only be acquired through training and/or experience, and a commitment must be made to a regular schedule, not unlike that which is required of an ordinary paid worker. Further, effectiveness will depend to a large extent upon the development of personal rapport, making frequent change of workers undesirable.

What is suggested is not just volunteers providing ad hoc services, but well organized second career type operations that train those involved, and pay stipends (important in the near term), and ensure that all the services offered are properly co-ordinated with other community services.

The development of the concept of providing retired persons with an opportunity to embark on a second career in community service work, is desirable from several points of view. Projects could be directed toward people with the greatest need, often the aged themselves; many elderly workers would find in these projects the kind of role they are seeking; the stipend paid to workers would help them to cope with the problem of low income, in fact, worker participation could, as with Foster Grandparents and Senior Companions, be restricted to those below a certain income level, and the additional services would be provided at relatively low cost as participating workers would be paid some nominal stipend.
rather than a full market wage. If set up appropriately, much could be accomplished by such programs in restructuring relationships among age groups.

A major question for both policy and research would be whether programs should try to build up and utilize "age-homogeneous groups" of elderly persons, or should continue the more mainstream social practice of developing specialized roles, with the elderly participants fulfilling only these new roles thereby, in some sense, "blocking" the development of age-homogeneous groups. Another area for research is the identification of the characteristics of the elderly who would thrive in a world of "encouragement".

Another type of initiative is illustrated by two excellent programs developed by industry to utilize the skills of retired workers: the "Sons of Rest Workshop" in England and "Strength Through Work" in Holland [47,48]. Both of these projects were organized in co-operation with large employers, primarily for the benefit of their own retirees. Although both are operated and directed primarily by the elderly participants, the parent companies contribute significantly to their stability through assistance in the development of product markets and in providing organizational continuity. The community at large also became involved in "Strength Through Work" in order to make it available to retired people who had not previously worked for Philips Corporation, the co-operating employer. These kinds of
projects, where retired workers can operate a business, either sponsored by or in co-operation with a large employer, can, like any other business utilize a wide range of skills; are particularly adaptable to part-time employment; and, at least in the case of the two examples, are "profit-making" enterprises which require seed money but no on-going funding from either the community or the employer. It is possible to develop product lines which would have no adverse effect on the employment of younger workers because of low profit-margins. Such programs would provide needed goods; it might be desirable to provide small subsidies in some cases.

A final area in which activities by the elderly could be encouraged is the provision of needed market services, for instance; through management consulting services for small business or home repair services. Incentives might take the form of a subsidized loan program for some suitably defined business ventures which was not competing in the open market.

Many programs for encouraging participation in "socially productive" ventures could be designed. Research questions arise as to which best meet the needs of the elderly, including income in the coming years; which areas of social and economic activity are best suited for restructuring, and which types of programs would best build up relationships across cohorts. It may be the case that a few successful high-public-profile programs would soften any tough attitudes towards the
elderly and develop the value consensus that would enable maintenance of status. More radical programs could be developed to increase interactions among people of all ages. Vigorous pursuit of these questions would require major involvement of all three levels of government and, most probably, the voluntary sector.

Recapitulation

While no attempt has been made in this paper to be exhaustive, several issues of social policy have been identified relating to work, leisure, and the place of retirement in an aging population. While tentative conclusions can be drawn about the magnitude of the burden on workers and the economy that will result from this aging, it is much riskier to estimate the severity of social and political tensions that will arise because of that burden, or because of any continuation in the decline of the "family" as a basic building block of society. Nevertheless, the trends suggest that social policy makers will be looking to researchers for guidance in enhancing productivity of the work force and the efficiency of capital markets; encouraging and facilitating more satisfying work experiences, particularly for older workers, possibly by way of a move to some version of a "lifetime of education" concept; and developing opportunities for more active social participation of the elderly, with sufficient incentives, so that new "positive roles" will come to be accepted by
and for retirees.

Several areas were then identified that could form part of a research program related to work and leisure. Basic to all areas was an enhanced understanding of how the retirement decision is made.

**Retirement Decision**

Questions that must be answered include:

- What factors (including perceptions, attitudes, and information) affect the decision to retire?
- How do these combine to lead to a decision, i.e., what is an appropriate model?
- How should an information program be structured to enhance the decision process?

More directly related to social policy concerns, research needs were identified in three areas:

1. **Facilitating Economic Institutions to Adjust**
   - What are the magnitude and type of intra-family transfers and what factors affect them?
   - What impacts would pension reform have on saving?
   - How could markets/other institutions adjust to changes in saving behaviour in fulfilling their role of turning savings into investment?
   - How does investment behaviour affect long-run economic growth, (i.e., identify linkage between pensions and intergenerational transfers)?
- How can "labour productivity" best be augmented (including technological progress tilted to labour-saving)? What are the best policy instruments?
- What are the relative sizes of public sector and private costs of family?
- How would critical job skills best be identified and an age profile of them developed?
- How can workers best be trained? How should training be structured? What incentives/encouragement are required?

2. **Reduction in Work-Leisure Dichotomy**
- What are the implications of "lifelong" education? If desired, what policy instruments are there? How would people/employers react to various types of programs?
- What are the impacts of job design on worker productivity? How can health constraints best be accommodated? How is motivation affected?
- How can jobs be redesigned to enhance the interest of workers (of all ages)?
- How can jobs be redesigned to not only accommodate the shifting work-leisure preferences of older workers but to encourage additional work?

3. **Facilitating Social Participation**
- What are the changing characteristics of the interpersonal relationships of the elderly?
- What are the characteristics of activity that appeals to retirees and those nearing retirement, in contrast to other cohorts?

- What factors affect decisions regarding when and how to participate?

- Under what conditions can the elderly have generally positive relations with younger age-groups? What social participations by the elderly reduce age-related tensions best?

- What are the most effective strategies for encouraging participation? Is it best to: concentrate on individuals or "homogeneous" age-groups of the elderly? develop incentives? focus upon challenges to present?
Powell and Martin [10] projected costs for 2031 as follows:

(millions of 1976 $)

<table>
<thead>
<tr>
<th>Description</th>
<th>Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>OAS/GIS</td>
<td>11,526</td>
</tr>
<tr>
<td>CPP/QPP</td>
<td>17,508</td>
</tr>
<tr>
<td>Other</td>
<td>30,243</td>
</tr>
<tr>
<td>Total</td>
<td>59,277</td>
</tr>
<tr>
<td>GNP</td>
<td>765,044</td>
</tr>
</tbody>
</table>

1. Wage indexing OAS/GIS raises it to 34,252 with the assumption of 2 percent per annum productivity increases (vs. a 3 percent historical average).

2. Assume ultimate system, including CPP/QPP, employer-sponsored pensions, and RRSP's, generates 250 percent of CPP/QPP benefits, and that CPP/QPP's maximum pensionable earnings increase to 1.5 AWS. This means that 21,885 or half of the payout related to prior earnings would be from private arrangements.

3. Adjusted Projections now become:

(millions of 1976 $)

<table>
<thead>
<tr>
<th>Description</th>
<th>Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>OAS/GIS</td>
<td>34,252</td>
</tr>
<tr>
<td>CPP/QPP</td>
<td>21,885</td>
</tr>
<tr>
<td>Private System</td>
<td>21,885</td>
</tr>
<tr>
<td>Other</td>
<td>30,243</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td>----------</td>
<td>--------</td>
</tr>
<tr>
<td>Total</td>
<td>108,265</td>
</tr>
<tr>
<td>GNP</td>
<td>765,044</td>
</tr>
</tbody>
</table>

Total/GNP equals 14.2 percent

4. Investment income would add 2-3 percent bringing the total to 16-17 percent.
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THE FUTURE IMPACT OF THE CHANGING STATUS OF WOMEN

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My comments will be addressed to the changing status of elderly women. Beginning with an overview of demographic changes, I will draw on knowledge of today's elderly persons and today's younger generations in discussing tomorrow's elderly cohorts. I would then like to turn to a discussion of the relevance of these trends for the area of the family and informal social supports in general which, it will be argued, constitute a major but largely neglected area of research in gerontology and one that has relevance for elderly women in several areas.

A Demographic Profile

We begin with a demographic profile because the age structure provides the foundation for the elderly's living situation, their economic situation, their health experiences, and their social circumstances. Indeed, Kalbach and McVey [1] claim that problems of public health, education, and old age can neither be identified nor solved without this type of information. Further, such data are relevant for the formulation of government policy and effective administration.
We know the number and percent of elderly in Canada has been increasing since Confederation and that the elderly population itself is growing older. There are, however, important sex differences among Canada's elderly population.

The proportion of elderly males and females is not equal and has changed considerably since Confederation. Indeed, the proportions have reversed themselves from 1871 to 1976. In 1871 there were more elderly males than females (54.6 percent vs. 45.4 percent). The proportions were approximately equal by the 1941 census but by the 1961 census, women were beginning to outnumber men. The percent of elderly women is currently 56.3 and is expected to continue to increase which means there will be an increase in the number of elderly widows [2]. It should also be noted that while the proportion of men and women 60-64 is about equal, women start to outnumber men in the age bracket 65-69 (50.6 percent men and 51.9 percent women in 1976) with the sex differential widening further as age increases (35.2 percent men and 64.8 percent women 90+ in 1976).

These sex differences are accounted for in terms of differences in life expectancy of men and women. Life expectancy at birth has increased from 63.0 for men and 66.3 for women in 1941 to 69.3 and 76.4 respectively in 1971. Life expectancy at age 65 has also increased — from 12.8 for men and 14.0 for women in 1941 to 13.7 and 17.5 respectively for 1971 [3]. By 1987 it is predicted...
that life expectancy at birth will be 70.2 for men and 78.6 for women. It is interesting to note that while life expectancy is increasing for both sexes, the gap between them continues to widen [4].

While most of the gains in life expectancy have been attributed to decline in infant and childhood mortality, the death rates for each elderly age group have also declined. Not surprisingly, the greatest declines are shown for women. Between 1921 and 1976, the death rate for women 70 to 74 dropped by 50 percent while the rate for men dropped by only 10 percent [5].

The increasing numbers of elderly women have led to predictable differences in marital status for the two sexes. Over time, elderly men have increased their propensity to marry and decreased their tendency to stay widowed. Most elderly men are married (74.0 percent), while few are widowed (15.2 percent). Women, on the other hand, tend to be widowed (49.8 percent) and are less likely to be married (39.0 percent) than are elderly men. The difference noted earlier in life expectancy between the sexes is reflected in the different rates for widowhood. At every age there are more widows than widowers but for older age groups this gap widens dramatically. Nearly 80 percent of women over 85 are widows. As Matthews [6] points out, the age at which widowhood begins has steadily increased in recent decades, so that it is now associated not only with women but also with the aged.
Change has also taken place in another area of marked sex differences, the paid employment status of the elderly. The percent of men aged 65 and over employed in paid labour has dropped rather steadily over the years from 59.0 percent in 1911 to 23.2 percent in 1971. Elderly women, few of whom have traditionally been employed outside the home, have increased their involvement a little, from 5.5 percent in 1911 to 8.1 percent in 1971.

The dramatic decrease among men is largely attributable to the changing nature of agricultural work, which used to employ the majority of elderly working men but now employs only 18.3 percent. Those elderly women who have worked, have tended to be employed in service, sales and clerical occupations. Not unexpectedly, the income of the elderly working for pay has not been great and the incomes of women have been consistently less than the incomes of men.

In the future, we can expect a continuation of the increase in elderly women and of old elderly women. The fact that there will be more elderly women and more old elderly women in the future has important implications for several areas, one of which is our health care system. Women tend to be 'less healthy' according to many indicators: they have more days per year of restricted activity, more days of bed-disability, more doctor's visits, higher expenditures for health care than men of the same age, are more likely to experience depression.
and are more likely to be institutionalized [8-11] than are men. There is some suggestion however that men worry more about their health [12-14]. This is consistent with other findings reporting worse objective conditions among women which they do not translate to the subjective level [15-17].

Whether the differences between the sexes are real or artifactual is unknown. It has been suggested that men may tend to deny health problems because of socio-cultural factors [18,19] or that men experience higher mortality and women higher morbidity [20].

Irrespective of whether or not the sex differences are 'real', the elderly use more medical services than any other adult age group; the old elderly use more than the young elderly and women use more than men [4]. Increasing age among the elderly is associated with a decrease in health in the form of chronic illness, physical health dysfunction and dependency on others [21-23]; decreased financial resources [24]; increased likelihood of institutionalization and of social isolation [25], as well as decreased mental health functioning [26,27].

Given the consensus that there will not be dramatic improvements in longevity in the near future [2] the result will be an increasing strain on our medical care system, especially health care delivery, as the high rate of utilization occurs for diseases that general hospitals are least prepared to deal with [4].
Concomitantly, we can expect the widowhood status to be experienced by most elderly women. Elderly women, especially widowed elderly women, are left largely without economic security other than Old Age Security and the Guaranteed Income Supplement. (Note: women are more likely to receive the supplement than men.) Women are still expected to care for the children without pay and are judged as desirable to a large extent by their youth. As they age, their major societal task of childbearing has been completed but without provision for future years and their youth has disappeared without credit for wisdom and experience. Women who have worked for pay were employed primarily in low paying jobs without promotional lines or pensions. Middle aged women who re-entered the labour force no doubt found discrimination because of their age, sex and history of only part-time or temporary paid labour in the past. Largely because of their exclusion from paid labour, they are without economic resources in their later years. Their part-time work in low paying jobs usually leaves them without a private pension. The pensions of their husbands, if they had any, were probably terminated when the husbands died [8,16,28].

Evidence from younger cohorts also suggests differences in the elderly of tomorrow. Increased educational levels, lower fertility rates, increasing experience in paid labour, and increasing divorce rates have all been attributed to future generations of the
elderly. While census figures through the years are not strictly comparable, a general trend towards increased education can be discerned.

In terms of fertility, it is important to note that the current trend to have one or no children may not be a problem until the Baby Boom generation enters retirement, sometime after 2006. Those who will be reaching age 65 within the next decade or two are the parents of the Baby Boom generation and they, in fact, have a greater number of children potentially available to provide support than the current elderly population. Women now in their 70's were the cohorts with the lowest fertility in history — about one quarter have no surviving children. These were women of child bearing age during the depression years. Women now in their 50's had the highest fertility rates recorded in this country [29,30]. Future generations of elderly can expect fewer children, and therefore fewer grandchildren; also fewer siblings. As others [31] have pointed out, it is the late middle-aged and the young elderly who often look after the old elderly members of their families.

Greater participation in paid labour on the part of women is due in large part to the return of the middle-aged woman to the work force [32]. This, combined with increasing divorce rates (there was a 25-fold increase in the divorce rate in Canada from 1934 to 1980) and an increasing tendency for younger women not to marry [33,34] suggests changes in the lifestyles of women in
the generations to come. Furthermore, research suggests that the pattern of sequential involvement, first as students or employees and then in family roles (with optional return to a job in middle age) that characterizes the older women of today is disappearing as a modal life course among younger women.

Brody [35] reports from a study of three generations that all generations, but the youngest most emphatically, believe that women should have careers and educational opportunities equal to those of men and that men should share child care, household and parent care responsibilities. However, according to a landmark study by Bell and Schwede [36] many laws regarding the activities of women outside the home are changing but are not often effectively enforced. Furthermore, younger women are still socialized primarily as sex objects whose first and foremost concern is acquiring a husband and being a wife and mother. In an empirical study, they found that women across four generations scored higher on the legal-political and economic domains of the feminism scale than on the domestic and social conduct domains. Furthermore, across four generations, there is evidence of women becoming more feminist in all domains, but much more so in the legal-political and economic domains.

Neugarten [37,38] examined these expected differences (together with what she claims to be the good health of future generations of young-old), and argues for a concept of an age-irrelevant society where each
participates according to his or her special abilities and unique experiences. Contrary to this argument, however, is the concept of intergenerational conflict. Marshall [39] and Tindale and Marshall [40] for example, suggest that the increasing proportions of elderly may induce greater tensions between the young and the old, particularly if income inequality between the young and old and the elderly's exclusion from paid labour continues. The fact that growth of the aged population is viewed as a social problem instead of a victory over mortality and ill health is noted as support for this argument. We might also add Myles' alternative [see Chapter 2 of this volume] of struggles between labour and state, between and within occupations as an alternative to intergenerational conflict.

Informal Support Systems

It is informal supports (family and friends) who provide 80 percent of home care for the elderly [41,42], where women are currently making a special contribution, and where, I will argue, major innovations for future styles of life among the elderly will be found.

The Family

The importance of social interaction for the elderly is nowhere in dispute. The maintenance of close ties with relatives and friends is said to maximize adjustment during old age, to increase overall well-being, and to
mediate stressful events [24,43,44]. Specific details, however, on which types of social interactions and with whom, are most beneficial are less readily answered by addressing the current research literature. The literature reflects an emphasis on family interaction and within the family, an emphasis on parent-child interaction. It is the family, we are told, which provides companionship, affection, and other primary group rewards for its members. Interaction with family members has been found to be higher than interaction with other persons such as friends, neighbours, or co-workers [45,46]. It is children who are most frequently identified as persons who could provide assistance when needed, more so than spouse, siblings, other relatives and friends [42]. Within the family, it is interaction with adult offspring which is reported as the most frequent [47]. This research focus reflects what Abu-Laban [48] refers to as the 'couple ideal', promulgating the image of the normal or at least 'research worthy' aged as heterosexual, life-long marrieds, having children, and grandchildren.

Much debate has been devoted to the place of the elderly within the family network. Belief about the extended family as common place in preindustrial Europe and North America has not withstood accumulated evidence. The three generation family living under one roof and providing an integrated role for the elderly, it now appears, was temporary and seldom widespread in Europe.
and often nonexistent in the United States [22,49,50]. Further, the popular portrayal of today's elderly as alienated from their families, especially their children, isolated and alone, dumped in long-term institutions where possible, has been documented as equally false. Most research suggests that family relationships have traditionally and still do provide a major source of interpersonal support, warmth, and commitment for people of all ages, including the elderly [51]. Shanas's cross-national research [52-54] has illustrated that the elderly are not rejected by their families nor alienated from their children. Most elderly with children live close to at least one child and see at least one often. While the social class of the old person affects the magnitude and direction of parent-child help in old age, old persons in every social class and in all countries studied reported that they help their children and that their children help them. Similarly, Sussman and Burchinal [46] report financial aid flowing along generational lines on various occasions and not just in emergencies. Cantor [55] reports the elderly express feelings about the appropriateness of assistance within kin structures and the desirability of interdependency between parents and children. Two thirds received help from children when ill and two thirds received help in chores of daily living. The amount of help from children was positively related to age and the paucity of income. The role of family kin, in other words, is supportive
rather than coercive in relation to the nuclear family.

The role played by daughters is well documented as different from that of sons. Treas [56], for example, reports that, devoted though sons may be, the major responsibility for the psychological sustenance and physical maintenance of the aged has fallen traditionally to female members. Interaction with children, particularly with daughters, however, is mediated through proximity of the children. Bultena [57] and Heltsley and Powers [58], for example, report lower interaction with children among the rural aged because of the out-migration of the children.

Although less research has focussed on the role of family members other than children, we know that the marital relationship is taken as the paramount example of an intimate dyadic relationship in adult life. This is evidenced by the spouse being named most often as an intimate and confidant, especially by men [59]. Sex differences are evident in the greater affinity of women for confidant relationships outside marriage and the tendency for men to rely on the spouse as a link to external social networks [60]. That is, the critical importance of the elderly man's relationship with his wife lies not simply in the wife's role as intimate confidant but in her concomitant function as the primary link between the man and broader social networks. This latter role of the wife is reflected in the findings that the kinship structure shows stronger ties with the wife's
relatives than the husband's [45].

The spouse is also important as physical health deteriorates. Older couples can maintain considerable independence in the face of infirmities by nursing one another and reallocating housekeeping chores [56]. Because women tend to marry men older than themselves and live longer, the caregiver role tends to fall to the wife [61]. Brody (1980) claims that the phrase "alternatives to institutions" is a euphemism for daughter; I would contend that it is a euphemism for daughter or wife!

Shanas [54] maintains that for the childless elderly often a niece or nephew assumes the responsibilities of a child, on a principle of family substitution. Similarly, she argues that brothers and sisters become especially important for widows and those who have never married. Others, however, have postulated the possibility both of additive relationships as well as more complex network patterns in lieu of the substitution model [60]. Atchley and associates [62,63] have suggested a conceptual distinction between patterns of interaction with parents, siblings, and children as a category compared with other kin. Whether or not differences occur along these lines is largely unknown.

While the emphasis is on the family and particularly, on relations with children and spouse, there is some literature available on non-marrieds. Most of that literature seems to be on widows, rather than on widowers, those separated or divorced, or the
never-marrieds. In regard to widowhood, Blau [64] and Elwell and Maltbie-Crannell [65] argue that it has an adverse effect on social participation only when it places an individual in a position different from that of his or her age and sex peers. Since among the elderly in their 60's, women are more likely than men to have associates who are widows, they have high social participation. This sex difference though, was found to disappear among those in their 70's. Elwell and Maltbie-Crannell argue that loss is less devastating for women than for men and that, further, financial security may be more important in mediating stress for men while social participation may be more important for mediating stress for women. Watson and Kivett [47] also argue that widowhood may be worse for men than women because of a weaker grandparent role, because men tend not to rehearse for it since they expect to die first and because of a loss of a companion and decline of kin interaction.

In her literature review, Abu-Laban [48] points out that in Canada, in 1973, approximately 11 percent of the elderly had never married and that it has been argued that the single older person is a unique type, characterized by continuity in life events and relatively minimal social involvements. The never married, have been found to be less socially involved but more adjusted and happier [66,67]. The argument, however, concerning minimal social involvements overlooks never-marrieds who have had long-time personal involvements with either
males or females. Larson's [24] review suggests that the never-marrieds show the same levels of satisfaction as the marrieds and that it is the widowed, divorced and separated who are lower.

The never-marrieds may increase among future generations. As Braito [66] points out, more women are going to college and higher education seems to be related to maintaining the never-married status. Furthermore, singleness is viewed increasingly as a viable and healthy alternative to marriage and childlessness is not stigmatized as it used to be. There is some evidence that marriage is not beneficial to the mental health of women but seems to be good for men [68]. Never-married females may well fair better in old age than married females since they have never known protection and dependence but have always coped with their problems. Unmarried women have been found to be more intelligent, earn higher incomes, rank higher in educational attainment, and have higher status origins than their married counterparts. Single men, on the other hand, are found to have worse mental health and more chronic illnesses than married men [66].

Within the emphasis on parent-child relations and the concomitant paucity of research on other family members, the assumption is made that the most appropriate conceptual distinction is between familial, and non-familial support. As Jonas [69] points out, it is assumed that the former is of primary importance and
furthermore, that an inverse relationship between participation in the two sets of social bonds exists: primacy of time, energy, interest, emotional investment is given to kinship bonds and this investment in turn detracts from involvement in non-family relationships. This assumption is explicit, for example, in Rose's [70] and Hochschild's [71] discussions of the development of peer-type bonds among the elderly. Both authors argue that these bonds arise only when older people are loosened from family ties sufficiently that they are free to develop such a subculture.

It can be argued, however, that involvement with kin is not necessarily competitive with involvement with non-kin; that the relationships are qualitatively different from one another so that one can be equally involved with both [69]. It is suggested here that, before examining this sort of question, the conceptual boundaries must be redrawn. I am arguing that it is conceptually at least as meaningful to distinguish between peer and intergenerational relationships as between family and non-family relationships, that a peer-intergeneration distinction will apply to more elderly individuals and, that it has special relevance for elderly women.
Peer and Intergenerational Relations

There are several reasons why elderly peers (whether family or non-family) can be hypothesized as constituting a qualitatively different category than intergenerational relations. Blau [64], for example, discusses the role exits shared by the elderly. Today a couple can expect to live together without children another sixteen years or so before the death of one of the partners, i.e., after exit from the child-rearing role. Similarly, retirement and widowhood are two statuses typical of old age and they both designate exits from major social roles. As Hochschild [71] puts it, the old, because they tend to occupy a similar status, are bound to the old. Rose [70] notes some of the forces which he perceives as being shared only among the elderly: their physical limitations, age-segregation, and common interests partly because of their common role changes and partly because they have had common generational experiences in a rapidly changing society. The elderly also share with one another adjustment to impending death [72,73].

Potentially, the elderly share all of these factors by virtue of being elderly in our society. They share them with other elderly, whether they be family (spouse, siblings, cousins) or non-family (friends, neighbours, strangers). Existing research tends to confirm this conceptual distinction. Hochschild [71], for example, reports that residents of a subsidized apartment building compared themselves not to the young but to the other old
people. She also found much evidence of what she termed the 'sibling bond', a relationship between elderly involving reciprocity (implying equality) and similarity between two people (meaning each has the same things to offer and the same needs to fill). In other words, their sisterhood rested on adult autonomy. She goes on to elaborate how the peer community immunizes its members against the full force of stigma attached to old age and to speculate that the taboo on death is lifted in age-segregated company. The old among the old feel free to talk about death. They exchange solutions to problems they have not faced before. Finally, she reports that those most active with children are also most active with non-kin, a finding which suggests the roles are fundamentally different, do not compete with one another, and cannot be substituted for one another. They can, therefore, be maintained simultaneously. Or, if they are similar to one another, involvement in one promotes involvement in the other; involvement in one does not detract from involvement in the other. It is not a zero-sum game.

Similarly, Jonas [69] and Sherman [74] report that kin roles and community roles in their studies of housing project residents are additive (the more involved one is in kin roles, the more likely one is to have friends and to have friends in the building). Finally, Haas-Hawkings [59] addresses the counter-intuitive finding that contact with intergenerational family members, especially
children, does little to elevate morale, while friendship/neighbouring is clearly related to less loneliness and worry.\(^1\) She suggests that age peers may be more desirable because family ties are involuntary and may involve perceptions of increased dependency on the part of the older widow whose capacity to reciprocate and maintain equal exchange with her family might be limited. Since friendships rest on mutual choice and mutual need and involve a voluntary exchange of sociability between equals, they sustain a person's sense of usefulness and self-esteem more effectively than familial relationships. Children and parents, by definition, cannot be equals or contemporaries.

Support for questioning the popular familial, non-familial conceptual distinction is further evidenced in the argument that what is important is the quality of the relationship not the quantity [54,77] and that it is a stable, intimate relationship which moderates stress rather than the type of person that relationship is with [59]. Cantor's [55] study of the elderly in inner city New York reveals that over half of her respondents had at least one intimate and it was usually someone unrelated.

If it is clear that there is good reason to distinguish between peer and intergenerational relations, it is less clear whether or not the family/non-family distinction should be maintained within this larger distinction, at least at the peer level. The fact that the
elderly, especially men, most often name their spouse as confidant [59] suggests the interchangeability of these roles. While Lowenthal and Haven [78] point out that having a confidant is more important than having many friends but no confidant, they note that those involved in more social roles are also more likely to have a confidant. Similarly, the fact that Jonas [69] found being married meant the person was more likely to have close friends suggests at least no conflict between the two.

On the other hand, Lopata's [79] study of widows suggests peer/family relations are in fact different from peer/non-family relations. She reports that siblings are sources of comfort and of more pragmatic help in time of need than friends who are no longer in easy interaction distance. The family bond is better able to weather the interruption of contact than friendship, and crises bring the family together. However, even though the social role of friend does not have strong ideological support for adults in American society, it is important in the daily lives of many of the Chicago area widows. Only one third of the respondents were extremely low in such interaction and negative in attitude toward it. Some, such as Hendricks and Hendricks [22], Blau [64] and Rosow [80], explain it as a differentiation in task. The aged almost never turn to their friends for financial assistance, they look to the family. But, in time of illness, friends and neighbours constitute viable
substitutes for family. Intergenerational contacts, however, tend to be confined to family members (children and grandchildren) rather than other relatives and friends [81].

I have been arguing that we know little about friendship and neighbouring interaction. As Jonas [69] notes, we know especially little about the interplay between the two roles — that is, family and non-family roles. One study, however, by Pihlblad and Adams [76] does indicate that, in general, family contact is more conducive to female satisfaction than to male satisfaction and sibling contact is more conducive to high satisfaction than is children contact. Further, friend contact is more strongly associated with satisfaction than is family contact.

The importance of the peer/intergenerational conceptual framework, I would argue, is not simply a better understanding of the lives of the elderly. In particular, it will provide a better understanding of the lives of elderly women; one which is not masked in the familial/nonfamilial distinction which serves to reify the roles of mother and wife. This is not to deny the importance of such roles. Indeed, it might be that peer family (spouse, siblings, etc.) can and often do provide 'friendship' roles for many and even most married persons. But, it is to recognize that some married persons do not have such roles with their spouses, that unmarried persons can have similar relationships, and
that marriage and mother roles are not the only roles in which women are involved nor are they the only roles from which women derive their being. As noted earlier, there is reason to believe that these roles will be less important for many women in the future and not part of the lives of increasing proportions of women. Indeed, Lee [75] argues that the trend away from obligatory concern of children for their parents to a more 'voluntaristic' model will increase the meaningfulness of intergenerational relationships but will probably decrease their frequency. Furthermore, with widowhood now a 'normal' life stage for most women, virtually all elderly women can expect to live many years in neither the mother (at least in the sense of raising children) nor the wife role.

Conclusions

In conclusion, I would like to state that the future is by no means pre-determined and that it is through the efforts of each individual that a better life can be achieved for all of us. However, if past experience is any example, changes taking place will probably be quite slow. Nevertheless, change is always taking place and things which we perceive as small changes, when viewed together with other small changes, are often very important in their impact.

I doubt any of us would argue that Neugarten's [37,38] age-irrelevant society is not a worthwhile goal to keep
striving towards. However, particularly in the areas of income security and health, I am not optimistic for the foreseeable future. I see more likelihood of changes in the area of social supports and see most of these as positive. Further, I see them as particularly relevant given the expected increases in elderly women and old elderly women. Both health care and income security will remain great concerns. For both areas informal supports will maintain their importance. Even as governments and other agencies provide income maintenance and health and social services, they nowhere near provide enough to meet current need. Furthermore, we are social animals. It is still friends and relatives that provide us our emotional or "human" support. While I would never suggest that the other areas are not vitally important, they are necessary but not sufficient for an acceptable quality of life for most of us.

The family will no doubt remain important for many individuals in the provision of these 'human needs' but probably less so in the sense that there will be greater flexibility in our social interactions and social arrangements. I would expect there to be more living arrangements of the type of which Maggie Kuhn [32] speaks - persons from several different generations or the same generation living in a household together but these would be 'families of choice' not of blood. (I say this realizing that our current state of knowledge concerning the role of friends is largely non-existent; but they
will probably play a much more crucial role than is reflected in the research literature to date.) It would appear that alternative lifestyles and living arrangements - other than the nuclear family - will be more popular in the future and will provide more opportunities for different types of social supports. These lifestyles would benefit the elderly and in particular elderly women and old elderly women since they are precisely the persons who can become socially isolated in a society which is centered around the nuclear family of mother, father, and children.
FOOTNOTES

1. Watson and Kivett [47] found morale inversely related to the number of children in their study of older fathers. They also found intergenerational relationships not of primary importance to the morale of the older person. Lee [75] reports a negative correlation between amount of contact and morale. Cohler and Lieberman [43], in a study of three ethnic groups in the United States, report that the maintenance of face-to-face relations was a source of strain, especially for the women. Pihlblad and Adams [76] found that among men widowed for five years or more, higher contact with children was associated with decreased satisfaction. Whether or not increased contact results from increased illness and it is the latter which caused the decrease in morale is unknown.

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DISCUSSION OF NEENA L. CHAPPELL'S PAPER "THE FUTURE IMPACT OF THE CHANGING STATUS OF WOMEN"

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When I agreed to respond to Dr. Chappell's paper on the future impact of the changing status of women, I made the assumption that the term "changing status" referred to women's supposed move toward equality with men in access to society's goodies, like money and power. That is what the term "status of women" has meant to me for some time now. Dr. Chappell has interpreted the term status much more broadly - status as she uses it, meaning "the condition of things". What I learned about myself was that my feminist perspective takes precedence over my perspective as a social scientist.

Let me hasten to say that I am by no means implying that Dr. Chappell does not share my feminist perspective. But it became clear to me as I read her paper that if I had had the task of writing a paper on the future impact of the changing status of women, some of the issues I would have raised would have been different from the issues which Dr. Chappell raised. The differences would also be partly attributable, no doubt, to our different disciplinary backgrounds. Where Dr. Chappell thinks in terms of social groups and social structures, I tend to think in terms of personality characteristics and individual differences. I must say, however, that in my attempts to understand the psychology of women and
women's relatively low status in society, I have come to appreciate more and more the sociologist's emphasis on social structures, and I have become less and less patient with psychology's attempts to understand women's subordinate status in terms of biological sex differences and sex differences in personality characteristics.

Dr. Chappell and I are certainly in agreement on the importance of many issues: family and peer relationships, health care services for elderly women, alternative life styles and living arrangements for elderly women, to name a few.

I would like to pick up on several of the issues discussed by Dr. Chappell, and then add in some others. In my remarks, I'm going to make the assumption that women's status is changing toward one where their relationships with their male peers are more egalitarian. That could mean that in the future, women over 65 will be more independent, assertive, autonomous and less poverty-stricken than they now are. What might be some of the implications of such changes?

At the end of the paper, Dr. Chappell referred to the possible development of a variety of living arrangements for older women. If older women in the future are more assertive, independent, etc., they might become more articulate about their housing needs. If more of us have decent pensions and an independent spirit and as we become more and more numerous in the over-65 age group, we might begin to insist on living environments more
adapted to our needs. The regimentation and the institutional atmosphere of the typical nursing home, or home for the aged, may no longer sit well with us. Perhaps we will begin to be better represented on boards and committees planning housing environments for the elderly. Perhaps we will begin to agitate for different kinds of housing - housing which would permit us to retain some autonomy, yet satisfy our social needs and provide us with companionship as well as assistance when required. I'm thinking of congregate facilities such as sheltered flats, or even "old ladies' communes" - that is, housing which provides alternatives somewhere between self-contained apartments and nursing homes.

Dr. Chappell referred to the increased strain on our health care system which is probable when the numbers of old-old women increase. This is an area of considerable importance, where women's changing status might well have an impact. Feminists have been urging women for some time now to take more responsibility for their own health care and not to blindly accept the medical diagnosis of the first physician they go to - as in "You'll be O.K. once we take out that nasty uterus", or "Of course you're not feeling well... You're menopausal. Have some more estrogen and you'll soon be fine." Possibly, the growing proportion of female physicians will have some positive impact here.

In the White House Mini-Conference on Older Women, held in Des Moines, Iowa, last October [1], considerable
attention was paid to needed changes in the delivery of health care, and to the need for more medical research into diseases which are much more common in women than in men, e.g. osteoporosis. A keynote address at the annual meeting of the Western Gerontological Association in Seattle this spring, by Dr. Robert Butler [2], was on the topic of women, health and aging. Butler, himself a physician, accused his medical colleagues of being both ageist and sexist. It appears that all too often a woman's health problems are written off in terms of her being premenopausal, menopausal, postmenopausal - or ultimately, senile. If there should be increased pressure from women's groups and from people like Dr. Butler, for significant changes in the medical treatment of women, then we might well see, in the future, positive changes in the health status of older women, changes in medical research priorities, changes in the provision of home health care services, etc. I doubt that significant changes will occur in my own lifetime. I would like to think they will occur in time to be of benefit to my daughters. As Dr. Chappell has said, the future is by no means predetermined. Perhaps efforts made now will cut down on the excessive use by elderly women in the future of our medical care facilities. Preventive medical care of middle-aged women just might result in a population of healthy old women. I would like to think so.

Dr. Chappell drew attention to the fact that in the future we can expect to see more elderly widows, and more
women who have never been married. She explored the relationships of these "women alone" with families, and with peers. She reported the life satisfaction of widows as being at least as high as that of widowers. However, loneliness and lack of sexually intimate relationships are conditions which have been said, in some of the gerontological literature, to be characteristic of many older women today, particularly widows. Will women's changing status have any effect on loneliness?

One scenario has it that women's increased participation in the labour force will mean a decrease in female life expectancy. It has been suggested that the woman who is part of the competitive rat-race will be as likely as her male counterpart to develop cardiovascular disease. Should that be the case, the projections in regard to the ratio of males to females in the over-65 population will be off-base. One projection is that the ratio of older females to older males 50 years from now will be 160 to 100, instead of the present 140 to 100 [3]. Even if the numbers of men and women were more similar, it is difficult for me to imagine that this would greatly affect the numbers of women who live without men in their later years, given the tradition in most couples that the husband is several years older and with the age difference even greater in second marriages. In the city where I live, the ratio of females to males in the over-65 group is currently 175 to 100. There would have to be an incredible increase in the incidence of
cardiovascular disease in women for that numbers gap to be closed! I can't see that the death of some women from cardiovascular disease will significantly change an older woman's access to heterosexual relationships in the future.

In 1972, Myrna Lewis and Robert Butler [4] speculated about what would happen if women had equal access to status and power on their own. They suggested the possibility that women might suddenly appear much sexier and more attractive, whatever their ages, and thus loneliness and sexual frustration would not be the problems they now appear to be. That somehow seems an unlikely development in the near future. However, instead of the present situation, which Lewis and Butler described, of the downgrading by women of female companionship, and the competition with other women for the few remaining old men, it is just possible that women's equal access to status and power might lead to a situation where women would perceive close relationships with other older women as highly desirable.

Dr. Chappell referred to the literature which indicates changing lifestyles of women in future generations, with some evidence that attitudes toward career involvement are changing. However, it appears that women who are in the labour force, even in well-paid positions of great responsibility, seldom identify themselves in terms of their occupations. Some of you may be familiar with Lillian Rubin's book, entitled "Women of a Certain
Age." [5] (The certain age is 35-54). One of the questions Rubin asked in her interviews of 160 women was:

I wonder if you could briefly describe yourself in some way that would give me a good sense of who and what you are?

The women first described themselves in terms of their physical appearance. Interestingly, over half said they were fat and wanted to change that aspect of themselves. (Rubin says most of them were not even discernibly overweight.) Then they went on to describe their personality characteristics, in stereotypically feminine terms: warm, kind, sensitive, caring, etc. And they described themselves as mothers and wives. What is really surprising is that although half of these women were in the labour force, some in high-level professional jobs, not one described herself in relation to her work. Rubin interviewed 35 men as well, and asked them the same question. All but one, who was unemployed, immediately defined himself in terms of his occupation, - "I'm a doctor," "I'm a carpenter", or whatever.

My point is that despite women's changed status as far as employment is concerned, their identity still seems to be bound up with the traditional role. They define themselves first and foremost as nurturers and care-givers. I'm not suggesting that this is bad or wrong. What concerns me is that people who don't see their occupational role as a very important part of themselves
may not appreciate the importance of continuous labour force participation throughout the adult years. This can mean poor or non-existent pensions at age 65, or it can mean financial catastrophe as a result of divorce or widowhood.

But Rubin's subjects were middle-aged. What about today's women in their 20's? Surely they define themselves differently? Well, I'm not so sure, despite some of the findings from the study by Brody which Dr. Chappell discussed. Most of the female students in my classes at Carleton, when asked about their plans for the future, indicate that they want to marry and have children. Like Brody's subjects and unlike their sisters of an earlier generation, they also intend to be in the labour force. But, almost all indicate that they wish to spend some of the early years of their children's lives at home. Unlike Brody's subjects, very few indicate that they expect to share child-rearing responsibilities with their husbands. The belief that a young child needs its mother is still held very strongly. Most of these young women say that they intend to return to the labour force, but very few seem to have much idea of the difficulty of picking up where they left off years before. Very few seem to appreciate that discontinuity in the labour force spells lower salaries and ultimately, lower pensions. So long as women see themselves as the sex whose obligation it is to assume responsibility for caretaking and nurturant behaviours, we can anticipate that old age will
mean poverty for many of them.

I'm being rather negative. Let me try to be more positive in my fantasies about women's changing status in the direction of being more autonomous and independent. One possibility is that as women become more independent, they will see themselves as more competent and self-sufficient in their senior years and won't hesitate to acquire and practice those skills which are essential to maintaining a home, skills which are stereotypically masculine. I'm thinking of minor home repair skills, in the order of being able to wield a hammer with authority, or repair a leaking tap. Certainly many women are already competent in this area - but I recall reading several reports where elderly women alone, far more than men alone, felt handicapped because they were dependent on others to do these kinds of tasks.

Perhaps as women's status changes, they will not be so overpowered by fear of being the victims of crime. Many elderly women virtually lock themselves into their houses and apartments for days or weeks at a time because they are afraid to venture out into the city streets. Perhaps the training courses in self-defence, which many young women are taking, will make them, as older women, more confident about and competent in protecting themselves against assailants.

Back to the negative. A development which a number of gerontologists are paying attention to lately is the situation where middle-aged women who are in the labour
force are increasingly faced with responsibilities concerning the provision of a variety of services for their own elderly parents. Dr. Chappell made reference to this situation, and I would like to elaborate on it a little. Elaine Brody [6] of the Philadelphia Geriatric Center, has been studying the plight of what she terms the "woman in the middle", the "sandwich generation" of women. She found that the middle-generation women acknowledged filial responsibility but expressed a preference for non-family provision of support services for the elderly. Brody noted that these "women in the middle" will be the next cohort of elderly women and their attitudes have implications for the provision of programs for the elderly of the future. The kinds of programs she referred to were such things as home support services, good quality institutions that aren't looked at with fear and trepidation, day care and reimbursement for day care, respite care, family allowances to help with parent-care costs, etc. If these programs are not provided, then one might anticipate "burn out", as the social workers say, in the "sandwich generation" of women. One might predict that there will be an increase in elder abuse — or "granny battering" — as the overworked woman in the middle reached a breaking point. Not a pretty picture.

To try to end on an upbeat note, as Dr. Chappell did in her reference to alternate life styles and living arrangements, I would like to point out that although
women's access to status and power will, I believe, create demands for more services of many kinds, we will have in the future vast resource of womanpower which could go some distance toward helping to provide the demanded services. I'm referring to that group of women, the young-old, who are in what Dean Neville Scarfe referred to earlier this year at a conference at UBC [7], as the "wasted years" - the years immediately after retirement. In the future, we will have a large number of well educated women, experienced in a wide variety of occupations, physically fit and in good health. That group should surely be seen as a great human resource - people whose talents could be put to tremendous use in helping to deal with some of the situations resulting from women's changing status.
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In addressing the topic of Education and the Future, discussion will focus on three areas: career education, education for seniors and pre-retirement education.

Career Education

The centralized agency for support of gerontological training in the United States is the Administration on Aging (AoA). The Gerontology Career Preparation Program is the oldest continuously supported training activity administered by AoA, with project support first awarded in 1966. Although changes have occurred, the goal and basic strategies for the Career Preparation Program remain basically the same. The goal of the program is to promote, support and assist post-secondary institutions in developing long-term training programs in gerontology in order to assure the nation of having an adequate supply of trained personnel serving the needs and well-being of older adults. The strategy to accomplish the goal is to award project grants to accredited institutions of post-secondary education in the United States and its territorial possessions. The competitive funded proposals support faculty, staff, and students. The purpose of the funded program is to plan and implement courses, instructional sequences, and field
experiences in core and specialty curriculum leading to the award of credentials recognizing competency in gerontological knowledge, skills and behaviours. The training prepares individuals for entry, re-entry, and career ladder development for employment in jobs critical to the improvement and amelioration of concerns and conditions in older adults. The direction given by the Older Americans Act towards career training in gerontology was in response to pervasive ideological considerations, rather than pressures exerted by older persons themselves. Contributing to these ideological considerations were the demographic predictions of the growth of the population.

The ideology and demographic facts coupled with passage of the Older Americans Act and the initiation of what is now the AoA has led hundreds of colleges and universities in the United States to establish gerontology courses and even degree programs. The experience in the United States in terms of planning to educate needed manpower to work with the elderly has been difficult and has major questions associated with it. A number of these questions and issues apply to Canada and an analysis of them may help you prevent the mistakes we have made.
Issue #1. Support for a broad range of programs vs. a small number of centres of excellence.

A corollary to the above issue is: can the existing or near-future employment market for graduates of training programs in aging sustain a continual expansion in the number of programs and institutions that offer certificates or diplomas? A review of educational gerontology programming in Canada [1] reveals that every province has at least one university which offers some courses related to the field of aging. The question remains as to whether every university within a province should institute courses in the field of gerontology. In addition, should every university offer a specialization in the form of a certificate? Should there be at least one university in each province which offers a diploma in gerontology?

Ketron, Incorporated, [2] was commissioned by AoA to do a study of 58 funded institutions of higher education conducting Title 4-A Career Training programs in aging. One of the major findings of their study was that students tend to live and work around the universities where they have taken their gerontological education. The study recommended that AoA consider geographic coverage more carefully in selecting the schools that it would fund. An additional recommendation was that schools that are funded should try to obtain participants from a broader geographic area.
In order to reach a decision about this distribution, manpower studies need to be continually conducted. The employment situation for gerontology graduates is not likely to absorb unlimited growth. The planning bodies in each province need information regarding manpower needs within that province in order to make a logical decision about programming. Manpower studies are difficult to do at best. Lack of consensus regarding content and limitations of the field of aging, the diversity of settings in which the elderly are served, and the absence of reliable and periodic data hamper the description and estimate of numbers of individuals who are needed to work in gerontology.

Since the first major manpower study in 1968 in the United States, seven other studies have been conducted. The recommendations from AoA [3] in 1980 were:

- The legislative mandate of 1978 to provide a national manpower policy on aging be delimited to either periodic, comprehensive, data collection, analysis and reporting of manpower policy development and implementation or to identify particular manpower issues and to use them as points of reference for expanding investigation, analysis and resolution (The first approach is favoured by the Bureau of Labour Statistics).

- Other Federal agencies, as well as the Office of Human Development Services (OHDS) and Health and Human Services (HHS), be coordinated with the AoA
activities.
- Basic knowledge of aging being introduced at the primary, secondary and collegiate levels, as well as in adult education, be the mission of the U.S. Department of Education.
- The Department of Education take responsibility for providing student loans and grants for those interested in work in gerontology, leaving AoA to focus more restrictively on career preparation support in specialty and geographic shortage areas.
- That the National Center for Educational Statistics (NECS) include the field of gerontology in collecting its data on collegiate and non-collegiate enrollment, course offering and degrees awarded. AoA, through the National Clearinghouse on Aging, will collect data on the interests and needs of older persons.
- All government and non-government employees who do or would be hired to work in positions responsible for development and execution of public policies affecting the elderly be required to have education and experience in aging.

The factor of funding is also of major consideration in deciding this issue. It is evident in the United States that reliance on the federal government to provide money for gerontology programs has not been a wise decision. The broadly based "seed money approach" has proven not to be a viable one.
Issue #2, Educational philosophy and the university mission and goals


If educational direction is focussed on scientific gerontology, then activities include the scientific method, the collection of data and the establishment of a knowledge base. The further activities of theory development and refining of research methods and findings are of major concern. If a professional orientation is selected, then the activities include improvement of the quality of life, solving social problems, the provision of services to help people and, therefore, the education of trained manpower to deliver those services. If the philosophical orientation is of a more liberal nature, then activities would be undertaken to assist everyone in understanding the processes of aging and establishing values and attitudes that were positive towards the latter half of life, and to create insight into and integration of the life cycle and the processes through which all of us as human beings negotiate.

It is evident that any one department of a university or a university as a total entity may have a single or
primary philosophical orientation as well as a mixture of the three different ideologies. To provide all three orientations with their corresponding activities requires a large number of faculty and financial resources. In considering the commitment of resources, Figure 1 illustrates a continuum of coordinated activities in gerontology with each organizational model requiring different levels of curriculum control, coordination, cost, etc. Assessment of the strengths of the institution and the faculty in relation to the educational philosophy of the university will largely determine the organizational structure of the gerontology unit.

**FIGURE 1**
CONTINUUM OF COORDINATED ACTIVITIES IN GERONTOLOGY

<table>
<thead>
<tr>
<th>Level of Activity</th>
<th>Low</th>
<th>High</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Models</strong></td>
<td>Intradepartmental</td>
<td>Interdepartmental</td>
</tr>
<tr>
<td>Programs</td>
<td>Degrees, certificates</td>
<td>Degrees, certificates</td>
</tr>
<tr>
<td>Curriculum Control</td>
<td>Department faculty</td>
<td>Multidisciplinary interdepartmental committee</td>
</tr>
<tr>
<td>Program Breadth</td>
<td>Narrow, one or two disciplines involved</td>
<td>2-4 disciplines involved</td>
</tr>
<tr>
<td>Co-ordination</td>
<td>None, all one department, requires little communication</td>
<td>Low level coordination with some communication with other departments, Committee activity</td>
</tr>
<tr>
<td>Cost</td>
<td>Little or no cost</td>
<td>Low level costs for coordination and some management</td>
</tr>
<tr>
<td>Research Productivity</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Service Impact</td>
<td>Dependent on orientation of the institution and the faculty.</td>
<td></td>
</tr>
</tbody>
</table>

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Issue #3. Certificates vs. Diplomas or Degrees

Canada, as of September, 1981, will have eight universities offering certificates in gerontology and two universities offering diplomas. There are no degrees in gerontology offered by Canadian institutions. Twenty-five universities in the United States offer either a Bachelors or Masters degree in gerontology; many more award a certificate at the undergraduate and/or graduate level. Traditionally, degrees are associated with a discipline. If we were to critique gerontology as a discipline according to the criteria of Dressel and Mayhew [6], we would conclude that it has not yet reached this status. The Foundations for Gerontological Education Project, hereafter referred to as the "Foundations Project" [7], a collaborative project of the Gerontological Society of America and the Association for Gerontology in Higher Education, concluded that we still need a body of knowledge that is concrete and specific in order to establish gerontology as a discipline. There is evidence from the Ketron Study [2] and other sources that employers prefer traditional professional degrees with more widely understood content and skill development.

Gerontology as a field struggles for a clear sense of purpose and direction. Wilensky [8] identified five steps for the professionalization of a field:
- Occupational group is engaged full-time in a particular set of problems.
- Establishment of a training school within a
university, which sets forth training and selection procedures.

- Formation of a professional association whose task is to define continuously the function of the occupation, set standards, and manage its relationship with the competing groups.

- Occupation agitates for political recognition and legal support for its control over entry and modes for practice.

- Elaboration of a formal code of ethics.

A move towards professionalization of gerontology in the United States is supported by a majority of the members of the Gerontological Society of America and the Western Gerontological Society. Hirschfield [9] surveyed a random sample of both of these professional organizations. He reports that 60 percent of respondents felt that gerontology was currently a profession and that 59 percent of the Gerontological Society membership and 45 percent of the Western Gerontological Society membership considered themselves to be "gerontologists". While there was not complete agreement on all of the characteristics which identify a profession, several were generally supported. Occupational participation in the field is becoming a full-time assignment, degree programs in gerontology are supported, professional societies are encouraged to establish standards and speak for the field, the agitation for political recognition is occurring, and a code of ethics is supported. While the
criteria are supported, not all are being met. For example, no one has taken the initiative to draw up a code of ethics and in addition, memberships in the professional societies are not presently restricted.

**Issue #4. Faculty Development Education**

In a survey conducted in California in 1977-1981, 85 percent of the respondents felt that faculty members who teach courses about aging should have some specific training in gerontology. However, seventy five percent of all the departments surveyed claimed that only five to fifteen percent of the faculty who teach aging-related courses have such training. They also indicated that they did not know whether their faculty members were members of any professional gerontological societies. The Ketron Study [2] conducted in 1977-78 and released in 1981 indicated that of 425 faculty members at 58 institutions, only 16 had credentials in gerontology. Students' comments (which were few) indicated faculty were either not adequately trained, were solely academicians not practitioners, or they didn't know how to teach. A systematic approach for the development of quality gerontology education would be to provide support for education of the teaching faculty. To do otherwise is to provide poor education and research and resultant poor service delivery and program planning.
Issue #5. Curriculum Development

The 87 panelists who participated in the "Foundations Project" agreed that there should be a core curriculum for all students preparing for careers in gerontology. While there was clear consensus about the existence of a gerontological core and that it should be multi-disciplinary, there was only general agreement about its content. Ninety percent of the respondents agreed that the core should include the broad areas of psychology, health and biology of aging. At least 80 percent of the respondents also agreed that demography, sociology, environment, and economics of aging were important topics to be included in the educational curriculum. The panelists concurred that the core should emphasize normal aging and should be descriptive rather than analytic. It is also worth noting that the "Foundations Project" found "understanding" to be an essential skill that should result from the core curriculum, along with respect for the elderly and recognition of their potential. Nearly all of the 87 panelists agreed that implementation of a core is feasible, though it would take time to negotiate through their educational institutions. One of the problems most frequently mentioned by the panelists was the shortage or lack of trained faculty (i.e. issue #4). The "Foundations Project" also found that career clusters in the bio-medical specialties, psycho-social functioning, and the socio-economic environment were distinct and were

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seen as being viable.

**Issue #6. Level of Training**

This issue is similar to that of curriculum development. The articulation of specific content appropriate for different levels of education raises the oft-repeated questions about breadth vs. depth, general vs. specialized education and the relationship between graduate and undergraduate curriculum. Whether funding should be provided for specialties such as pharmacy, nursing, social work, or ancillary areas such as architecture, law, communications and library science, is debatable. Should a funding source determine what occupation the student should prepare for?

The Ketron Study [2], indicated that persons with graduate level degrees had an easier time obtaining jobs than those with bachelor level degrees. This employment result is influenced by the fact that most of the graduate students had had experience in working with the elderly prior to their graduate education. The study indicated further that of those who received degrees in gerontology 82 percent found employment as compared to only 60 percent of those who had majored in another field and then earned a certificate or who had only a concentration in gerontology. Recently, North Texas State, the University of South Florida, and the University of Southern California reported on the employability of graduates of their gerontology degree...
programs [11-13]. From 75-90 percent of these master level students were employed within the first year after graduation. It should be noted, however, as Craig and Greenberg [14] point out, that while the Ketron study shows that 82 percent of those with a degree in gerontology are employed within the first year, 75 percent of those with a graduate level certificate in gerontology were employed within two years of completing their studies. What this suggests is that the commitment to gerontology of those who earn certificates helps them to persist in seeking a job in the aging network, and that eventually they are as successful as those who have a degree.

The employment of undergraduate students has not been very successful in the United States. Fewer than 20 percent of students at the undergraduate level felt that their programs of study were very useful in helping them obtain jobs compared with 40-60 percent of those receiving masters and doctoral degrees [2].

There obviously is a need to establish a closer relationship with potential employers of gerontology students. We need to educate employers as to the quality of education the graduates receive and the skills and knowledge they possess in working with older people. Both faculty and students also need to broaden their perspectives regarding the various types of employment that students may be qualified for.
Students entering into either certificate or degree-awarding programs have tended to be older; a majority of them are female, and a majority have had prior work experience in the field of gerontology. The recruitment of minority or ethnic students has not been very successful in the United States. Whether or not specialized scholarships are the answer is questionable. Considering how cosmopolitan Canada is, however, it is important to attract committed minority students to serve their own population — particularly where language barriers and cultural beliefs may inhibit the delivery of quality services.

**Education for Seniors**

Educational gerontology, one of the newer terms in the field, has been defined by Peterson [15] as the study and practice of instructional endeavours for and about aging and aged individuals. It can be viewed as having three distinct although inter-related aspects:

- Educational endeavours designed for people who are middle-aged and older.
- Educational endeavours for a general or specific public about aging and older people.
- Educational preparation of people who are working or intend to be employed in service to older people in a professional or para-professional capacity.
Educational gerontology is an attempt to inter-relate the process and the institutions of education with the knowledge and needs of human aging so that the quality of life of older citizens can be improved. Antecedents to the development of this term and this definition are also relatively new, having occurred within this century. These fields, generally termed adult or continuing education, were initiated in response to the needs of citizenship education for masses of immigrants. These activities soon expanded to include literacy education, family education through cooperative extension service, and many other forms of educational programs. Smith, Aker, and Kidd [16] concluded that most of these programs were for young and middle-aged adults and not really for those who were retired. Donahue's [17] pioneering book, Education for Later Maturity, provides a description of educational programs for older people. It's revealing to review the programs described and realize that many of today's activities were operating 27 years ago. The final report of the 1971 White House Conference of Aging [18] stated:

Education is a basic right for all persons of all age groups. It is continuous and henceforth one of the ways of enabling older people to have a full and meaningful life, and it is a means of helping them develop their potential as a resource for the betterment of society.

There continues, however, to be resistance to educational
programs for older people although most educators as well as the public accept the concept of lifelong learning. Sherron and Lumsden [18] outline five different contemporary approaches which are mediated largely by the prevailing negative beliefs and attitudes about older people that exist within our society:

**Avoidance approaches**, which simply stated, are ways of rationalizing away the need to do any educational planning for older adults.

**Dilatory or procrastinating approaches.** These approaches differ very little from avoidance approaches, especially in terms of social impact. The dilatory approach will, for example, allow for legislation to provide educational opportunities for older adults, but at the same time not consider the monetary appropriations to conduct the programs. They may make allowances for educational programs, but only after the educational needs of everyone else have been met. Such a situation exists at a university familiar to this author. Numerous attempts have been made at this institution to have the Division of Continuing Education (DCE) open up classes, daytime and evening, for older adults. Administrators of DCE acknowledge the need and the interest older people have in obtaining education. Legislation has been passed in this state to allow people over the age of 60 to take any course for a fee of $10 per year. The complicating factor is that the teaching faculty want more money than the $10/person would bring in if all, or in some cases,
if only five of the class members were over 60. Therefore, DCE restricts older people's entrance into classes by requiring a large number of full-paying participants and permission of the teaching faculty.

**Traditional approaches.** The fact that evening programs are offered on campus, tuition waivers are available, that curricula include virtually everything from non-credit to credit courses looks fine until we investigate further and find that the traditional educational methodologies used are not conducive to the older learner. As Belbin and Belbin [20] point out:

It requires a singularly sensitive instructor to perceive which key opens the door to learning. Most people prefer to use a standard key and when a lock does not turn they see no need for self-reproach but refer to the inadequacy of their pupils.

**Non-traditional approaches.** These are used, generally speaking, outside of college and university campuses. While many of them seem to be much more successful than the typical traditional approaches of university or college-based education, they still orient themselves to formal courses with teachers, semester or quarter-long courses, offering credit and pursuing some of the same traditional educational format.

The fifth approach deals with individualized learning **resource centres**. Basically, this approach provides individualized instruction through learning coordinators.
and assistants as well as using educational technology. While these programs do not exist for older people, the potential of this type of learning centre should be considered for the future.

**Learning Capacities of Older Adults**

Labouvie-Vief [21] has questioned most of the research on the learning capacities of older adults. She states:

Research in this area tended to derive its assumptions, predictions, and interpretations by a deduction from idealistic, maturational, youth-centered values of cognitive functioning. It is, as a result, excessively biased in favour of detrimental interpretations that tend to foster doubt about the feasibility and value of education in later life... the intellectual potential of the older person is, to this date, essentially unexplored.

She suggests that researchers need to direct attention to the investigation of variables that are unique and representative of aging behaviour, concentrating efforts on the potentially progressive aspects of adult cognitive development, for example, wisdom, personal control of mid-life crisis, and adult coping with inter and intra-personal stress.

Numerous research articles and psychology texts document learning capacities of older adults. It is important to realize the implications of statements such as:
Under conditions of fast-pacing, whether the presentation rate or the response rate is increased the older learner is usually handicapped. His performance is especially benefited by self-pacing [22].

But, we would do well to read Weinstock's [23] *The Graying of the Campus*. This book describes programs in which older adults are integrated into campus life. Maggie Kuhn's [24] statement, "Most organizations try to adjust old people to the system and we want none of that; the system is what needs changing," pervades the description of these programs. Recognizing physical limitations, adjustments can be made within the system that are not costly, yet allow for bio-physiological declines that older people experience.

Of particular relevance is an article by Bolton [25] entitled "Alternative Instructional Strategies for Older Learners". In it, he discussed two strategies: the instructor-authority-focussed-strategy and the learner-autonomy-focussed-strategy. The instructor-authority-focussed-strategy is traditional. The instructor assumes control and management of the student's learning experience. The student, in turn, learns to listen critically, retain information, and predict exam questions. Directed independent study, video-taped lectures, recordings, slide and tape presentations, motion picture and television instruction come under the instructor-authority-focussed-strategy. Also included in this strategy is the Personalized System
of Instruction (PSI) developed by Keller and Sherman [26]. The PSI derives its fundamental theoretical orientation from Skinnerian learning concepts. All programmed instruction modules are also within this type of strategy.

The learner-autonomy-focussed-strategies, on the other hand, are based on the concept of "andragogy". The term "andragogy", proposed by Knowles [27], is derived from the Greek. Literally, it means the art and science of teaching adults. Knowles [27-29] cites three main assumptions upon which the concept is based. First, the assumption that as a person grows and matures, his self-concept moves from that of total dependency to becoming more independent. The assumption is made that as an individual matures, he accumulates an expanded reservoir of experience. That makes him a rich resource for learning and at the same time provides a broadening base to which to relate new learning. Parenthetically, it should be mentioned that experience also creates rigidity, unless people have the opportunity to discuss and work through the meanings of past experience. Second, the assumption is made that as an individual matures, his readiness to learn is decreasingly the product of his biological development and is increasingly the product of developmental tasks required for the performance of his evolving social roles. Third, the assumption is that while children have been conditioned to have a subject-centred orientation to most learning,
adults tend to have a problem-centred orientation to learning. On the basis of these assumptions, the teaching of adults should include the concepts of non-directiveness as defined by Rogers [30] and learner discovery. These are perhaps best illustrated in the dialogue of Plato entitled "Meno". In the dialogue, Socrates interrogates a young boy about the principles of geometry. The boy professes to know nothing about geometry, he never studied the subject, but under Socrates skillful questioning, he successfully reconstructs a theorem describing the relation between the area of a square and its diagonal sections. The ignorant boy turns out to be not so ignorant as he himself had imagined. He has answered Socrates questions on his own and yet, just a few minutes before, did not "know" the correct answers. Thus, Socrates concludes: "So, a man who does not know, has in himself true opinions on a subject without having knowledge." Meno replies: "It would appear so." Socrates: "At present, these opinions, being newly aroused, had a dreamlike quality, but if the same questions are put to him on many occasions and in different ways, you can see that in the end he will have a knowledge of the subject as accurate as anybody's." Meno: "Probably". Socrates: "This knowledge will not come from teaching, but from questioning. He will discover it for himself."

Knowles [28] contends, "for an adult life, learning will take place for the most part only if the learner
takes the initiative. Teachers are not omnipresent.

Self-directed and self-planned learning, in its broadest sense, describes a process in which individuals take the initiative with or without the help of others in diagnosing their learning needs, formulating learning goals, choosing and implementing appropriate learning strategies, and evaluating learning outcomes. While some older learners may not possess a great deal of autonomy, we can help them to perceive more personal freedom. This writer believes that use of the Socratic method of asking questions, using techniques of the learner-autonomy-focused-instructional strategy represents the most appropriate method of education of adults. There is almost no research done in this area to substantiate this claim, but it is critical that those involved with adult education understand and use these educational strategies if for no other reason than to allow older learners the opportunity to experience the wisdom and power of integration that lies within themselves. They may reject the method but they will, through the process, achieve psychological growth.

Pre-retirement Education

Preparation for retirement as an educational process has been developed by businesses, associations, retirees, labour unions, and educational institutions. Surveys of retirement preparation programs in industry have revealed that many of the larger corporations in the United States
offer some type of planning program but these are typically limited to economic aspects of retirement. Programs sponsored by labour unions appear to have the same limitation. Neither include much content on issues of family re-orientation, social and psychological adjustments, bio-physiological changes and/or formulation of a philosophy for the later years.

University programs in the United States have typically been more comprehensive than those of companies or unions and have had more rigorous evaluation attached to them. These research endeavours, however, have not lent themselves to replication because the program methodology often involves a series of lectures by experts who vary in quality, preparation and instructional capability. From major studies on pre-retirement programs in California and Oregon completed between 1974 and 1979, it appears that regardless of the teaching method or capabilities of the instructor, participants report the experience as positive. Analysis of pre-retirement programs, at this point, suggests that almost anything is helpful. This finding argues for the formulation of explicit research questions, experimental designs and critical analysis. A study conducted by the author and doctoral students discovered that the difference in attitudes about retirement on a pre- and post-test related to the availability of a "confidant" with whom discussions about retirement could take place. Attendees at the pre-retirement seminar who had someone
to speak with about the material taught had statistically significant increases in measures of attitudes and self-concept.

Successful pre-retirement education needs to be learner-focused. As older people describe their needs for learning, it is comprehensive. They are concerned about income, taxes and estate planning, health and nutrition, housing, transportation, consumer protection, employment, education, and family functioning. No one has done adequate research in describing educational objectives, educational strategies, results of the learning process, and the improvement of adaptation as a result of the learning as it relates to pre-retirement education. The author's involvement in pre-retirement education and evaluation over the last nine years has led to the conclusion that much of what is taught is beneficial but it would have been more beneficial if taught to audiences in their thirties and forties rather than to those almost ready to retire.

Sponsorship of U.S. companies to provide for part of the financial cost or at least release time or promotion of pre-retirement seminars for their employees is difficult to achieve. As the head of personnel for a major oil company in the United States said:

We're not interested in educating and taking care of our employees from the womb to the tomb. If we can help them understand their fringe benefits and financial opportunities as a result of working with
the company and how the company will honour their obligations to that person upon retirement, we have fulfilled our responsibility.

In order to solidify pre-retirement as a major company-sponsored activity in the future, we will need to demonstrate to employers that loyalty to the company will be increased, turnover and sick leave will be reduced and that higher levels of productivity will result. The task awaiting all professionals responsible for developing and presenting quality pre-retirement education and life-planning programs is to build on research findings.

The U.S. has experienced a proliferation of retirement planners who have little or no training. Almost anyone can establish a seminar for pre-retirement without being questioned. Virginia Boyak, a leader in pre-retirement education, tells of the experience of being visited by two men who professed to be pre-retirement educators. After tediously questioning her with regard to content of programs and methods of teaching, she became suspicious. Upon investigating further, she found one to be a blackjack dealer in Las Vegas and the other his uncle, who had read a book about pre-retirement, conceived of an outline, and sold 21 people at $310 a piece on a pre-retirement seminar. Certainly, this type of corruption can take place in any discipline or occupation, but those in gerontology should be prepared to stop it.
This author is convinced that pre-retirement education and life-planning programs as well as adult education are necessities. Periodic evaluation of one's life and an increase in knowledge and skills to deal with problems associated with the life stage should be part of the total process of life-long learning. We should open up our institutions of education and train ourselves or others who want to enhance the psychological growth of middle aged and older adults.

Conclusion

In the United States, we operate on an emotional response to aging, on ideological considerations, on theoretical stances and assumptions about aging and programs for the older American rather than on valid and reliable research findings. We approach things from the volatile political scene, whether it be for gerontology career preparation grants, education for older learners, or pre-retirement and life-planning programs. Perhaps we operate or approach gerontological matters in this fashion because that is the state of the art of a growing discipline or simply because that is the way movements progress in the U.S. In either case, we need to investigate intervention techniques that might be used to modify detriments in learning and educational background. Methods for assessing educational program impact on adult learning, for cohort specific or age-related changes, need to be developed. Cultural-historical changes as
related to motivation and to performance need to be researched. Manpower needs need adequate study. Effects of our educational programming, curriculum offerings, practicum experiences in institutions of higher learning need investigation.

The time is now for all those involved or associated with the "Aging Enterprise" meaning, according to Estes [31] "... the congeries of programs, organizations, bureaucracies, interest groups, trade associations, providers, industries, and professionals that serve the aged in one capacity or another...", in co-operation with the elderly consumer to jointly plan programs and to collect research and evaluation data.
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Dr. Connelly has raised some most interesting issues, and at first glance, one might say that each of these issues is equally appropriate to the United States and Canada. However, on closer reflection, it seems to me that we have particular dilemmas or complexities that grow out of both the Canadian political structure and the educational scene in Canada. Our economic and socio-cultural context as well as the "State of the Art" in Canada, introduce education and research questions which are unique to us.

I would like to start with Dr. Connelly's summary of research needs and gaps in the United States. While one might say that in the United States, they "stand in a forest, not knowing in which direction to turn", I suggest that in Canada, in respect to gerontological education and research, we stand on the edge of a small bluff, a clump of trees. We have not, in some sense, entered the bluff yet, partly because we want to surround it. We want "everything in the woods". Everything on Dr. Connelly's chart. We want good research, new knowledge, fine educational faculties, excellent curriculum, breadth of offerings, involvement of seniors themselves, certificates, diplomas, and degrees, sound preretirement offerings, good connections with employing
bodies, opportunities for life-long learning, and of course, a Socratic questioning approach as one teaching/learning mode.

Perhaps this is one of our major difficulties. We are so aware of the absence of much that is needed that we find it hard to set priorities or make definitive recommendations.

Nevertheless, we cannot hide behind our uncertainties and global desires. Decisions are being made elsewhere if not with us. Even our imperfect research may be better than none at all. Our recommendations about educational needs at least bear the marks of concern and commitment.

When Dr. Gutman first asked me to be on the program, I explained that I had been studying model curricula and doing a literature review of the material on higher education in gerontology. This has continued, but so far has not produced, for me, a definitive direction for research and education in gerontology in Canada. In fact, quite the reverse. There are clearly contradictory and conflicting strongly held opinions, backed up by some documentation, that seem impossible to reconcile. This being the case, it seems appropriate to present yet another strongly held opinion. As Stone [1] and others have said, one of the key aspects of programming and planning for the future is the societal value position held. I must admit to a belief in social justice and equity, of concern, nay compassion, for one's fellow man,
particularly at a time of crisis or when in some way disadvantaged and, indeed, an enlightened self-interest, coming as I do into my 60's. Juxtaposed to these possibly unrealistic convictions about the direction in which we should be moving, is the retrenchment which abounds at present with its stigmatization, antiprofessionalism, and mythological alarm about problems associated with the rapidly aging population.

So, although it would be easy just to say that we need in Canada more of everything in gerontological education, we know that in times of restraint and cutback, this is avoiding the issue, the value-laden issue, of what we need most, what must be our priorities, which masters must we serve.

Perhaps, as Peterson and Bolton [2] and Dr. Connelly suggest, as educators, as researchers, as administrators, we must begin by asking a series of questions about our institution's mission, preferred outcomes, current resources and political realities.

Perhaps also, as gerontologists and scholars, we can take a "proactive" stance and suggest those forms of education which we believe to be key, thereby trying to influence decision-making in directions which, in our judgement, are most crucial. We must take care also that we do not accept unreservedly that which has been done elsewhere. I cannot, for example, agree that because the "seed money approach" in the U.S. seems to have had a negative effect, the same would necessarily hold true in
Canada, given our differences in government jurisdictions and federal/provincial responsibilities.

Parenthetically, I must comment upon the value assumptions which have pervaded our discussions to this point. We have in this room, general agreement on at least the importance of the subject of gerontology and the desirability of understanding, serving, planning well with and for older people, now and tomorrow. Beyond this general agreement, we come apart. Some of us are more concerned with serving the policy makers, some with serving institutions, professions, faculties. Some are most concerned for the immediate future, others are long-range planners. These loyalties influence our priority preferences.

But, to return to my main point, we cannot have everything. How do we decide what must go into gerontological education? How can we be wisely proactive? I suggest that we must choose what is essential in education and for whom. How do we make this choice? In three ways: (1) by listening to the researchers and demographers, the planners in the U.S., Canada and elsewhere; (2) by using our own best judgement based on experience, the wisdom of praxis; and (3) by listening to those out there, young and old, who are and want to be, part of the educational enterprise.

Because this symposium is directed towards the future, let us turn first to the demographic projections. As Havens has mentioned [see chapter 1 of this volume] in
both Canada and the U.S. much higher than average growth will be shown in the "80 and over" age group in the next 20 years. It feels imperative, to me, that we acknowledge the importance of the "80 and over" age group with respect to education and gerontology since it has real significance in terms of the training of service personnel to meet the needs of larger numbers of potentially frail elderly. (Although I must acknowledge that age is no firm indicator of service needs.)

When we think of Dr. Connelly's statements and the issues he described we must ask ourselves "What are the implications of the similarities and especially the differences in demographic projections between Canada and the U.S. on the future of education in Canada?" As Dr. Connelly has suggested, we can perhaps benefit from the fact that gerontological education has burgeoned in the U.S. and avoid some of the unanticipated consequences and unfortunate results. For example, we know the importance of baseline data in research and its value for subsequent evaluation of programs. We must build a research resource that will enable us to design sound evaluative instruments so that we can learn the outcomes of seed money, demonstration projects, and innovative curricula.

Having identified the differences, our next order question, then, surely, would be: "Are we educating for the identified similarities and differences?"

Alternatively, have we other priorities which seem of greater significance when we think about education for
gerontology? For example, are our resources in this field so thin that we must redouble our efforts to produce high-level educators and researchers? Should we be trying to enhance the ethnic contribution of a multicultural society—our "multicultural" being different from that in the U.S.? Should we be focussing on the immediate needs for specific job training which we hear is urgently required in the community? Here the demographic questions begin to be wedded to the practice questions, those which might provide another guide to establishing our priorities in gerontological education.

In Canada, in contrast to Dr. Connelly's comment about the lack of educational initiative undertaken by seniors themselves, the New Horizons program, among others, has enabled a spearheading of specially developed educational offerings by elders themselves. Should we be seeking to develop creative ways of learning from older people?

Dr. Connelly talks of curriculum which emphasizes "normal aging". This is also a source of debate here. We have only so much time in the educational enterprise to train those who will be working with the elderly, and those who have a curiosity about the field as a whole. Can we afford the luxury of a breadth of approaches, or must we concentrate upon the "caregivers"? We must recognize the influence of our educational content per se, on the attitudes of young people entering the field, (or for that matter, on all young people who take courses in this subject). Are we, by the very nature of our own
emphasis, reinforcing the negative stereotypes we so decry? When we present aging as a 'problem' or those who are elderly as 'in need' are we not perpetuating the very difficulties we are hoping to alleviate? And yet if we must, with limited resources and finite numbers of potential personnel, help students have empathy and skill in work with the very needy, should we not concentrate on that subject matter which can have immediate applicability?

If we lean on our own judgment and listen to what the community 'is saying', we find ourselves with the following beginning list of what we need to know.

- More knowledge about the whole field of aging - knowledge for knowledge sake, and openness to beginning new knowledge, a curiosity-based research devoid of the requirement to be immediately applied.

- Knowledge in order to understand individuals, groups and communities in relation to aging, to aid and to plan based on that understanding on a societal level.

- Knowledge, in order to be more accurate, discreet, purposeful and efficient in our future research and policy planning.

- Knowledge in order to avoid costly and painful mistakes which arise out of ignorance.

- Knowledge so that we can assist in the application of knowledge to practical realities (micro and macro applications of a multi-disciplinary, interprofessional nature).

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Knowledge in order to begin to shape value positions about the aging based on more informed information which will then fit with a humane, open and heterogenous approach (in my value stance we do want to influence for action).

If we accept these objectives, or others which reflect the mission of the educational institution to which we are attached, then it seems to me that what we decide to teach can flow from them. For instance, the bio-psycho-social aspects of aging, the life cycle research, theories and mini-theories with respect to families and society, self help groups and theories of small group process. We could help students be aware of environmental, ecological, societal and individual behaviours, of clinical and treatment approaches, of urban and architectural issues, of preventive medicine and treatment (including rehabilitation). In all these areas we clearly need bounteous amounts of new research.

In reviewing the literature I noted a number of model curricula which would, it seemed to me, require at least five years to deliver competently. I was also struck by the number of ways we now describe the special problems of aging people. We seem to set this up against our recognition that "prevention" is desirable; that it is important to think of preretirement programs and measure their efficacy. We also set it up against an awareness that 80 percent of older people are managing with no additional help except, possibly, with respect to their
pensions. We still have a distance to go, in my opinion, in involving seniors themselves, in real ways, in the educational enterprise, either as learners or as teachers. There often appears to be a tendency to tokenism in our use of elders as 'consultants'.

Course outlines and models for the design of education in gerontology give strong evidence of the difficulty of depth vs. breadth in content. The question is asked here, as in the U.S., as to whether we should have gerontological degrees or instead, have students be linked to particular schools or departments. The cognitive, attitudinal and skill objectives listed by Pattee [3] for "a well-developed geriatrics program" are dependent, it is said, for their successful adoption, upon the use of available community resources near the site of the training program. This introduces the question of practicum. And beyond that the dilemma of "practicing on those for whom informed consent may not be possible or available".

I have outlined what demographers have projected and what educators, practitioners and experienced scholars in the field are suggesting with respect to gerontological education. I come finally to answer, at least tentatively, for myself, where our priorities must be. Given my review of the literature and acknowledging my value position, I have concluded that we should be: 1) training the trainers (which to me means post-graduate education in gerontology); 2) serving the service
providers (which to me means the availability of short courses, continuing education, in depth studies in specific fields, content related to particular needs of particular service providers) and; 3) we should be refreshing the researchers.

We all know the tendency of the system to maintain the momentum and to discard or cast aside foreign concepts. I would like to see a number of small and diverse attempts at education, each very different from the other. I hope that we will find ways to have reaction from the consumers of the trained personnel, that is, the patients or clients who would thus be served. Can we develop some research capacity with respect to changes in attitudes? In my opinion, there is perhaps no other field in which attitudes are so important, so connected to skill and so difficult to measure. What creative ways can we find to assess the ability of a staff person to provide respect and empathy for an older institutionalized individual? We should also be teaching about change strategies, policy and program development — with all that is involved, such as economics, demographics, futuristic studies. We should teach administration theory and other theories related to societal change. But I must stop, because my own personal list keeps growing and this is dysfunctional in a time of limited opportunity. My intent was rather to concentrate on suggested priorities.
But let me end on a positive note. We have made giant strides, unbelievably strong strides, in the very recent past. In preparation for today, I reread David Schonfield's paper [4] written in 1973, on the training of professionals in gerontology. I saw that, in many instances, his predictions held up but at one point he suggests that it is "unrealistic to expect that the federal government will suddenly budget over $500,000 to train specialists in aging." He goes on to say "A large amount of money allotted to training assumes that qualified teachers are available. This is certainly not the case. A small study might be confined to one province or a group of provinces." David was indeed ahead of his time in a number of his suggestions and predictions, but I think he too would be surprised and delighted with the level of motivation and commitment evident here and in similar conferences during the last two years. Let us then press forward, grateful to those who have gone before us both in the U.S. and Great Britain for their openness in sharing some of their continuing dilemmas with us, aware too of the uniqueness of our own context with respect to such things as ethnicity, medical care, family composition, poverty, aging women and so forth. Let us also be conscious, as the Vanier Institute of the Family has said [5], in another context, that conceptual frameworks of analysis employed in social enquiry recognize and appreciate human life as a moral and ethical enterprise. This is
particularly true with respect to gerontological education and research in Canada.
REFERENCES


RESEARCH ON BELIEFS AND ATTITUDES ABOUT OLD PEOPLE

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The study of beliefs and attitudes about older people and aging has been part of the gerontological enterprise since the early 1950's. I believe it would be accurate to say that such study has never been at the centre of matters gerontological, but rather has been at the periphery of the discipline, sometimes relatively dormant, at other times stirring up comparatively more interest. This fairly modest level of activity has continued up to the present day. In many ways, the area of beliefs and attitudes regarding aging can be viewed as an applied field of inquiry, dependent upon developments in social psychology and sociology. Indeed, the few scientific advances that have taken place over the past 30 years have involved the application of new social-psychological or sociological conceptualizations. My own initial entry into the field of gerontology represented an effort to apply the social-psychological principles relevant at that time. A close look at some of the current research indicates that a similar situation holds today.

In order to appreciate my perspective, some biographical information might prove informative. As a graduate student at Harvard, I was very much influenced by the late Gordon Allport. Though Prof. Allport is
probably best known for his contributions to personality psychology, he also had an abiding interest in the study of attitudes and beliefs and, in fact, published an authoritative article on that topic in 1935 [1]. Approximately 20 years later, Prof. Allport turned his attention to issues of racial and religious prejudice and discrimination, and published what at that time was considered a classic in the field [2]. I was a graduate student in one of Prof. Allport's seminars during that period, and by the time my graduate studies were completed, had submitted a dissertation on links between prejudice and authoritarianism. Shortly thereafter, I spent two years working with Profs. Jerome Bruner and Renato Tagiuri on problems in person perception, in particular, with the issue of how we infer the personalities of other persons on the basis of partial information.

All of this is prelude, of course, to my move into gerontological work in the late 1950's. At that time, a gerontological research and service unit — The Age Center of New England — had been established in Boston, and I became its research coordinator for a two-year period. It was also possible to embark on some research of my own, and here, of course, is where I had the opportunity to apply some of my social-psychological knowledge to the field of aging. Having been thoroughly immersed in the social psychological study of attitudes and beliefs toward racial and religious minorities, I
felt that it should be possible to apply some of what I had learned to what at least one investigator at that time [3] called "the quasi-minority of the aged". Having been immersed in the values of scholarship, I proceeded to an examination of all the relevant available literature, and found that two names loomed large -- Jacob Tuckman and Irving Lorge. These two psychologists dominated the field of belief-attitude studies in the 1950's, and unless one could demonstrate inadequacies in their work, there would have been little point in pushing such research further.

As I am sure you can guess, I found the Tuckman-Lorge work faulty in a number of respects. A fundamental difficulty, in my opinion, concerned the confusion between attitudes and beliefs. An attitude, after all, implies that one is favourably or unfavourably disposed toward the target object of the attitude. A belief, on the other hand, represents a more strictly cognitive appraisal, one that can hypothetically be checked for its accuracy. Thus, agreement with the item "They have too much power in business and politics" reflects a negative attitude when directed toward older persons. On the other hand, to agree or disagree with the item "They worry about financial security" has no obvious implications for the respondent's attitude. Rather, if adequate survey data were available concerning older persons' financial security, we could actually determine whether a respondent's belief conformed well or poorly to
a reliable assessment of reality. This is not to imply that beliefs are necessarily affectively neutral. To believe, for example, that aging universally brings senility represents so severe a bias in judgment as to suggest the presence of a strong negative feeling component.

In any case, the mix of attitudinal and belief statements in the Tuckman-Lorge instrument raises the issue of just what a score on that instrument signifies. There are other problems as well. The instrument is a mere collection of 137 items; no effort was made to subject these to traditional psychometric scaling procedures. Finally, all of the items are worded in the same negative direction (at least, the attitudinal items) implying that some one who likes to acquiesce to generalized social statements would likely obtain a high score.

In an effort to improve upon the state of affairs described, I set out to build an instrument of my own, the Kogan [5] Attitudes Towards Old People (OP) Scale, that remedies many of the defects of the Tuckman-Lorge instruments, though I certainly make no claim to its representing any final word in attitudinal assessment. Indeed, as I shall presently indicate, I now have some serious doubts about the wisdom and efficacy of the attitude scale approach. At the time of its publication in the early 1960's, however, the Kogan OP Scale offered a fairly reliable, strictly attitudinal scale, that
controlled for acquiescent response tendencies through the use of items in matched pairs (i.e., of comparable content but worded in opposite positive vs. negative terms). Ever since its publication, I have had a steady stream of requests for permission to use the scale in research and evaluation contexts. Many of these requests come from nurses who wish to study the impact of training programs designed to improve nurses' attitudes toward elderly patients.

I should note at this juncture that not all of my energies were focussed upon the construction of the OP Scale. Rather, a variety of techniques borrowed and adapted for use in a gerontological context were tried out. Attitude scales provide for each respondent a number on a continuum extending from positive to negative. That is better than nothing, of course, but such a score hardly begins to do justice to the qualitative aspects of beliefs and attitudes. Accordingly, my colleagues and I built sentence-completion instruments in which sentence stems referring to the needs, fears, wishes, and sources of gratification of elderly persons had to be completed by respondents [6]. Responses were categorized and compared with those generated for "people-in-general". It was quite clear from this phase of the research that both younger and older respondents distinguish the elderly from "people-in-general" on a large variety of dimensions. This is not to imply that the distinction is always inimical to the older target. The elderly evoke
positive as well as negative sentiments. On attitude scales, as well, one rarely finds respondents at the extremely negative end of the continuum. Average values, in fact, tend to be skewed toward the positive portion of the scale.

Still another approach to assessing attitudes was based—upon my prior experience—in person perception research. Rather than ask the individual to respond to the generalized class of older people, why not have him or her respond to a sketch of a particular person, young or old, and possibly varying in other characteristics as well? One can readily ask respondents to make personality trait inferences, including among these some of the well worn aging stereotypes (e.g., absent-minded, dogmatic, cautious, and of course, on the positive side, wise and serene). I should note that this person-perception approach has become the dominant one in the gerontology area at the present time. My initial study [7] appeared in 1960 and the next paper to use the person-perception approach in the aging field appeared in 1972 [8]. It is evident that my work along these lines was carried out about a dozen years too soon. Right now the person-perception application to aging is flourishing, though it may now be called social cognition, and different theoretical schemes are presently employed. But the basic approach remains one in which older and younger target persons are offered to respondents for ratings on a variety of allegedly
age-relevant dimensions.

After the publication of my attitude studies in the early 1960's, I left the field of gerontology for about ten years to pursue other topics of interest to me. It is not entirely clear even to me just what lured me back into the gerontological fold. Perhaps, after a decade of research with children and adolescents, I yearned to extend my work across the life span. Perhaps, the most salient inducement was the fact that the Gerontological Society chose to hold its annual convention in Puerto Rico in December of 1972, and I could not resist renewing acquaintances in that locale at that time of year. Whatever the reason, I began to think about gerontological issues again, and when 1977 came into view, the time seemed particularly appropriate for a close look at the attitude-belief area to see how much progress had been made, and to possibly encourage promising new directions. Accordingly, I organized a symposium on the issue for the Gerontological Society meeting that year. Perhaps the fact that the meeting took place in San Francisco influenced my decision, but I should note that 1977 was significant for quite a different reason: it marked the 25th anniversary of the first Tuckman-Lorge publication. If one was going to take stock, the quarter-century mark seemed to be an especially appropriate time.

I recall that the Symposium was scheduled for an early morning hour, but though the attendance was on the sparse side, the discussion was lively. I subsequently prepared
the paper for publication and submitted it to the *Journal of Gerontology*. The paper was turned down as contrary to the policies of the journal. They do not publish conceptual or methodological think-pieces, only empirical articles. I then considered the *International Journal of Aging and Human Development*, until I learned that they had more than a two-year publication lag. Fortunately, around that time, a new journal, *Research on Aging* was getting underway, and the editor kindly published it as the first article in the first issue of that journal [9]. Approximately three years have passed since I prepared the article, and though I have had to alter some of my conclusions slightly on the basis of new evidence, the general thrust of the article, in my opinion, is as valid today as it was when first published. My stance in the article was quite critical of the research in the field, but I believe that I was able to disarm the targets of this criticism by directing a good deal of it at my own work.

Let me now communicate to you some of the substance of my critique. It is important to recognize that the present topic is not a monolith, for as I have illustrated with my own early research, there are multiple approaches, each offering its particular assets and liabilities. There are also issues that transcend all of the approaches, the most important being the question of whether the verbal responses generated by the subjects in our investigations have any action.
consequences. Are negative attitudes ever manifested as negative behaviours toward elderly persons? I shall return to this question presently.

First, let us take up the matter of attitude scales. The use of such scales is widespread, and one can readily understand why this is so. Attitude scales are remarkably simple to administer and to score. They can be given to large samples, and large quantities of data can be generated in a short space of time. They also have the convenience of a neat continuum of scores that will probably closely resemble a normal distribution, enabling the investigator to employ conventional statistics for his or her analyses.

Despite their methodological simplicity, however, there is a serious conceptual problem involved in the use of attitude scales, and it can be illustrated with items from my own or any other comparable instrument. Typical items on scales begin with "Most old people...". This is then followed by a particular alleged characteristic -- e.g. "resent the younger generations" or "are grouchy, irritable, and generally unpleasant". Respondents are required to agree or disagree with such statements, and sometimes can express the intensity of such agreement or disagreement. It should be apparent that attitude items of this sort necessarily force respondents to generalize about the elderly as a class. Anyone with a keen appreciation of individual differences within an elderly cohort would have a difficult time responding to typical
items on the attitude scale described.

In this connection, I administered my OP Scale to an elderly sample a number of years ago [10] because I was curious as to how the targets of the attitude would respond to statements about themselves. My initial expectation was that elderly individuals would respond more consistently because of their direct personal involvement in the attitudinal domain at issue. In fact, I found that they responded less consistently. For instead of the overgeneralized, low salient attitude likely to be typical of younger samples, older persons will have had personal experience with older people who fit some of the items, but will not have known older peers to engage in behaviours or hold opinions expressed in other items. In other words, the older respondent's view of his age peers is likely to be more differentiated than that held by younger persons, and such differentiation cannot be accommodated by generalized attitude scales, and, in fact, is responsible for reducing the indices that make such scales psychometrically adequate. Indeed, in my 1977 paper I raised the possibility that attitude scales may have prompted us to ask the wrong question. Instead of asking about the degree of positivity or negativity in views held about older people, one might more profitably ask how differentiated is a respondent's view of older persons.

One proposal that has been advanced to deal with the overgeneralization problem is a recommended change in
response format. Instead of requiring respondents to agree or disagree with statements, one can ask them to estimate the proportion of elderly persons who manifest a particular characteristic on a scale extending from 0 to 100 percent. The unanswered question, of course, is whether respondents ever think in such terms spontaneously. Are we asking our respondents, many of whom have had minimal contact with older persons, to engage in a meaningless arithmetic exercise?

If older persons do not represent an undifferentiated, homogeneous class, the question that follows concerns the possible existence of subcategories of older persons. These, of course, can be relatively broad types or one can differentiate to the point where we acknowledge that each older person is unique. The latter is true, of course, but to employ this truth as a guiding principle is to stifle any further social scientific inquiry.

Various categorical schemes have been suggested. Bernice Neugarten [11] has distinguished between the young-old and the old-old using age 75 as a dividing point. One can readily envision other divisions along the lines of sex, race, ethnicity, social class, and health status. Age might conceivably interact with one or more of these to influence our impressions. Most astonishing perhaps is that it has taken almost 20 years for researchers to acknowledge that attitudes toward older men and older women might not be identical.
One of the more interesting approaches to the issue of categories of older persons is represented in a recent study by Brewer, Dull and Lui [12]. Subjects -- college students in this case -- were asked to sort a set of photos of older men and women into meaningful clusters. The photos were selected so as to represent \textit{a priori} three categories of older persons -- grandmotherly types, elder statesmen, and senior citizens. The students' grouping of the photos indicated quite a good fit to the \textit{a priori} clusters. Of course, the task was facilitated by the fact that the "grandmothers" were obviously female, and the "elder statesmen" were exclusively male. Also of interest is evidence that the three categories had different personality characteristics assigned to them by a majority of the respondents. The "grandmothers" were accepting, helpful, trustworthy, serene, kindly, optimistic, calm, cheerful, old-fashioned, and neat. The "elder statesmen," on the other hand, were aggressive, intelligent, conservative, dignified and authoritarian. The only quality held in common by "grandmothers" and "elder statesmen" was neat. The "senior citizen" cluster, in contrast to the other two, had only two traits in common -- lonely and old-fashioned -- suggesting that this category of older persons is somewhat fuzzier in the views of the respondents. Of course, the "senior citizen" photos were equally divided by sex, and this may well have contributed to the lesser consensus observed in
comparison to "grandmothers" and "elder statesmen".

The major point at issue here is the clear evidence that even in the case of respondents who have negligible contact with older persons, subcategories within that general class are spontaneously delineated. Whether Brewer's threefold classification is the best we can hope for remains a moot issue at present, but there is little doubt that the work described helps to account for some of the contradictory qualities (e.g., serene and irritable) that are assigned to older people. The contradiction does not necessarily imply logical inconsistency on the part of the respondent; rather, different kinds of characteristics are attributed to different kinds of older persons. To the degree that the methodology employed does not differentiate within the class of older people, it is inevitable that apparent contradictions will occur.

Unfortunately, it is almost in the nature of attitude scales not to distinguish among members of a generalized class. To develop separate scales for different types of older persons is a complicated matter, particularly when there may well be individual differences among respondents in the degree to which older persons are differentiated into subcategories of the sort uncovered by Brewer and her associates. Perhaps, it is for reasons such as these that many investigators have drifted away from general scales to the use of person-perception methodology. With the latter, one can combine age with a
variety of other characteristics, and note any interactive effects on the impression formed. It must be noted, however, that the intent of person-perception research from a gerontological perspective has not been one of deriving a score for an individual respondent on a negative-to-positive scale. Rather, the goal is to specify how impressions formed about older persons (in contrast to younger) are influenced by the diversity of information provided by the experimenter. I shall discuss such studies, and their attendant methodological problems after making a few comments about the validity issue in attitudinal assessments.

Returning to the issue of the over-generalization forced on respondents by attitude scales, a skeptic could well argue that the matter is of little consequence if the scale has predictive power. In other words, do the verbal responses on attitude scales help us predict how respondents will behave toward the target of the attitudes. A survey of the literature over the period that "attitude toward old people" scales have been in existence turned up a handful of studies, most so severely flawed on methodological grounds that no meaningful generalizations could be made.

Where my own OP Scale is concerned, validation has been carried out at the level of behavioural intentions. That is, one can ask respondents how they think they would respond in certain situations, and then these can be related, in turn, to responses on generalized attitude
scales. As an example of this methodology, Silverman [13] informed students in his social psychology class that, as part of a fieldwork requirement, they would have to do some volunteer work in the community, and could choose from a list of groups the particular one that they preferred to interview. Included in the list were such categories as professional people, white collar workers, skilled and unskilled labourers, housewives, and, of course, the crucial category of retired people. Greater positivity of attitude on the OP Scale was associated with a higher ranking assigned to "retired people". The association was not overly strong for the correlation was a mere .40. Students, however, were under no obligation to actually carry out the interviews, and in this sense, a behavioural intention rather than behaviour as such was assessed. We can thus consider the Silverman study to be a good validation of my OP Scale, but in the sense that actual behaviour was not involved, a partial validation at best.

Since the publication of my 1979 paper, a second study worthy of mention has come to my attention. This is a study by Susanne Robb entitled "Attitudes and Intentions of Baccalaureate Nursing Students toward the Elderly", published in *Nursing Research* [14]. I must confess that I am not a regular reader of *Nursing Research*, and the Robb article would not have come to my attention if I had not been scanning a relevant reference list. Since nursing researchers have become the major users of my OP
Scale, I may well be missing other relevant references, even though I specifically ask all those who request permission to use my scale to send me a copy of any research report based on it.

The unique aspect of the Robb research is the construction of a new instrument entitled "Behavioural Intentions in Relation to the Elderly". To quote Robb, the instrument lists "45 behaviours a nurse could reasonably be expected to demonstrate or not... in the course of interacting with elderly persons". Each of the 45 items was rated for favourability or unfavourability, implying that some of the behavioural intentions were presumed to reflect a positive attitude, others a negative attitude toward the elderly. Respondents indicated how likely or unlikely they were to engage in the behaviour stated in each item. Regrettably, the article does not provide a single example taken from the "Behavioural Intention" instrument.

How does this new instrument relate to my OP Scale? The correlation of .32 was not overly high, though statistically significant. Hence, there are now two partial validations of the OP Scale measure of attitudes against a relevant index of behavioural intentions. A further finding of interest in Robb's work is the indication that responses to the behavioural intention instrument were unrelated to an independent assessment of social-desirability, implying that the nursing students were not consciously striving to make a good impression.
when filling out the behavioural-intention questionnaire. The difficulty with the Robb research concerns the missing link to actual behaviour. Though Robb assessed postgraduate intentions to take more courses in gerontology and geriatrics, and to work with elderly patients, no follow-up was carried out. To quote the concluding sentence of the article, "...if a positive attitude doesn't influence a student to work with the elderly after graduation, what does this type of attitude mean, if anything, in terms of behaviour toward the elderly?" What, indeed?

In my 1979 paper, I reviewed a number of other attitude-behaviour studies carried out in a laboratory context. Since all were seriously flawed or generated inexplicable results, I will not burden you with the details of these studies here. I also made reference to another nursing study, by Hatton [15], that made a serious attempt to relate OP Scale scores to nurses' actual behaviour with elderly patients. Regrettably, the small sample size -- a grand total of seven nurses -- calls the reliability of the results into serious question.

In sum, the overall picture is a rather dismal one for attitude-behaviour studies in the gerontological area. Perhaps we can console ourselves with the fact that the picture is not much brighter in other areas. The link between attitudes and behaviour represents one of the classic problems of social psychology, but little of that
literature has penetrated the study of attitudes toward the elderly. I suspect that the major reason for this is the extreme difficulty involved in conducting such research. Most attitude and belief studies have been carried out with college students, the majority of whom have had little opportunity to interact with older persons in a naturalistic context. Hence, if we wish to elicit relevant behaviours in that setting, there would be no alternative but to bring older persons into the laboratory for the purpose of interacting with college students. Of course, this may become less of a problem in the future as the age distribution in college classes broadens to include individuals of post-retirement age.

One can readily understand now why institutional settings are most conducive to attitude-behaviour studies, and why nursing researchers in particular are attracted to such studies. As part of their training, many nurses are exposed to a diversity of elderly patients, and one can readily examine attitudes, behavioural intentions, and actual behaviours in that setting. Ironically, my OP Scale makes no reference whatever to sick elderly, but nevertheless might prove to have behavioural validity in an institutional health setting simply because of the multiplicity of meaningful behaviours that are elicited in such a setting. It is to the credit of researchers in the nursing field that they are willing to tackle that thorny issue of attitude-behaviour linkages. I, for one, would be
delighted to see social psychologists engaged as consultants or collaborators on such research to ensure that current conceptual and methodological thinking is brought to bear on the problem. It is unlikely that most nursing researchers will have such knowledge at their finger tips.

In my 1979 paper, I discussed some of the current social-psychological theorizing on attitude-behaviour relations. Time does not permit me to go into these in much detail, but I will try to summarize some of the main points. Two of the major social-psychological investigators in the attitude-behaviour field are Ajzen and Fishbein. They have argued [16] that consistency depends on a comparable level of generality-specificity in the attitudinal and behavioural domain. Hence, one would not expect a generalized scale to predict a highly specific behavioural criterion. This implies that the OP Scale with its broad range of general statements about older people would predict best where a diversity of relevant behaviours could be observed. Here again, one can appreciate the advantage of institutional settings in which such behavioural diversity is possible.

Schuman and Johnson [17] note that attitude-behaviour consistency might vary profoundly across social objects, as a reflection of the salience of the attitude and the opportunities for its behavioural expression. As I indicated earlier, attitudes toward old people may be of low salience and have few behavioural concomitants in college
students and possibly even in a large segment of the general population. This would imply that the endorsement or rejection of attitude scale items might simply be a "top-of-the-head" phenomenon, with responses reflecting prevalent cultural stereotypes or desire to make a good impression. In regard to the latter, there is some evidence in Silverman's [13] paper that those who are more favourably disposed toward older people also are likely to endorse self-report personality statements in the socially-desirable direction.

A further social-psychological development is the notion that individuals vary in their attitude-behaviour consistency. Snyder and his associates [18,19] have recently noted that "believing means doing" for some people but not for others. Where behavioural choices are governed by situational and interpersonal cues of social appropriateness, low attitude-behaviour consistency can be expected. On the other hand, where behaviour is guided by relevant internal states, attitudes and behaviours should be congruent. One can now begin to understand why the correlations reported earlier between attitudes and behavioural intentions are on the low side. A person with a negative attitude toward older persons might well display positive behaviours when not to do so would imply discourtesy, social incompetence, or other negatively valued qualities.

Before I leave the topic of generalized attitude scales, I should note one further prevalent use to which
they are put. In fact, the vast majority of requests that I receive for permission to administer the OP Scale reflect this intended usage. The basic paradigm is one in which subjects are given the OP Scale (or a portion of it) as a pretest, then are exposed to some intervention (e.g., a course of training), and finally are given the OP Scale (or the remaining portion of it) as a post-test. Sometimes, a control group is employed, though not always. It is exceedingly important to evaluate the success of program interventions, but there are clear dangers in the use of an attitude scale as the ultimate criterion of effectiveness. Experiments designed to change people involve a "demand character" in which the participants do their best to respond in a way that pleases the program leader. Attitude scales are, after all, highly transparent, and it requires little ingenuity to check off alternatives suggesting that one's attitude has changed in a positive direction. Some form of behavioural data would thus appear essential for program evaluation in the present context.

In sum, the concept of attitude has had a long history, and continues to generate significant theoretical controversy. Complications arise, however, as soon as one tries to measure it. In the form of generalized scales about older people, one cannot help but wonder whether the study of attitudes has contributed much of value to the field of social gerontology. To reiterate, they force respondents into a pattern of
over-generalization, and there is no evidence whatsoever that the verbal responses obtained bear any relation to relevant behaviours. From the standpoint of the applied practitioner, a good case could be made for dropping standard attitude scales in favour of more behavioural assessments. It is actions more than privately expressed attitudes and beliefs that have an impact upon elderly individuals. If there is reasonable consensus on this point, the consequences for research, assessment, and evaluation are fairly clear.

Let me turn finally to research within the person-perception paradigm. In the course of preparing my 1979 paper, I took a close look at all of the research in the aging area that fit within the paradigm to see whether any firm conclusions could be drawn. I confronted a pattern of contradictions. Some studies reported prevalent stereotyping of older people; other studies found no evidence whatever for age stereotyping. How could one account for these discrepancies? For all of the relevant research published through 1978, I was able to discern a pattern that could conceivably account for the presence or absence of stereotyping of old people in the experimental contexts employed. As we shall presently see, research published after 1978 does not conform completely to the pattern, and hence I have had to modify my ideas somewhat.

Prior to 1979, in all of the studies where respondents made comparative judgments of target persons of varying
age, age stereotyping was prevalent. Stereotyping implies an unwarranted generalization about a group, and can be negative (i.e., uncomplimentary) or quite positive (i.e., complimentary). In respect to old age, "rigid" is a negative stereotype, and "wise" is a positive one. In the comparative multiple-judgment framework, mostly negative stereotyping was observed. I then examined studies where respondents judged a single target-person — whether older or younger. With such a single-judgment design, age stereotyping was conspicuously absent. Younger and older target persons were judged similarly.

Let me try to give you the flavour of some of this research. Consider first some of the multiple-judgment studies. In a study by Naus [20], college students responded to the concepts of "70-85-year-old-man" and "20-30-year-old-man" on a set of semantic differential scales tapping dimensions of evaluation, decisiveness, and instrumentality. On all three of these dimensions, the older target was evaluated significantly more negatively. Similar effects were reported by Weinberger and Millham [21] in a study in which students rated a representative 25- and 70-year-old on a set of personality dimensions. Rubin and Brown [22] describe a study in which college students rated the intellective abilities of several age groups extending across the life span. Within the adult range, the elderly were perceived to be least competent. In a study by Ryan and Capadano [23] students guessed the ages of speakers ranging from
12 to 71 years of age on the basis of tape-recorded passages. Subjects also made personality trait ratings, and these were highly correlated with both the real and guessed age of the speaker. Older speakers were rated more negatively.

When I turned to the single-judgment studies (i.e., a between-Ss as opposed to the within-Ss design previously described), the findings assumed quite a different character. The basic design in these studies is one in which a brief sketch of a fairly neutral character is offered for a young or an old stimulus person, who are matched to the extent it is feasible to do so on characteristics other than age. Subjects then rate one or the other stimulus person on a set of personality dimensions including age-relevant stereotypes. In these studies, younger and older targets were judged similarly, i.e., little age-stereotyping occurred.

I must confess that the different outcomes generated by multiple-judgment as opposed to single-judgment studies did not come as a complete surprise, for I had uncovered a comparable effect in my own research conducted more than twenty years ago. In that study [7], I selected two ages -- 33 and 74 -- and three occupations -- steel worker, assistant manager, and university professor. These were crossed to yield six separate sketches, with subjects responding to one of the six in the form of inferring the likelihood that the person in the sketch would possess particular personality traits.
Though strong occupational effects were found, age exerted virtually no influence on the personality inferences. Since everyone at the time maintained that age stereotyping was prevalent, I proceeded to do a second experiment [also reported in 7] where the older and younger stimulus persons were presented as pairs, one about to retire and grooming the other as his successor within a particular occupation. Respondents had to indicate which of the two was more likely to be distinguished by particular personality traits. Under these conditions, all of the expected age stereotypes emerged.

To explain these single vs. multiple judgment differences, I can do no better than quote from my 1979 paper [10].

The comparative judgments between young and old stimulus persons that typify within-Ss [i.e., multiple-judgment] designs necessarily push age to the foreground as a salient characteristic. A demand character is generated, for the mere fact that the experimenter is requesting a comparative judgment carries the implication for the subject that differences must exist. (p. 27)

I went on to suggest that the single-judgment context conforms better to the way impressions are formed in the real world, where we are more likely to "size-up" people one at a time than in a comparative context (especially where all attributes except for age are held constant).
In the single-judgment case, of course, age is generally but one of a host of characteristics that will enter into an impression or evaluation.

It is gratifying to report that the ideas just put forth have attracted some response, both positive and negative. On the positive side, Wingard, Heath and Himelstein [24] tested my hypothesis by administering the Tuckman-Lorge attitudinal items in both a single judgment and a comparative context. In the single-judgment case, respondents indicated how descriptive each item was for old people. In the comparative case, respondents stated how descriptive each item was for both old and young people. Substantial and significant differences were observed, with old people judged more negatively in the comparative condition across all of the Tuckman-Lorge categories. Fitzgerald and Hyland [25] criticized my downgrading of comparative as opposed to single-judgment designs. They then used a comparative design, and found the kinds of negative age stereotyping that I would have predicted.

But, as I hinted earlier, the scientific road is often more rocky than smooth. As further research appeared, the neat distinction of stereotyping vs. a lack of stereotyping in multiple vs. single-judgment designs could no longer be sustained in its simple one-dimensional form. No revision appeared necessary in the case of comparative judgments where stereotypes continue to be elicited. The difficulty arises with...
single-judgment experiments, where discrepancies in ratings of young and old stimulus persons have emerged. In the pre-1979 studies, investigators employed sketches of stimulus persons that offered a modest amount of affectively neutral information — e.g., marital status, number of children, common hobbies and interests. Of course, sketches do not have to be written at this middle-level. One can strip the stimulus down to the bare essential of age — a 25-year-old vs. a 65-year-old. Such impoverishment of stimulus information not surprisingly evokes negative stereotyping even in the single-judgment case for the obvious reason that the judge is only given age information to work with. A study by O'Connell and Rotter [26] typifies the approach.

At the other extreme, one can enrich the sketch provided of the stimulus person as in a study by Crockett, Press, and Osterkamp [27]. Here the investigators offered simulated interviews with a 36- or 75-year-old woman stressing the degree to which they were coping with various stresses and strains. Of course, given subject expectations of increasing passivity with age, information about an actively coping older woman becomes counter-normative and yields a high level of positive stereotyping. The identical behaviours attributed to a younger and older person are more positively evaluated for the latter, suggesting the presence of a "sympathy for the underdog" effect. Indeed, when Scheier et al [28] presented the identical negative information about a
young (23) and old (75) person, the old person was found to be more attractive. Evidently, it is more counter-normative for a young person to be unambitious, with few interests, and with virtually no friends.

Where does all of this leave us? It is apparent that the experimenter can manipulate the stimulus information provided about younger and older persons so as to obtain virtually any pattern desired — no stereotyping, negative stereotyping, or positive stereotyping. It is also important to note that the specific negative and positive stereotypes favoured are not random. There clearly are culturally-acquired stereotypes about age that people assimilate, and invoke dependent upon the situational context. The fact remains, however, that stereotypes do not have to be invoked; age information can be suppressed in favour of more prominent demographic attributes such as occupation, education and sex. To quote a recent unpublished paper by Neil Lutsky [29], "...in general, people do not themselves hold strong stereotypes about elderly persons, but under certain circumstances they may be forced to use those stereotypes or meanings that are part of the common cognitive currency of our culture".

It is essential that we keep in mind the context in which most person-perception research has been conducted. The subjects have been largely college undergraduates, many of whom are fulfilling the experimental requirement in an introductory psychology course. These are subjects who have exceedingly limited contact with older persons,
and the judgments that are rendered have no action consequences whatever. For this reason, it is gratifying to report the existence of at least one study based on a sample of 35 personnel specialists with an average age of 34. Such individuals interact with prospective employees of varying age, and hence it is of considerable practical interest to find out whether age is a factor in their judgments. In this study, carried out by Schwab and Heneman [30], participants were given behavioural descriptions of secretarial job candidates. Age (24 vs. 61) and job experience (5 years vs. 6 months) was systematically varied in a single-judgment design. Participants rated the secretarial applicants on such job-relevant dimensions as cooperation, job knowledge, responsibility, organization, promotability, and recommended salary increases. The outcomes were quite clear-cut. No significant main or interaction effects for age of the secretarial applicants was found. The investigators note that the unimportance of age may reflect the choice of secretaries as the target group. Conceivably, more age stereotyping would occur for managerial candidates, but the necessary evidence is not available.

Before concluding I should make clear that I have not tried to review the entire corpus of belief, attitude, and person-perception research relevant to aging. It would be impossible to do so in an hour's time. Missing from my talk are recent person-perception studies based
on attribution theory. At the very least, I hope that I have provided a general impression of what has been happening in the attitudes-beliefs area since its emergence on the gerontological scene almost 30 years ago. Some progress has been made, but I believe it would be fair to say that some very unproductive paths have been followed and much remains to be learned.
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DISCUSSION OF NATHAN KOGAN'S PAPER "RESEARCH ON BELIEFS AND ATTITUDES ABOUT OLD PEOPLE"

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I do not find a critique of Dr. Kogan's paper an easy task. In the first place, we come from different disciplines. Beyond that, Dr. Kogan has himself pointed out some of the defects of research into the relationship between attitudes and beliefs on the one hand, and overt behaviour toward the elderly on the other. He was the first to systematically differentiate between attitudes and beliefs, and to develop instruments for assessing this vital distinction. Earlier instruments had confused attitudes with beliefs through the uncritical formulation of questions. His present discourse clarified the problem for us. Dr. Kogan and I are probably farthest apart regarding our definitions of behaviour. Psychologists appear to be content with the stated behavioral intent of a subject toward other individuals or groups and do not require the existence of any observable performance. The psychological distance between subjects (in many instances undergraduates) and the elderly is usually not investigated or measured in the context of a real-life confrontation. In some research situations subjects are presented only with pictures of old people and the equivalent of observation consists of recording whether the subjects figuratively place flowers under the pictures or throw rocks. Actual old people play no part; the
youthful subjects never confront old people in a situation of mutual expectations and consequences. In most of the studies, projected behaviour as expressed by the subjects is, indeed, all the behaviour there is. We are thus dealing with promissory behaviour towards concepts, not even toward persons or autonomous actors.

Anthropologists are uncomfortable with "subjects"; subjects are alien to us, and especially the subjects favoured in some of the work cited by Dr. Kogan. Among all the exotic peoples and savage tribes anthropologists have investigated over the years, undergraduates have figured little, if ever. We have traditionally sought out the participant-observer role in real-life, non-experimental situations where our informants, as we prefer to call them, inform us. They do this partly through what they say, but very potently also by performance which permits us to observe whether they act on their word; whether they really do as they say.

For the most part we have been successful with this method although, I must admit, in dealing with aging we have not always adhered to it. Sometimes we have been taken in and have been as gullible as anybody. Even good anthropologists walk into well prepared traps. Let me quote one instance "... in societies where they have useful social roles and are respected as active, the aged live longer" [1]. This, of course, is thought to be the good fortune of all those longaevous people we read and hear about, the folk of Vilacabamba, the Hunza, the
Abkhazians, and assorted other yoghurt fanatics who give Methusala a run for his money. Whatever we may think of their actual lifespan or of the reliability of the reports, the idea that "useful social roles" and "respect" will so blantly prolong life, frankly smacks to me of a belief in magic. It seems to assure us that oldsters enjoy respect as a direct consequence of great chronological age, and consequently attain great chronological age because of the respect. The better question would be: Do all old people in such a culture enjoy great respect?

In introducing me, Dr. Miller mentioned my fieldwork in Ethiopia; fieldwork which was not actually focussed on aging but rather on political structure at the village level. For two years, I was totally immersed in a culture in which respect and deference toward the aged is constantly and even ostentatiously expressed. "We respect our elders" and "we honour our old parents" were statements often volunteered. Whenever someone neglected to show up when or where he was supposed to show up, "I had to help my old father or mother" emerged as the excuse that had to be accepted without question. All the clichés about the wisdom of the aged, all the favourable stereotypes we ourselves would like to have applied to us by our children in our later years were there. And, indeed, as the literature states and my observations confirmed, much of the conflict-solving work in this rather litigious culture is entrusted to elders, the
Shemagile, whose jural function is officially embedded in the political infrastructure. Within the family and the local community significant and prestigious places were often occupied by older men. So far so good. But ask the question the other way around: Were all the elderly in prestigious and respected social positions? By no means. Many men and women, 55 and older, were totally outside the deference and respect sphere and many were treated shabbily, to say the least, not only in the political and power structure, but within their own families. I know of old sisters and brothers of heads of prosperous households who were leading lives of deprivation and neglect in the midst of their nearest kin, regarded and maintained worse than the lowliest servant in the house.

The tremendous differential in the treatment of the aged impressed me. One can evidently not theorize a homogeneous group of "aged" into existence or predict a similarly homogeneous behaviour pattern towards them on the part of younger persons no matter what culturally enforced verbal statements say.

Dr. Kogan is, I believe, heading towards this point of view and may yet find a nexus between expressions of attitude and manifestations of behaviour. But I wonder if our different understandings of the concept of behaviour can join up. Behaviour, most anthropologists (and sociologists) would agree, implies interaction of a plurality, at least of a dyad, of actors. Attitudes,
beliefs, and stereotypes, on the other hand, are unilateral and individual expressions of states of mind or information.

I have often wished for a formula as elegant and awe-inspiring as \( E=mc^2 \) for the social sciences, the sort which answers all the questions. Imagine such a formula: on one side of the equation capital "B", standing for behaviour, and on the other side a product of "a" for attitude, "c" for beliefs, and "s" for stereotypes. Once we slot some quantities into these positions we would find not only the character but also the intensity of behavioural manifestations expressed on the opposite side. What a god-sent tool it could be. Unfortunately it won't work, if only for the fact that "B" represents sociological events which demand the afore-mentioned plurality of actors, a plurality not inherent in the psychological factors of the right-hand variables. There is a kind of hidden agenda on the right-hand side of the equation, hinting at the interwoven self-interests of the participating actors. Let's give this factor a letter also: "r", for reciprocity. Our formula, now

\[ B = a \times c \times s \times r \]

would, I believe, come closer to a depiction of reality. The more consideration "r" claims, the less would be the impact of a, c, or s, (or vice versa). Neither attitudes nor beliefs contain, in and of themselves, a sufficient amount of self-interest to account for overt and demonstrated behaviour. Considerations of reciprocity,
be they positive or negative, strengthen predictability. The psychological input alone might be able to tell us why, but not whether one individual will behave toward another in a certain way.

Let me go back for a moment to my Ethiopian research. The differential treatment accorded to old persons reflects differences in the degree of clout individuals accumulate during their most active years and the extent to which they manage to retain it in later years. Respect must be earned, attained, hoarded, and jealously safeguarded. It does not automatically accrue as an inevitable, unconscious by-product of the accumulation of years. Behaviour which manifests this respect does so in direct proportion to the clout which one of the actors has in relation to the other.

Dr. Gutman suggested in her letter of invitation that I keep faith with the title and subject matter of this Symposium and include a word about the Future. I shall say it quickly, for the future is very near.

What is the future likely to hold for the elderly in view of prevailing attitudes, beliefs, stereotypes, etc.? There can be no detailed, specific answer, of course, and I should probably not risk a non-specific and general prediction either. But being at an age myself when I can afford to predict what I can't be held to account for, I'll venture to guess that the present parental generation will enjoy, for better or worse, the status that it inculcated into the value system of its own offspring.
Cultures allow wide ranges and alternatives within their value sets. Don't forget, that the "youth cult", held accountable for the low status of seniors, is largely an artifact of the generation that now bemoans its consequences. Present attitudes and stereotypes were formed through values taught as certainties in the past. Older people who now feel themselves in trouble and isolated cannot entirely escape blame for their condition. The ethos taught to the young stressed independence and the willingness and ability to take care of one's self to the exclusion of others; to be whole persons in their own right, and to make their way on their own. Neolocality became religion and children were urged to leave the parental jurisdiction and to do whatever folks are either supposed to do or are likely to do outside their parental home. The generation gap was not an accident. To a certain extent such a repertoire of instructions is manipulable and can change. If you have cause to complain that there is too little respect or affection for older people, that everyone carries negative stereotypes about them in their mind, etc., etc., -- make sure to instruct your kids differently. Bring them up to admire you and to fear your wrath and retribution. Bring them up to accept, as part of their purpose in life, that they shall cherish, support and aid you in your age. I am fond of an old North German proverb which folk wisdom credits to the Old Testament. I'll try to give you the gist of it:
Those who give all their bread to their children and ultimately suffer want, themselves deserve to be clubbed to death. [2]

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2. Wer seinen Kindern gibt das Brot
   Und leidet endlich selber Not
   Den schlag man mit der Keule tot.
   quoted in Reuter, Fritz, *Ut Mine Stromtid* (1862)
POSSIBILITIES AND PROBLEMS IN USING SERVICE GENERATED DATA FOR LONGITUDINAL RESEARCH ON AGING

PART I: EXPERIENCES FROM BRITISH COLUMBIA *
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Although there has been a major increase in the amount of gerontological research over the past 30 years, the bulk of studies are cross-sectional in nature. While such studies may point out differences between young and old, it is difficult to know whether these differences reflect age changes, cohort effects or both. As Busse [1] points out, while cross-sectional analyses are highly important for certain studies and for generating hypotheses, only longitudinal studies can give empirical results concerning the effects of age upon function of the individual.

The value of longitudinal studies of aging is now generally accepted and a number have been conducted or are in progress. They tend to fall into two broad groups:

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- Those in which subjects were well at the commencement of the study and where the objective was broadly defined as being "to investigate physical, mental and social functioning over time". Examples of studies in this group include the two Duke University based longitudinal studies of aging [1,2], the Baltimore longitudinal study [3] and the Boston Normative Aging Study [4].

- Those in which subjects were in need of service at the time the study commenced and where the objective was to evaluate/monitor a particular service delivery package or program. Examples of studies in this group include The Georgia Alternative Health Services Study [5], the Connecticut Triage Study [6], the Monroe County New York ACCESS Study [7] and the Wisconsin Community Care Organization Study [8].

The study that is the focus of this paper is of the latter type. Subjects, 3518 in total, are all clients of the B.C. Ministry of Health's Long Term Care (LTC) Program. The study that Betty Havens describes, [Part II, this chapter], in progress in Manitoba, includes both the well elderly and those in need of or in receipt of services. Both studies differ from most other longitudinal studies involving older people in the extent to which they utilize service-generated data. Data for the B.C. study, in fact, are exclusively of this type.
What are service-generated data?

Service-generated data are in some ways analogous to medical records. They are the working records of service providers. The service-generated data that we work with in the B.C. study consist of the files of all clients admitted to the LTC Program in two health unit areas—one urban and one semi-rural—during the year 1978.

The LTC Program, which began on January 1, 1978, recognizes five levels of care—Personal, Intermediate I, II, III and Extended. Within each level, care may be provided either at home or in an institutional setting. Decisions regarding admission into the Program, level of care and the location in which service will be provided are made by Program staff following a standard assessment.

In November and December, 1977, immediately prior to the start of the Program, assessments were conducted on all persons already receiving care. These we call "original" clients. Subsequent to January 1, 1978, all persons seeking entry into the LTC Program received the same assessment—these we call "new" clients. Current Program policy dictates that clients will be reviewed no later than 90 days after placement in a facility or commencement of home support services and every 12 months thereafter, or earlier if the client's condition or circumstances change.

The files that we work with contain a copy of all written documentation pertaining to the client, beginning
with the initial assessment. As reviews or reassessments take place, they are added to the file. Also added are supporting documents for any change in level of care or in service provider, temporary absence or discharge from the Program. Generally, files also contain a narrative record of all changes in the condition of the client and/or the environment in which he is living (e.g. spouse is ill and is temporarily unable to look after client).

All of the 1978 and 1979 data have now been subjected to preliminary analysis. We are currently processing the 1980 data. To date, the study has yielded two distinct types of information. The first describes the work of the Program for the period January 1 to December 31, 1978 (the volume of enquiries, assessments, changes, temporary absences, discharges); the second, based on the pre-admission assessments, describes the characteristics of the first year's clients (their socio-demographic characteristics, health and functional status). As reassessment and other data are accumulated and analyzed, it will be possible to describe the nature and rate of change of clients initially admitted at Personal, Intermediate I, II, and III, and Extended Care levels. Despite its importance for facility and service planning a search of the literature failed to reveal much information of this nature.

There is also a paucity of data on the progress over time of clients at home compared to those in facilities [9]. By matching home and facility-placed clients on the
basis of their initial assessments and following them over time comparisons can be made both in terms of health status indicators and eventual outcome. These data will yield information concerning not only the feasibility of long term care at home, but will also test the commonly accepted premise that this form of service produces the more favourable outcome.

Before moving on to describe our subjects and our data collection instruments in more detail, having alerted you to the existence of the B.C. and Manitoba studies, a third large-scale Canadian longitudinal study involving older people should be mentioned.

This study [10-12], conducted in Ontario under the auspices of the Ministry of Community and Social Services, began in 1958. Data collection terminated in 1978. Subjects consisted of 2000 male volunteers aged about 45 when the study began. Each was interviewed annually over the 20 years of the study. You may not have heard of this study, as we hadn't until two years ago, because over its 20 year life the primary activity consisted of accumulating data. We tell you this because it helps put our study in perspective. Although we are relative new-comers to the longitudinal study game, having accumulated only three years of data, we are not far behind the Manitoba and Ontario groups in terms of data analysis. This is because, rather than waiting for years and years of data to accumulate, we are analyzing as we go. In most studies one cannot do this without
running the risk of experimenter bias effects. It can be done, however, when working with service-generated data because the investigators have no direct contact with subjects, nor often, as in our case, even with those who collect the data. The latter, it should be pointed out, is a mixed blessing. To illustrate, it should be noted that part of our sample was in care before the LTC Program began. Many of those in care were in institutions at the time of assessment. In one health unit the assessors arbitrarily decided not to fill in the section of the assessment form dealing with self-care abilities if the client was in an institution. Perhaps the assessors felt that since, in an institutional setting, clients have no opportunity to prepare meals or keep house and have little need to shop, these abilities could not be assessed. This does not, however, justify the omission of information concerning the client's ability to travel, use the telephone or cooperate in his/her own treatments or medications since these abilities, also examined in the self-care portion of the assessment, might still be exercisable in an institutional setting. Where one has control over selection and training of data collectors one makes sure that they understand that all portions of the data collection instrument must be filled out. One monitors, at least initially, to ensure that one's instructions are being carried out. In the case of our study, data had been collected for eight months before we were aware of
systematic omissions in the self-care abilities section of the assessment form.

Also, a mixed blessing is the fact that we currently have the only dynamic file in British Columbia containing assessment/reassessment data for LTC clients. In examining the listing of sessions at a recent annual meeting of the Gerontological Society of America we came across a symposium title that really rang a bell for us. It was called "The Social Scientist as Policy Analyst: the Quick and Dirty Dilemma". As with others doing applied research in an emerging field we are constantly faced with the dilemma of whether to take time to carefully analyze and interpret our data, to spend lots of time thinking about and qualifying it before we put anything into print, which, as responsible researchers, we know is the way things should be done. On the other hand, we are aware that, almost weekly, important policy decisions are being made on which our data have a bearing and that therefore, there is an urgent need to get them into circulation.

The compromise that we have arrived at consists of producing what we call technical reports which we carefully stamp with the warning "DRAFT - not for citation or quotation without consent of the authors". By having people check with us before our reports are cited or quoted we hope to head off any major misinterpretations which might arise from the fairly bald way in which data are presented.
In the three and a half years since we first began collecting data we have produced eight technical reports. Reports 1-3 were preliminary reports based on data from the first six months of the Program. Report 4 [13], the first of the major reports, describes the work of the program for the period January 1 - December 31, 1978. Reports 5 [14] and 6 [15] based on the pre-admission assessments, describe the characteristics of the first year's clients. Report 5 shows subjects classified according to whether they were "new" or "original" clients. It contains the only description that we are aware of, of clients in care before the Program began and hence, is of considerable historical value. Report 6 classifies subjects in terms of whether they were recommended for home or institutional placement. Report 7 [16] describes multi-variate analyses performed on the assessment data in an attempt to ascertain key variables underlying placement decisions. Report 8 [17] describes a sub-study conducted as a check on the reliability of assessment/reassessment data.

What we would like to do now is present some of the data from Reports 5 and 6 since these constitute the baseline data for the longitudinal study. This will be followed by a brief description of the work we are currently engaged in, which consists of examination of client outcomes for the first year after admission to the LTC Program.
Distribution of the Sample by Age and Home vs. Facility Placement

Table 1 shows the distribution of the study population by age and by whether home or facility placement was recommended at the time of the pre-admission assessment. In Unit A, which is urban, approximately one-third of clients under the age of 85 and one-fifth of those over 85 were recommended for care at home. At all ages, a higher proportion of clients in Unit B than in Unit A were recommended for care at home.

**Table 1**

**Clients in the Long Term Care Program by Age and by Recommended Placement, Units A and B, 1978**

<table>
<thead>
<tr>
<th>Age</th>
<th>Unit A</th>
<th>Unit B</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Home</td>
<td>Facility</td>
</tr>
<tr>
<td>&gt; 65</td>
<td>% 39.2</td>
<td>60.8</td>
</tr>
<tr>
<td>65-74</td>
<td>% 37.7</td>
<td>62.3</td>
</tr>
<tr>
<td>75-84</td>
<td>% 31.1</td>
<td>68.9</td>
</tr>
<tr>
<td>85+</td>
<td>% 19.8</td>
<td>80.2</td>
</tr>
</tbody>
</table>

*Excluding missing data — Total N=3,518

Perhaps the most interesting and important finding to emerge from the age data so far relates to level of care.
While the proportion of the population admitted to LTC increases from about 4 percent in the 65-75 age group to over 40 percent in the 85+ group, contrary to popular belief, level of care cannot be predicted on the basis of age. As shown in Table 2, in Unit A about half of the "new" clients in each of the four age groups were assessed as requiring Personal Care - the lowest level. In Unit B, about two-thirds in each age group were assessed at the Personal Care level. An advanced age, in other words, doesn't automatically qualify one for the higher levels of care.

Before leaving the age data, a comment should be made about the difference between units. Perhaps we were naive, but we didn't anticipate that differences between units would be as great as they turned out to be. Almost from the first computer runs, however, it was apparent that every analysis would have to be done twice - once for each unit separately and then again, if the data permitted, for the two units combined. A problem that separate analyses presents, which will be apparent in some of the tables to be referred to, is that despite the large number of subjects in the study population, some cells - especially in Unit B - have a very small N (i.e., in the order of six or seven subjects). The difference between units also, of course, raises the issue of generalizability. While it is possible that what we are observing are very real rural-urban differences, this needs to be empirically determined. We are constantly on
TABLE 2a
'NEW' CLIENTS ADMITTED TO LONG TERM CARE BY AGE AND BY RECOMMENDED LEVEL OF CARE, UNIT A, 1978

<table>
<thead>
<tr>
<th>Age</th>
<th>Recommended Level of Care</th>
<th>Personal</th>
<th>Int. I</th>
<th>Int. II</th>
<th>Int. III</th>
<th>Extended</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>&gt; 65</td>
<td>%</td>
<td>55.9</td>
<td>22.8</td>
<td>10.3</td>
<td>2.9</td>
<td>8.1</td>
<td>100.0</td>
</tr>
<tr>
<td></td>
<td>(N=136)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>100.0</td>
</tr>
<tr>
<td>65-74</td>
<td>%</td>
<td>55.3</td>
<td>18.4</td>
<td>11.7</td>
<td>5.0</td>
<td>9.5</td>
<td>100.0</td>
</tr>
<tr>
<td></td>
<td>(N=179)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>100.0</td>
</tr>
<tr>
<td>75-84</td>
<td>%</td>
<td>54.4</td>
<td>23.0</td>
<td>9.7</td>
<td>4.0</td>
<td>8.9</td>
<td>100.0</td>
</tr>
<tr>
<td></td>
<td>(N=369)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>100.0</td>
</tr>
<tr>
<td>85-</td>
<td>%</td>
<td>50.6</td>
<td>17.7</td>
<td>12.0</td>
<td>6.8</td>
<td>12.9</td>
<td>100.0</td>
</tr>
<tr>
<td></td>
<td>(N=249)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>Total</td>
<td>%</td>
<td>53.8</td>
<td>20.7</td>
<td>10.8</td>
<td>4.7</td>
<td>10.0</td>
<td>100.0</td>
</tr>
<tr>
<td></td>
<td>(N=933)</td>
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</tr>
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</table>

TABLE 2b
'NEW' CLIENTS ADMITTED TO LONG TERM CARE BY AGE AND BY RECOMMENDED LEVEL OF CARE, UNIT B, 1978

<table>
<thead>
<tr>
<th>Age</th>
<th>Recommended Level of Care</th>
<th>Personal</th>
<th>Int. I</th>
<th>Int. II</th>
<th>Int. III</th>
<th>Extended</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>&gt; 65</td>
<td>%</td>
<td>61.1</td>
<td>16.1</td>
<td>12.1</td>
<td>5.4</td>
<td>5.4</td>
<td>100.0</td>
</tr>
<tr>
<td></td>
<td>(N=149)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>100.0</td>
</tr>
<tr>
<td>65-74</td>
<td>%</td>
<td>67.1</td>
<td>19.6</td>
<td>8.7</td>
<td>1.3</td>
<td>3.2</td>
<td>100.0</td>
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<tr>
<td></td>
<td>(N=158)</td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td>100.0</td>
</tr>
<tr>
<td>75-84</td>
<td>%</td>
<td>68.3</td>
<td>17.1</td>
<td>9.1</td>
<td>2.4</td>
<td>3.2</td>
<td>100.0</td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>100.0</td>
</tr>
<tr>
<td>85-</td>
<td>%</td>
<td>51.4</td>
<td>21.0</td>
<td>13.8</td>
<td>5.1</td>
<td>8.7</td>
<td>100.0</td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td>100.0</td>
</tr>
<tr>
<td>Total</td>
<td>%</td>
<td>63.1</td>
<td>18.2</td>
<td>10.6</td>
<td>3.3</td>
<td>4.7</td>
<td>100.0</td>
</tr>
<tr>
<td></td>
<td>(N=697)</td>
<td></td>
<td></td>
<td></td>
<td></td>
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<td>100.0</td>
</tr>
</tbody>
</table>
the alert for data from other health units that will permit a cross-check.

Functional Characteristics

The assessment form contains four categories of items relating to the clients' functional status: Personal Function Abilities, Mental Functioning, Self-Care Abilities, and Communication skills.

Personal Function Variables

Personal function variables include: ambulation, bladder and bowel control, and the ability to bathe, dress, feed self, and transfer. Figure 1 shows the general format of the items in this category. For purposes of this discussion, ability to transfer and ability to bathe will be used to illustrate this assessment category.

FIGURE 1
EXAMPLE FROM LONG TERM CARE ASSESSMENT FORM, MINISTRY OF HEALTH, PROVINCE OF BRITISH COLUMBIA, 1978

Transfer is taken as the measure of the amount of assistance required to move from bed to chair, for toileting, etc. This differs from ambulation which is a
measure of the ability to walk. Using Unit A as the example, it can be seen (Figure 2) that more than ninety percent of persons at the Personal Care level, whether at home or in facility, were judged to be independently able to transfer and that the percentage requiring more than minimal assistance rises consistently across levels of care.

A different pattern emerges in the amount of assistance required for bathing. As shown in Figure 3 a high proportion of persons at all levels of care, both at home and in facilities are designated as "requiring assistance".

Because of the overall amount of bathing assistance noted, additional analysis were performed in an effort to determine what other help these persons required. From this, one might determine whether homemaker assistance or an aide in a facility was sufficient, or whether persons judged to require considerable assistance with bathing had other problems which were likely to require the presence, at least periodically, of a more skilled care provider. It was found that at the Personal Care level, assistance with bathing and with food preparation were often the only needs. However, as one might expect, as level of care increased, assistance with bathing became only one of several needs.

In view of the high proportion at all levels who required assistance, it is obvious that the bathing variable does not provide much information of use in the
FIGURE 2
PROPORTIONS REQUIRING MORE THAN MINIMAL ASSISTANCE TO TRANSFER BY
RECOMMENDED LEVEL OF CARE AND RECOMMENDED PLACEMENT, UNIT A, 1978
FIGURE 3
PROPORTIONS REQUIRING MORE THAN MINIMAL ASSISTANCE TO BATHE BY RECOMMENDED LEVEL OF CARE AND RECOMMENDED PLACEMENT, UNIT A, 1978
"levelling process". This raises the question of the purposes for including it on the assessment form. A broader question concerns the purposes and value of all the variables on the assessment form. Are they to provide information for care givers; to provide a basis for "levelling"; to gather data for program monitoring? Can, in fact, all or any of these purposes be adequately met by one form?

**Mental Function**

Whereas personal function variables require only that the assessor choose and check a score, in the mental function category the assessor must compose a short narrative note and assign a numerical score.

The mental function variables are: comprehension, memory, self-direction, reality orientation, and emotional stability. For purposes of this discussion, self-direction is chosen as the example. As shown in Figure 4, at all levels of care those in facilities are more disabled. This observation is supported by examination of the relative distribution of medical diagnoses in which it is found that, of those in facilities, nineteen percent have a recorded mental disorder while, of those at home, only six percent have this recorded.
FIGURE 4
PROPORTIONS WITH LESS THAN 'FAIR' ABILITY IN SELF-DIRECTION BY RECOMMENDED LEVEL OF CARE AND RECOMMENDED PLACEMENT, UNIT A, 1978
Self-Care Variables

As previously mentioned, self-care variables include: ability to prepare food, keep house, shop, travel, use the telephone, and the ability to cooperate in one's own medications or treatments. The last is chosen as the example for discussion. This variable has consistently appeared in our multi-variate analyses as an important discriminator of level of care. Other variables which consistently appeared were ability to transfer, ambulation, bowel and bladder control, and ability to dress. In Figure 5, which shows the client's ability to cooperate with medications and treatments, one notices that the proportion requiring assistance increases as the level of care increases. This suggests why this variable appears to be a good discriminator. One also notes that at all levels of care except extended care, there is a higher proportion in facilities than at home who require assistance.

Work in Progress

Work completed to date has been essentially cross-sectional in nature. Much of it has been concerned with identifying similarities and differences between "original" and "new" clients, those recommended for care at home vs. care in an institutional setting and within these groupings, between clients recommended to the various levels of care. Recently, however, the study has moved into its longitudinal phase. Work currently in
FIGURE 5
PROPORTIONS WITH LESS THAN 'FAIR' ABILITY TO COOPERATE WITH MEDICATIONS/TREATMENTS BY RECOMMENDED LEVEL OF CARE AND RECOMMENDED PLACEMENT, UNIT B, 1978

%
progress is concerned with ascertaining client outcomes one year after admission to the LTC Program. For "original" clients this first year period corresponds to the calendar year 1978. For clients admitted to the LTC program during 1978 but after January 1st (i.e. "new" clients), the first year period extends into 1979.

Figure 6 shows the possible twelve month outcomes for LTC Program clients. Of the 3,518 clients admitted to the program in the two study areas during 1978, it has been ascertained that 2,602 (74 percent) were alive and still in the program one year after admission: 424 (12 percent) had been discharged due to death. The remaining 492 (14 percent) had been discharged alive. We are currently attempting to ascertain the discharge destination of subjects in this latter group and their life status one year after admission. This is a more difficult task than one might imagine. As shown in Figure 6, those discharged alive may have been discharged to "no care" - in other words, to home and out of the formal care system, or, they may have been discharged to another kind of care - most often to an Extended Care Unit attached to an acute care hospital (ECU). The complicating factor in the case of extended care is that it can be provided in several types of settings: at home, in a long-term care facility or in an ECU. While Extended Care provided at home or in a LTC facility is administered by the LTC Program, hospital-based ECU's are administered by the Hospital Programs Division of the Ministry of Health. A
FIGURE 6
POSSIBLE TWELVE MONTH OUTCOMES FOR CLIENTS ADMITTED TO THE B.C. LONG TERM CARE PROGRAM

Admitted to LTC Program in 1978
(1)

Alive & in
LTC Program
One Year
After
Admission
(2)

Discharged from LTC
Program Within
One Year
After Admission
(3)

Died
(4)

To
"No Care"
(5)

To
"Other Care"
Especially ECU
(6)
client discharged from the LTC program to an ECU moves, in other words, from one administrative jurisdiction to another. For the last several months we have been attempting to set up a mechanism for tracking clients in the Extended Care Registry and also through the Division of Vital Statistics (i.e. to see if a death notice has been registered). This again is more complicated than one might imagine, because the LTC files we are working with have had clients' names removed. What this means is that if we want to track a client discharged alive from the LTC Program, we have to supply his ID number to the LTC Program office in his health unit; the unit, in turn, re-attaches the name to the number and initiates the search procedure.

We are hopeful that an efficient tracking procedure can be set up so that we will be able to ascertain what happened to those discharged alive from the Program. In the meantime, we are proceeding with detailed analysis of those who died while still in the Program and those who remained alive and in the Program twelve months after admission. We are comparing these groups in an attempt to ascertain predictors of long term care outcome.

Conclusion

Before concluding, our purposes in presenting this paper should be highlighted. Our first purpose was to draw attention to both the content and methods of the study. It is important that we share information as it
evolves and that we have input on study methods from other researchers. How, for example, does one maintain the "real world" distribution of clients while still ensuring sufficient data for valid analyses?

A second purpose was to make researchers aware of the potentials of service-generated data and to point out some of the limitations. Two concerns for us are the reliability of the assessors and the instruments. While we have done some reliability checks subsequent to the data collection [17], normally this would have been done before data collection began. There is some question whether several assessors would reach the same decision concerning clients' level of care and service needs—particularly in the Intermediate Care range.

In their discussion of potential threats to the internal validity of experiments, Campbell and Stanley [18] describe a category they term "instrumentation threats". This refers to changes in the measuring instruments during the course of a study. The form used for assessments in British Columbia (i.e. the LTC-1) has already been modified once and may be again. The changes that were made may simplify things for assessors and service providers but they complicate researchers' lives. For example, while the content areas in the revised version remain the same, the scaling of some items has been changed. The result is that data from some parts of the assessment form cannot be used in the longitudinal study or, if used, have to be used in a more global way.
than we would have liked (e.g. by collapsing categories on the old form to make them consistent with the new form). In addition, in some instances only a narrative note at review is added to the file.

Despite problems such as these, given the dearth of information concerning the characteristics of clients receiving long term care at home and in facilities and of their progress over time, we feel that the study is a worthwhile endeavour. We hope to continue following our subject population at least through 1983, five years from commencement of the LTC Program.
REFERENCES


findings from the Milwaukee experiment. 


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Origin and Progress of the Manitoba Study

The Manitoba study started out and has progressed in rather different fashion from the B.C. study. The Manitoba study started with a survey using an interview instrument of our own design, on needs of and resources available to persons 65 and over in the province of Manitoba in 1971. The sample size, in 1971, was 4,805. In an update of the study in 1976, 1,321 additional individuals were interviewed. The 1976 or second sample included individuals aged 60 and over; that is, it included one additional five-year age cohort. Both samples were distinct area probability random samples stratified by age, sex and residence status (i.e. those in facilities were sampled separately from those in the community). It happened, as it will with all large random samples, that there were a few people in the '76 sample who were also in the '71 sample but the '76 study was not designed as a panel study.

In 1981, we had hoped to do another update which would have included both a new random sample of those 60 and over and also a panel study in which survivors of the '71 and '76 samples were reinterviewed. However, we did not
get approval for funding early enough. As a result, we will be doing the ten-year follow-up in the eleventh year.

In designing the original study, a major objective was to look at the consumption of services by the people who were interviewed. As reflected in the full title of the study: *Aging in Manitoba: A Study of the Needs of the Older Population and Resources Available to Meet Those Needs*, it was intended to look at both sides of the coin: both the needs of individuals and the services in the community to meet those needs. The consumption of service is an important component of that design; consequently, the 1971 study included both a longitudinal and a cross-sectional design.

It wasn't until 1977 that we had sufficient data and resources from the combination of the University, the community, policy-makers and funders at several levels to be able to initiate the longitudinal portion of the study. The longitudinal portion of the study consists entirely of service-generated data. This includes all medical services billed on a fee-for-service basis through the medical claims system; all hospital services (both in acute and extended care units); mental health and mental retardation facility and service consumption; home care; and personal care home services. In other words, if an individual has come into contact with the health service sector at all in Manitoba, and if they were in the original '71 or the '76 study, we have all
their service consumption data. We also have the service-consumption data on the spouses of our interviewees. In total, the longitudinal data file includes 8,500 individuals — the original 4,805 cases from the '71 study, the 1,321 cases from the '76 study plus their spouses. This file covers a nine-year time-frame, from 1970 through 1978.

The major issue from the standpoint of dealing with these data is their sheer volume. In addition to a very large sample size, we have over 500 interview items from the original study, 96 interview items from the second study, plus potentially as many as 30 separate interactions or data items on the individual within the health care system on each of 2,918 days. With up to 30 potential "bits" of service information on each day of the nine years this can safely be called a very large data set and it is very cumbersome to handle and analyze. One of the immediate problems that we faced was the necessity of putting the data into an analytic form that would allow us to work with it without having to run everything or pass through the whole file everytime.

Another important factor is that the 8,500 people have non-uniform length utilization records. If someone did not get into the home care program, there is no home care data. Some people will be assessed once, others three or four times before they enter a personal care home. Those entering such homes will have assessments following placement. All of these conditions and others
potentially vary the length of the record. We have had to develop rate variables in order to put all of these non-uniform records into a uniform format for analysis. We have done this within three different categories. In one of these categories data are arranged in three-month summary units. A second category is based on the summary of data for one year. The third category is not a summary file at all, it is a locator file. It has been the most difficult file to establish and to date there are no findings to report, except that it looks fascinating.

The locator file has been created because we lose some important data through summarizing to three months or summarizing to a year. In the locator file each of the 2,913 days are maintained as separate file units; but with only one variable per day. This variable indicates whether the individual is: alive and at home; alive and in a facility, and if so, the kind of a facility; alive but not in the Province; or dead.

We know many Manitoba seniors retire and move to B.C. and then return. Because many go to the coast at age 65 and return to Manitoba at age 75 or more, and as noted earlier the file contains nine years of data, we will have to add at least another year of data before documenting return migration. In the meantime, we have identified within or out-of-province moves.

The locator file contains information on spouses as well as on individuals interviewed in 1971 and 1976.
Data are coded to indicate whether the spouse is alive and living with the respondent; in a facility (and what type of facility); out-of-province; or dead.

Analyses to Date

Analyses undertaken thus far has been mainly on the first 27 months of utilization data. The initial analyses and reports have used the date of the interview as a focal point. The interviews occurred during the months of June, July and August of 1971. The 27 months include the year before the interview, the three-month period of the interviews, and the year following the interview. Because we're using three-month summaries, we have the flexibility of analyzing the data on a calendar year basis to see whether there are seasonal variations in utilization or using the death of a respondent's spouse as the focal point to analyze utilization data. Some analyses have also been undertaken using the full eight years of data based on the annual summaries as opposed to the three-month summaries.

Other Summary Variables

In addition to the time-framed summaries discussed above, we have operationally defined and developed other summary variables. For example, wherever possible, we have constructed an index or a scale. It should be noted, however, that researchers, particularly researchers who work with longitudinal data, are
inveterate data hoarders. (This characteristic does not seem to afflict cross-sectional analysts to the same extent that it does longitudinal researchers.) Therefore, whenever summary variables are developed, all of the original items are retained on the raw data tapes. Consequently, should we wish to construct a different summary variable, we have the capacity to do so. From the standpoint of longitudinal studies, this produces an extremely important additional problem relative to coping with the data. Such studies usually begin with large volumes of data then create both summary mechanisms for analytic purposes and summary variables. As the study progresses, it may be desirable or necessary to use different combinations of items and create new summary variables. Each new data item must be added to the original tapes which will also contain all of the original items.

Fortunately, we are able to use SPSS or SAS and a variety of other analytic programs and strategies. We have been fortunate to have had excellent programming and systems support for these projects, including some of the original work which used FORTRAN and COBOL which are more efficient than SPSS.

Reliability and Validity

Materials from the original Aging in Manitoba study were found to be extremely reliable and valid. The service utilization data have also been non-problematic
in terms of reliability and validity because these data were abstracted from fully functioning administratively maintained data systems. The reliability and validity of the data is a part of the administrative responsibility of the system; consequently, as researchers using the data for secondary analyses, we do not have a problem. Given the volume of data involved in these analyses, it is fortunate that we did not need to worry about reliability and validity.

However, there is one data set (the personal care home assessment file) with which we have considerable difficulty. The problems are not those of reliability and validity, rather they stem from the way in which the data were originally entered into the system. These data were put into the system as people had time; consequently, the batches of data have not been sequentially ordered. This created problems in our data files and involved several additional steps in the file construction stage.

Strengths and Weaknesses of a Multi-Disciplinary Approach

In the original design stage of Aging in Manitoba, a multidisciplinary team was involved. A different multidisciplinary team is involved in the longitudinal study. At present, the four senior investigators include: an epidemiologist; a political scientist; an administrative studies analyst; and a sociologist. We have added other disciplines and other personnel as
required, including: physicians, therapists, nurses, social workers, statisticians, etc. As a particular issue is identified, for which we need some special input, we add other persons.

Without qualification, the multidisciplinary research team is a strength; but, it also has problems and one should be aware of some of these problems.

The first strength of the multidisciplinary team is that we each look at the same problem in a different way. If we look at the same problem differently, we are likely to produce triangulation. Therefore, our strategies, almost by definition, will become better than they would be with a unitary viewpoint. Secondly, we will exploit more data by having four different orientations than if we were all from the same discipline. That is, we will "mine" the data in ways that might have been overlooked by a single investigator or a single discipline. This is particularly important in this study because of the richness of the data. Thirdly, there is an opportunity for each of us to "do our own thing". Each of us is strong minded, and we certainly have our unique and individual ways of doing things, looking at the data, the study and the world. A final strength is the review process that we go through with one another's work. This is not only a check in terms of overlooking some aspect; but is a critiquing process which is far richer than what we would have if all of us were in the same field or brought the same orientation to the study. Further,
because each of us knows a certain segment of the research literature no one of us has to know all of it. One of the unexpected benefits of this critiquing process is that it has broadened our scope in terms of potential publication mechanisms. Sometimes one of us will suggest a journal that the others had not thought of. One team member may have read a particular journal over the years and will recognize that the proposed article is exactly what that journal wants or is typical of what the journal publishes. Through publication in a broad range of journals, we have expanded our contacts to include people whom we would not have been able to identify through our usual communication channels.

Two weaknesses or problems of a multidisciplinary approach that we have encountered are ones that we had not thought about before this experience; if we had, we would have done some of the preparatory work differently. The first problem is that it takes a lot more time to work within a multidisciplinary team. It takes more time because we do not use the same language, have the same concern with aging nor focus on the same issues. We need to translate and check to make sure we are communicating—things we would not have to do if talking to a colleague in the same discipline or with the same orientation. This has proved to be much more time-consuming than any of us anticipated. A second problem is that periodically one or another of us suddenly reverts to our old disciplinary orientation. In
other words, no matter how much we are a research team, every once in a while we are not a team at all. We have had to cope with the issue of when the team is not functioning as a team.

Having noted these two problems, which are important if one is contemplating multidisciplinary longitudinal research, let me hasten to add that we are not disabled by them, only very slightly slowed down.

**A Methodological Sub-study**

Having identified some of the issues and concerns relative to having a very large sample, having very detailed service records, and possibly to drowning in the data, I'd like to conclude by pointing out that one of my particular areas of interest has been in needs assessments. One of my major concerns is that there has been very little reliability and validity testing of needs assessment instruments. The only appropriate way to test these instruments is to use predictive validity measurements. In order to test predictive validity one must have and use a longitudinal design. In other words, if knowing the needs of an individual does not predict any aspect of future behaviour that relates to the needs that the instrument purports to measure then either the measures are inappropriate, there was no need, or there is no relevant behaviour. In the original 1971 Aging in Manitoba design, one of the purposes was to test the predictive validity of the instrument. It is
inappropriate to use recall to measure predictive validity regardless of how reliable that recall may be. However, such retrospective predictive validity measures are the only ones that have been applied to needs assessments prior to this study, because previously no one has had the relevant longitudinal utilization data following the assessment to address this important issue. Therefore as part of the larger longitudinal study we are testing the predictive validity of the 1971 needs assessment instrument as a methodological sub-study.