Miss Bowman and Mr. Myers have provided us with a stimulating and particularly helpful contribution to research on human migration. Let me say at the outset that I am most sympathetic to the approach that they have followed. Besides sorting out the crucial distinctions between several of the existing contributions to this area of study, they correctly emphasize that future research into the economics of migration must deal with migrations rather than migrants. Both existing studies and the presently available statistical data concern migrant status and, conveying even less information, that fictitious being the "net migrant" I think that I can summarize Bowman and Myers' discussion of net and gross, one-way and re-migration by saying that economic models of decisions to migrate must be concerned with specific migrations. Partly because of the nature of the data that have been available but partly because much of the research has not been formulated in behavioural terms, the literature of migration exhibits an almost exclusive concern with the characteristics of migrants, either present or past. As Bowman and Myers so nicely show, unless migration is given a specific time reference and unless particular migrations are sorted out, misleading results can be expected.

I should like to add two qualifications. Firstly, the emphasis on behavioural models should not be construed as a complete denial of the usefulness of more aggregative and impersonal analyses. In many situations our problem is the historical one of assessing the role of migration in a particular case of economic development. Then the main outlines of the development under study may be perceivable without the detailed information and sophisticated model proposed by the authors of the paper we have heard today. A second quibble concerns the statistics on return migration presented by Bowman and Myers. They look at the proportions of persons re-ported in the census of 1960 as having migrated in the preceding five years that were migrating back to their region of birth. I am sure that the authors would agree that this is far from a satisfactory measure of remigration. One would be most curious, for example, about the numbers of 1955-60 migrants who moved more than once during the quinquennium. But I appreciate the severe paucity of

statistical data on migrations.

Bowman and Myers issue a plea for census or other data on migration in sufficient detail of cross-tabulation that the kind of disaggregated analysis which they propose might become statis-tically feasible. In this I heartily join them. The problems of the researcher in this area in Canada, where I am working, are even greater since census migration data, whatever the ex-tent of cross-tabulation, have been available only for ten provincial units - far too small a cross-section sample for sophisticated statistical analysis. Moreover, classification by both origin and destination, a prime requirement of the kind of methodology the authors propose, has not been undertaken in Canada. One very useful body of data on migration exists in the microfilmed enumerations of the 1941 Census of Canada. On that census questions were asked about both previous residence and previous occupation but the two were never cross-tabulated. The form in which the data have been preserved would make a fairly large sample with substantial cross-classification feasible and not outrageously expensive. I can only hope that on a future occasion I shall be able to report on this material to this association and at that time I might be able to put Bowman and Myers' methodology to a more substantial test.

My comments have concerned the analysis of migration and I have been generally in agreement with the authors' position that migration must be considered in a more complex way than it has in most past analyses. Their paper emphasizes the interrelationships between migration and education and training as elements in the spatial transfer of human capital. Just as the complexi-ties of migration have to be sorted out in more detail, education and training should be considered in more dimensions than Bowman and Myers give them. It is widely recognized that education and training involve both the acquisition of greater skill and increased specialization of the worker, although not always to the same extent or in the same degree. It is useful in this context to think of skill and specialization of human capital counterposed in much the same manner that Ames and Rosenberg have applied these concepts to physical capital. 1 Where greater skill implies less specialization, or less strict attachment to particular occupations, the implications for migration decisions may differ considerably from highly specialized or occupationally specific training.<sup>2</sup> The importance of the distinction will vary from one country to another since it will depend also on the spatial distribution of demands for particular skills and specializations. Recognition of further dimensions of education and training will assuredly complicate further Bowman and Myers already intricate treatment of different migration sequences but it is a complication that may be every bit as important as the recognition of differences in time-juxtaposition of migration and education decisions.

I have already joined the authors in their plea for improved census data on migration, with adequate crossclassification for the kinds of analysis both they and I would like to undertake. In concluding my comments, however, I should like to say that I am not optimistic about the adequacy for this type of research of even greatly expanded census tabulations. It is extremely difficult to conceive of census questions that would collect the needed information on migration as opposed to migrant status. This kind of information is best acquired in other ways. Here, as in a number of other areas of economic and demographic research, a continuous cross-section sample would be preferable. Perhaps Bowman and Myers will join me in a plea for sample statistics of that sort.

<sup>1</sup>Edward Ames and Nathan Rosenberg, "The Progressive Division and Specialization of Industries", <u>Journal of</u> <u>Development Studies</u>, Vol. 1, No. 4 (July 1965), p. 370.

<sup>2</sup>For some purposes human capital might be considered in undifferentiated "liquid" form but it must be kept in mind that at any time the stock of human capital like the stock of physical capital is largely committed to specific forms.