CHAPTER

63

Individual and Social Motivations for Migration

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Any study of the motivations for migration behavior must also examine those that cause individuals to stay in the same place. Moreover, there is no reason to suppose that these motivations are the same for people who move short distances (e.g., intracommunal migration) as for people who move longer distances (e.g., interregional migration) or for nonmigrants, who do not change residential location. In this chapter, therefore, we examine both nonmigrants and migrants according to the type of *mobility* that they experience.

As a general rule, the term *mobility* is used here to denote all the moves undertaken by the individuals in the group being studied. Depending on the type of study to be conducted and the data available, it is possible to consider some moves as *migrations* while excluding others from analysis.[1] However, the individual lives in a space where administrative boundaries (e.g., communes, departments, and regions in France) often play a limited role in mobility within the country while possibly playing a more important role in international migration.

An analysis of the motivations for migration behavior also needs to consider them in interaction with all the other elements in the life of the individual. The reasons that "push" individuals to move, like those that cause them to stay in their group of origin or current dwelling, can only be understood when related to their past experience and present circumstances in the domains of family, work, and so on. The attraction of a higher income powerfully favors a move for a young adult living alone, whereas it has far less impact for an older individual with a wife who works and children, because of the risk of losing the wife's income and a reluctance to uproot the children from their school. In these conditions, motivations cannot be spoken of in absolute terms, but always with reference to the context of individuals in domains such as family life and career.

It is also necessary to introduce the information available to the potential migrant about the advantages and disadvantages of the choices between different destinations. Individuals are more likely to choose a destination region about which they have ample information through an extensive network of contacts than one about which their information is limited and obtained merely though the press. However, an individual who is well integrated in a neighborhood or town or city where most of his friends and relatives live has little incentive to move to another place.

The definition and measurement of motivations can vary greatly depending on the level of aggregation at which we are working. When survey data are being used, the motivations for migration can be introduced directly, if the survey subjects have been questioned about them. It is also possible to examine the dependencies between residential relocations and the individual's other life-history processes. The latter

[1] The definition of migration depends on two criteria—distance and period of residence—which are determined in the context of each individual study (see Chapter 22).

approach, less subjective than the former, is better suited for identifying the nature of the reasons for moving. Rather than working at the individual (micro) level, an aggregated (macro) level can be adopted when using census data, for example. Stronger assumptions then have to be made about the migration flows observed and about the various characteristics measured for each zone. A model of individual migration behavior underlies such an analysis (Puig, 1981). Validation of these underlying models calls for a more detailed analysis of the linkages that exist between micro-level and macro-level models.

The Complexity of Migration Behavior

Before considering the individual reasons that affect mobility decisions, we need to take another look at the complexity of the analysis of geographic moves and the influence on them of other events. This analysis, i.e. an examination of the endogenous factors that motivate moves, only becomes meaningful if we envisage the interactions between multiple processes. For although a move can be motivated by a family event, another event affecting the family can be a cause of nonmigration or be the consequence of a move.

There are two elements to consider: mobility just as much as immobility and the implications of mobility for the demographic processes occurring in the other life domains of individuals. The latter aspect is not the subject of this chapter and is therefore not discussed further. Nonetheless, we felt it important to stress the need to envisage reciprocal dependencies in the analysis of individual behavior (Lelièvre, 1992).

Another Look at the Effect of Age

Migration rates by age based on data from the French 1999 Census exhibit a highly characteristic profile (Fig. 63–1). These are annual rates for residential mobility (movers) and for interregional migration.[2] This is a relatively universal profile, very close to that observed in other national contexts. Up to age 17, individuals' mobility parallels that of their parents, i.e. that of economically active adults between the ages of 30 and 47 years. Between ages 18 and 30, a sharp increase in mobility is observed, which is attributable to young people entering the labor market, leaving the parental home, moving into first union—in short, the mobility corresponding to the transition to adulthood. A small rise is observed around retirement (between ages 60 and 70), followed by an increase in mobility in old age,

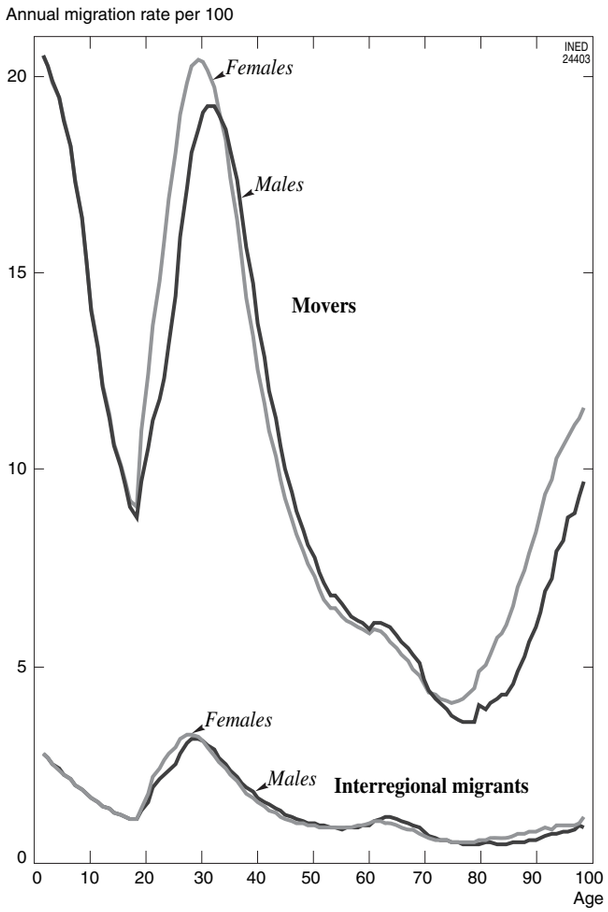

FIGURE 63–1 Residential mobility and interregional migration by age and sex (1999 French census). These estimates differ from those given by Baccaïni (2001) because of the inclusion of changes made between 1982 and 1990 and between 1990 and 1999 in the parameters used to convert inter-census data to annual data (Courgeau, 1973, 1979). These new estimates were produced using results from the French Labor Force Surveys for 1990 to1999 and from the Jeunes et carrières (i.e., Young People and Careers) survey (INSEE, 1997) by Franck L'Hospital (2001). They are also consistent with data from France's electricity supply company (EDF) (Courgeau *et al.*, 1999, 2000).

especially for women, corresponding to moving into care accommodation or to being looked after by one's children. The differences between the sexes reflect the age differences at which family and occupational transitions are made by individuals of opposite sex.

The curves for residential relocation and interregional migration have broadly the same form, with just a difference in the multiplying factor. This confirms the choice made in the introduction of considering mobility as comprising the set of all spatial moves, with the option then of considering only some of these as migratory moves. We shall see that the motivations

[2] In the case of France, this is a division into 22 regions. The direction of the flows is not discussed here (see Baccaïni, 2001).

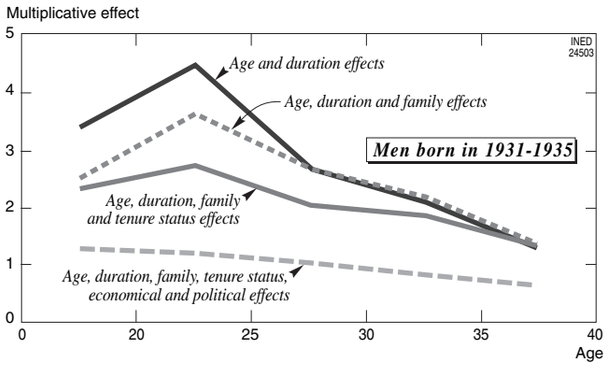

FIGURE 63–2 Multiplicative effect of age on male mobility by variables in the model used in the French Triple Biography survey of family, employment, and migration histories.

involved are the same, some having greater impact for long-distance migration, others for short-distance moves.

In addition to a discussion of this classic distribution, a description based on analysis of individual-level data is now possible. Figure 63–2 shows the distribution (for the male population) of the effects of age, as estimated by a Gompertz type regression, modelling age at last move and duration of stay (Courgeau, 1985). A series of models are estimated, into which are introduced an increasing number of variables controlling the stages reached by the individual in his or her various life domains.

The age effect, controlling for the duration of stay, is very similar (disregarding the scales) to the curves in the previous diagram: a peak of mobility observed around age 22.5 gives way to stability. This time, however, the successive models make it possible to separate clearly what corresponds just to an age effect from what is the result of the variables characterizing the stages in the individual trajectories.

By first introducing the variables controlling for the stages of the family life-course trajectory (essentially marriage, divorce, and successive births), the effect of age alone is seen to be reduced between ages 15 and 28. Introducing the move into owner-occupation brings a further reduction in the age effect, this time across all the ages considered. In the full model, which introduces variables characterizing labor force status (military service, economically active, unemployment), type of job held, and macroeconomic conditions (e.g., period of wartime, crisis of 1931 or of 1974), the age effect disappears completely.

Age is clearly a proxy variable that captures, combines, and synthesizes the effects of the other processes at work in individual trajectories. It is therefore pertinent to try to identify the specific influence on mobility. Empirical distributions suggest that these effects occur at particular points in the trajectory and modify mobility over the lifetime of individuals. This leads us to favor, when the data are available, a longitudinal event history approach (see Chapter 23), which is the only satisfactory method for studying these changes.

Measurement of Mobility over the Individual Life-Course Trajectory

Event history data are extremely rich and allow mobility to be studied in a variety of ways that produce results that could be thought contradictory. It is therefore necessary to review these approaches whose implicit assumptions have a powerful influence on the results.

First, event history data files enable the changes in the migration behavior of individuals to be observed in relation to changes in, for example, marital status and work histories. For the case of marriage or divorce, both of which correspond to times of high residential mobility, it can be shown that these events also initiate new and highly specific periods of mobility. After the initial residential changes, marriage has a powerful stabilizing effect on individual mobility; divorce, by contrast, marks the start of a period of residential instability (Bonvalet and Lelièvre, 1991).

Second, at the time of the survey a summary statement of mobility (in the form of the number of dwellings) of the individuals questioned is obtained. This can be broken down according to the available characteristics, such as marital status at the time of the survey, family size, and occupational status at the time of the survey.

Because the key events in family life (e.g., entry into union, birth of children) and in occupational life (e.g., first job, changes) are very likely to be accompanied by a residential relocation, we can safely predict a higher number of dwellings for those with the most status changes in their family and occupational lives. The presentation of such a migration history provides the basis for valuable comparisons (Lelièvre, 1990a, 1990b; Bonvalet and Lelièvre, 1989).

One way of using these categories defined on *a posteriori* criteria is to differentiate, for example, the parents of three children or the permanently single at any point in the life course. This technique, although potentially highly instructive in a later phase of the analysis, produces results that must be used with caution, and for this reason, it is not recommended for an initial approach. It involves differentiating before family formation has even begun the future parents of three children from those who will have only one child

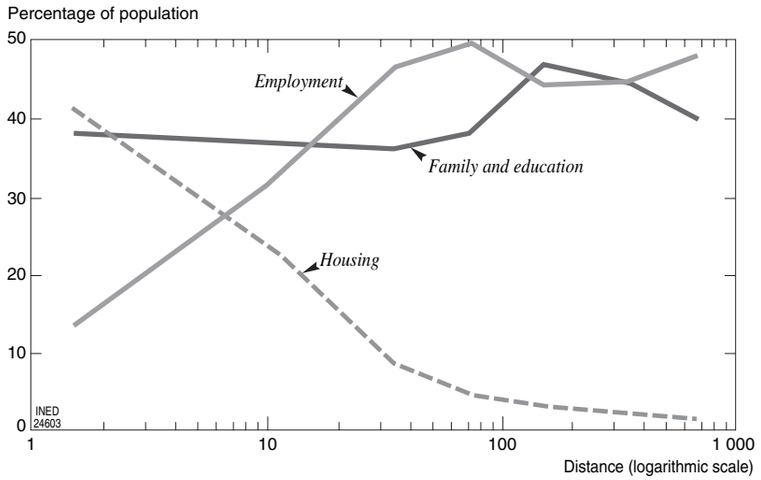

FIGURE 63–3 Reasons for migrations relative to distance (in kilometers) as found in the French Triple Biography survey of family, employment, and migration histories.

or the permanently single from those who will later form a union. It can be used, however, to test for possible selection processes. In the study of migration to France's principal metropolitan areas,[3] it could be shown that the fertility regime of migrant women was different from that of nonmigrants outside the metropolitan areas even before they moved to the highly urbanized regions. In other words, a definite selection process was at work. In the case of migration away from the metropolitan areas, no selection occurred because no distinction could be made between the fertility of future movers and nonmovers in the metropolitan areas (Courgeau, 1987, 1989).

Although summary statements should not be ignored, they give an overly aggregate view of the different facets of individual life course trajectories. An average value for the number of moves per status at the time of the survey cannot take account of a fall followed by a rise in the propensity of individuals to move over their lifetime. Such summaries can only be established for groups exposed to the risk of moving over periods of the same length. An average number of dwellings for individuals in a 10-year age range lumps together in a way that varies with age group people who are in a phase of intense mobility with others who are in a period of stability. This biases the summaries.

The procedure whereby selective behavior is tested by examining the differential behavior of future categories must remain an empirical exercise to be used with caution.

When longitudinal data are available, an analysis by duration of stay (if the data permit) can alone reveal the changes in mobility behavior over the lifetime of individuals.

The Motivations for Mobility

Determining the relative importance of the motivations quoted by individuals to explain their moves is a particularly difficult exercise. In part this is because these moves are very likely to be distributed differently depending on cultural context and historical period. Family-related reasons appear to dominate, at least for residential mobility, and work-related reasons dominate for longer-distance migrations. In the American context, Peter Rossi (1980) finds "the major function of mobility to be the process by which families adjust their housing to the housing needs that are generated by the shifts in family composition" (Rossi, 1980, p. 35). For France, Brigitte Baccaïni (1991) has shown how the reasons invoked to explain or justify a residential relocation vary with migration distance (Fig. 63–3). Over short distances (i.e., intracommunal moves), housing factors (e.g., entry to owner-occupation, home improvement, or enlargement) are the most important, whereas employment factors are negligible. The latter rapidly become more important with migration distance and form the majority at medium distances (i.e., intraregional moves), whereas family-related reasons remain at the same level up to a distance of 100 km. For the longer distance interregional migrations, housing factors account for a very small minority, and family and employment factors are on the same level. All of these motivations have a role,

[3] The regions of Paris, Lyon, and Marseille (see Courgeau 1987, 1989).

regardless of migration distance, but their importance varies with this distance.

Although the stages of the family life-course trajectory have a direct impact on the propensity of individuals to migrate, these stages occur within a context in which motivations are evaluated and acted on differently by individuals. Gary Sandefur (1985) has shown that the importance of motives for migrating depends strongly on the stage individuals are at in their life-course trajectory. Also, these reasons are reconstructed, often *a posteriori* as is the case in a retrospective survey, and only have the value attributed to them by the individuals required to justify or explain a move in the interview.

When event history data are available, a less subjective way to determine the nature of the motives for migration is to test the dependencies between mobility and other processes. The moves considered can be diverse in kind, ranging from simple residential relocations or even daily home-to-work journeys, up to interregional migration, depending on the level of precision of the data collection.

Despite the pertinence of event history methods, their application has limits that first need to be identified. Although a study of the interactions between marriage and migration proves particularly suited to this approach, we might want to carry out such a study between divorce and migration, and this is less straightforward. In the former case, selecting an origin that is common to both processes[4] presents no problem; for example, we could examine first marriage and the move into an independent dwelling. In the case of divorce, it appears virtually impossible to give an unequivocal definition of the specific move (which will be the same for all the individuals) from among the migration events to associate with the divorce, without making explicit reference to the breakdown of the couple. However, if we choose the move that precedes or follows the divorce, a study of interaction becomes meaningless.

Another difficulty, less trivial than it appears at first sight, stems from the structural transformations affecting relations between individuals. Although living as a couple still concerns the majority, the growth of cohabitation makes it harder to identify the entry into union. In the same way, well-defined events like divorce do not necessarily correspond to the point in time when the partners actually separated.

To illustrate these various points we now give a brief overview of the results obtained using event history data.

[4] This is one of the conditions for implementing the analysis (Courgeau and Lelièvre, 1989, 1992, 2001).

Some Significant Results

The following results are derived mainly from the analysis of data from the French Triple Biography survey of family, employment, and migration histories (also known as the 3B survey), conducted by the Institut National d'Études Démographiques (INED) in 1981. This highly innovative survey took the form of a retrospective collection of longitudinal event history information on individuals born between 1911 and 1935. The sample was nationally representative and contained 4602 individuals (Courgeau, 1985). These data allow us to examine the residential trajectories of these cohorts using the approaches described previously. We begin with the case of the different effects of marriage on individual mobility, which we believe is very explicit.

Marriage, a Factor of Mobility and of Greater Residential Stability

The survey data capture the mobility linked to this key event in the family trajectory of individuals. For the cohorts born between 1911 and 1935, marriage was associated with a move to a new residential location (Table 63–1). Marital status at the time of entry into a first independent dwelling explains the differences observed by sex. Forty-seven percent of men moved into an independent dwelling before they married, whereas women in these cohorts, who moved out of the parental home on average a year earlier than the men, more often moved at the time of their marriage (51% of women versus 39% of the men in the French 3B survey). Women are clearly more likely to change place of residence at the time of their marriage, and this move corresponds more often for them than for their partner with leaving the parental home.

Residential mobility is closely related to family events. Marriage usually results in a move by at least one of the partners, whereas divorce works in the opposite direction, resulting in the departure of at least one of the former partners. The results in Table 63–2 confirm these tendencies. Individuals who were single at the time of the survey were the least mobile, with

TABLE 63–1 Proportion of Individuals Changing Residence when They Married as Reported in the French Triple Biography Survey

Group	Cohort 1911–1925	Cohort 1926–1935	Total
Men	44.9	50.8	47.8
Women	64.8	66.4	65.5
All	55.6	58.7	57.4

TABLE 63–2 Average Number of Dwellings at Age 45 Years by Marital Status at the Time of the French Triple Biography Survey

Marital status	Average number of dwellings (standard error, 95% level)	Number
Single	2.13 (± 0.34)	189
Married	3.15 (± 0.12)	1385
Remarried	3.87 (± 0.48)	86
Divorced or separated	0.80 (± 0.13)	164

TABLE 63–3 Average Number of Dwellings Occupied for More Than 1 Year according to Marital Status at Each Age and at the Time of the French Triple Biography Survey

Marital status by age at time of survey	Average number of dwellings (standard error, 95% level)	Number of people surveyed
25 Years		
Single–single	0.80 (± 0.13)	396
Single–married	0.90 (± 0.10)	1017
Married–married	1.55 (± 0.06)	1959
30 Years		
Single–single	1.19 (± 0.17)	396
Single–married	1.34 (± 0.20)	367
Married–married	2.06 (± 0.06)	2609
35 Years		
Single–single	1.52 (± 0.19)	396
Single–married	1.42 (± 0.30)	134
Married—married	2.51 (± 0.06)	2842

one in three of this group having never moved out of the parental home (many were farmers); these were usually individuals who never married and had very limited migration histories, and whose behavior contrasted sharply with that of single people who were not yet married. Next came married people, and the highest mobility was observed for the divorced and remarried. However, these results in no way take account of changes in mobility in the course of the trajectory.

As part of the attempt to measure the effect of marriage, Table 63–3 presents a description by current marital status and that observed at the time of the survey to capture the mobility of single people and the impact of marriage. At the three ages surveyed (25, 30, and 35 years), individuals who are single have practically the same mobility whatever their subsequent marital outcome. For married individuals, the average number of dwellings occupied is markedly higher at each age, revealing an effect of marriage on residential mobility.

This set of three tables is characteristic of the descriptive results commonly presented. Table 63–1 measures mobility at the time of marriage, Table 63–2 gives a summary comparable to that we would obtain with period data, and Table 63–3 is an attempt to capture mobility across the life-course, which turns out to be not very convincing.

Event history analysis is alone able to take into account the changes in the migration behavior of individuals, and its application reveals the second characteristic of the longer-term influence of marriage, the stabilizing effect (Courgeau, 1985), which is particularly clear, corresponding to a large slowdown that reduces mobility by one-third (Fig. 63–4). We see that an average value for the number of residential locations cannot reflect a rise followed by a fall in the migration propensity of individuals over their lifetime. Information derived only from this type of result is therefore completely inadequate for capturing the influence of an event on the mobility of individuals, and an event history analysis of such data has become indispensable. Implementing such an analysis is straightforward using widely available software.

Individual Mobility and the Arrival of Children

An event history analysis of the interactions between mobility and parenthood reveals in a few precise instances an effect associated with the birth of children. The increase in mobility that would be expected after successive births is observed only for women who married before age 22 (Courgeau, 1985). It can be assumed that these couples have had to adjust the size of their housing *a posteriori* to that of their family. This contrasts with couples who married later and who probably already had a dwelling more adapted to their desired future family size, which would explain the absence of any significant increase in mobility after the births. For the couples who married later, a solution employed by these cohorts to have more dwelling space was the move to home ownership, whose stabilizing effect has been combined with that of marriage.

In this case, when a summary is prepared showing the average number of dwellings occupied according to family size reached at the time of the survey, we find that childless couples have on the whole moved less than the others, but the differences observed thereafter

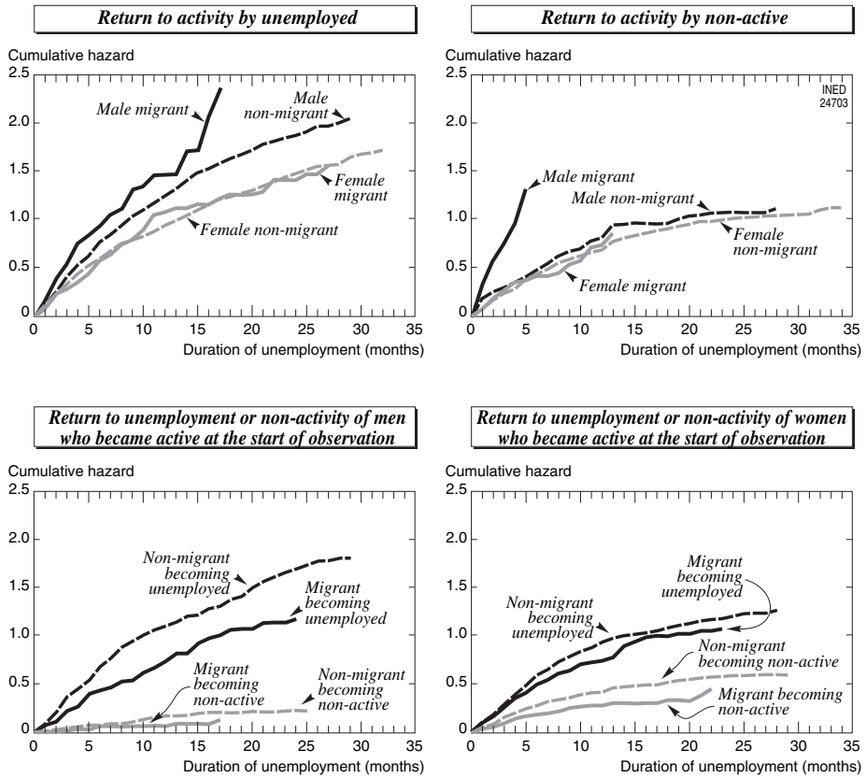

FIGURE 63–4 Mobility and economic activity in France between 1991 and 1995 as found in the Labor Force survey (INSEE). (From Courgeau and Meron, 1995, p. 22.)

are not statistically significant. In this information, we capture the description of the mobility of very specific categories and not the effect of births over the lifetime of individuals.

A similar analysis of the interactions between intraregional or interregional mobility and the birth of children was also conducted for Norway using data from the Population Register (Baccaïni and Courgeau, 1996). For the cohorts born in 1948 and 1958, the birth of a first child leads to increased short-distance mobility in the year of this birth and the following year. After this 2-year period, this mobility is reduced for interregional migrations or for higher-order births. In this country, the adjustment of housing size, when it is necessary, occurs after the first birth, and it is not observed for subsequent births.

Mobility and Economic Activity

Spatial mobility also has complex links with employment. In France in the early 1990s, it was observed that migration by a couple was more likely to lead to unemployment of one partner, usually the woman, the greater the distance moved (Courgeau and Meron, 1995). Twenty-seven percent of economically active women who were employed and who changed region became unemployed, compared with only 4% of those who did not move. For economically active men, these rates are 8% and 2%, respectively, which shows that they are also subject to this effect but to a lesser degree. It might be thought that because these migrants are cut off from some of their existing networks for integrating the labor market, they would have more difficulty finding work. However, this is not what is observed. Male migrants more often find work than nonmigrants, and no difference in behavior is found for female migrants. Moves are not made to a region picked at random, but to a region where the individual already has well-established relational networks.

Unemployed and economically inactive persons are more likely to find work when they are migrants than nonmigrants. Among nonmigrants, 41% of unemployed persons and 14% of the economically inactive find employment in the course of the year, and these percentages rise to 57% and 47%, respectively, among movers. Turning next to examine the stability of the work found by these individuals, we see that the

return to unemployment or nonactive status is much slower for men and women who moved than for the nonmigrants. We can conclude that persons who have moved to find a job are better placed to keep it than those who took what was available in their existing place of residence. The cost of migrating must be evaluated in relation to the more stable nature of the work obtained after moving. The small numbers of individuals who take this course are clear evidence of the difficulty associated with such a reorientation.

Choice of Destination: The Role of the Personality of the Individuals and the Information Available to Them

Humans do not live in a homogeneous space about which they have all the relevant information necessary to decide about a possible migration. They inhabit a heterogeneous space about which they possesses information that is imperfect and that changes over time. The same applies to the means for acquiring this information through relational networks, through the press, or by any other means of diffusion.

One way to get a clearer view of this information is to capture it using surveys that identify the mental maps of individuals living in various locations, according to their age (Gould, 1975). Research on this subject has shown the construction of mental maps during an individual's childhood through adulthood. These maps reflect a sharply contrasted knowledge of the zones studied, with a maximum of information around the place where the individual lives and with relative maxima around the most densely populated centers. This information can then be modeled as a function of the distance of the individual and the populations from the different places in the country. Variables other than age can usefully be introduced; educational level, occupation or nonactivity, and the rural or urban milieu in which the individual lives are all characteristics with the potential to modify these mental maps. It is easy to imagine the complexity of the information that must be collected to facilitate understanding of these various maps.

A second method is to model this information in a more *macro* approach to individual behavior. Let us assume that the individual in a given region has perfect information about the other regions to which he can migrate. The probability for him of choosing region j is equal to the attractiveness specific to this region, divided by the summed attractiveness of all regions. Such attractiveness can be measured as a function of the various characteristics of region j: its unemployment rate, average income levels, the proportion of the population working in the agricultural sector, and so on. However, we must take account of the fact that the choice of the region of destination is not independent of the region of origin. The information the individual may have about the different destinations is a function of the proximity of the places, his or her occupation, income, and other factors. This means that we can write the probability of choosing destination j, knowing that the individual lives at i, in the following form:

$$\text{Prob. (choose } j/\text{living at } i) = \frac{p_j q_{ij}}{\sum_{k=1}^{r} p_k q_{ik}} \qquad (1)$$

In Equation 1, p_j is the attraction specific to region j independently of the origin, and q_{ij} is a measure of the information that pushes an individual present at i to move to j (Ginsberg, 1972). Depending on the characteristics introduced, this formulation produces various models of migration behavior in general use. If we measure the specific attractiveness of a region by its population, P_j, and the information by a function of the distance separating regions i and j, d_{ij}, we can write the migration flow between these regions:

$$M_{ij} = \frac{P_i P_j f(d_{ij})}{\sum_{k=1}^{r} P_k f(d_{ik})} = k P_i P_j f(d_{ij}) \qquad (2)$$

We obtain a model belonging to the class of gravity models, based on a behavioral theory. These models can introduce various other measures of the information between these zones and many other characteristics of both origin and destination zones: distance in terms of intermediate jobs, cost of living, income, leisure facilities, climate, and density of population in both origin and destination zones (Cadwallader, 1992; Rogers, 1967). These models can be estimated using linear regression methods when the logarithms of the two sides of the equations are taken. It is necessary to verify the conditions of application of such a model (Poulain, 1981).

This approach assumes that individual behavior derives from choices that depend on perception of aggregate characteristics. An individual will prefer the regions whose living conditions he or she knows best relative to other regions, while at the same time comparing it with living conditions in his or her region of residence. The logic and estimation of the model can then deal with flows and characteristics measured at the *macro* level, under the assumption that individual behavior based on rational choices is not simultaneously influenced by personal characteristics. However, we saw earlier that this assumption was not verified.

In the next section, we need to synthesize these two approaches.

Having presented the complexity of migration phenomena and the various approaches employed for their analysis, we now turn our attention to the more innovative lines of inquiry that can offer deeper insights into mobility.

TOWARD A BROADER UNDERSTANDING OF MIGRATION BEHAVIOR

The need to understand the decision-making mechanisms that lie behind the migration decisions and locational choices of individuals has led many researchers to look for a framework that allows individual strategies to be situated in their spatial context. Two main currents of research are presented here. These are currently undergoing major methodologic developments and are contributing, from very different perspectives, to the integration of the study of migration into a broader context.

In the study of urbanization processes, Véronique Dupont and Françoise Dureau (1988) directed their attention not at the abstract entity of the city, but at the actors of the processes of urbanization. For their analysis of urban dynamics, they found it simplistic to focus uniquely on the population living in the urban space delimited by its built environment and necessary to go beyond the usual practice of linking individuals to a single place of residence.

Another line of research allows the inclusion of more complex parameters derived from widely available data to analyze the interactions between the results obtained at different levels of aggregation. In particular, we need to try to identify the interaction between the individual level and the aggregate level. These two approaches are examined in order.

The Life Space and Its Modification

An initial means of going beyond the study of simple individual motivations is by situating the actors of mobility in their life space, defined as "that part of space in which an individual carries out all his or her activities . . . not only the places of transit and residence, but also all the places with which he or she interacts" (Courgeau, 1980). This concept issues from the conjunction of work in cognitive psychology and sociology, and it was first applied in demography by Daniel Courgeau (1972) for exploring and mapping the networks of relations between persons. The objective in this research was to use these networks to study individual mobility. Its basic postulate is as follows: migration by individuals or by households is not just the result of economic and social conditions but also depends heavily on the ties that individuals form, the advice they receive and the information to which they have access. In this perspective, a survey was conducted in a rural setting (followed by another in an urban setting). In this way were traced the first steps for operationalizing the life-space concept in a quantitative experiment. When the network of relations is considered, the exact location of its members gives its spatial distribution at a given point of time. Any modification over time in this set of places constitutes a change in the life space, causing it to undergo a contraction, an extension, a shift, or a complete redefinition.

Definitions of the life space are varied, ranging from a space structured by a network of relations to a space defined by a set of places corresponding to functions rather than to persons. In the generally available statistics, individuals are identified at a single place, that of their residence, and changes in this place over time define their migrations. In the context of a quantitative analysis, which applies a narrower definition of the life space, we can assume that it comprises the place of residence and place of work of an individual at a point in time, for example.

A study carried out in India (Dupont and Lelièvre, 1993) operationalized a specific definition of the life space of the migrant. Taking as their starting point the possible separation of place of work and place of residence, the researchers decided to incorporate the plurality of places of residence and work for any given individual. This allowed them take into account the fact that a migrant of rural origin can combine a job in the town with doing agricultural work and can consider his village of origin as a more important place of residence than his dwelling in the town, with the village remaining the main locus of emotional, familial, and social investment. In the study in question, "la dynamique d'une ville moyenne en Inde" (i.e., the dynamics of a medium-sized town in India), the objective was to "apprehend the town beyond the space of human concentration, such as to relate it to the rural dynamics that are its constituent parts." India presents the paradox of having a low rate of urbanization (25.7% of the population was urban in the 1991 census) even though it has the world's second largest urban population (218 million in 1991) after China. Using this approach also allows for the possible reversibility of migration flows. The preference accorded at any given point in time to one of the constituent poles of the life space can be modified, causing the movement to change direction. This approach to the actors of the

urbanization processes and their life space led us to invert the classic view of the town as a pole possessing its zone of influence and to propose a new perspective, particularly revealing in the case of the small and medium-sized towns in India: The town appears more as an outpost of the village, a locus of investment and of diversification of the activities of country dwellers. The concept possesses considerable analytical power.

In the Population, Espace de Vie, et Environnement (Population, Life Space, and Environment) survey conducted by INED in 1991, Philippe Collomb and France Guérin-Pace collected data intended to identify the representations and practices of French people regarding the environment, for which purpose they introduced the life-space concept. Applied in a concrete approach to the spatial practices of the respondents, this concept enabled the authors to gain insight into the universe of individual representations and to get access to the larger notion of collective environment (Guérin-Pace, 1994). The life space the researchers observed with this survey is more accurately the space that is frequented and moved through, and around which individual existence is constructed and which structures daily life (Di Meo, 1991), which is also referred to as the *daily-life environment* (i.e., *spazio utilizzato*) (Barsotti and Bottai, 1994). A large part of the survey is devoted to the journeys made on foot in the vicinity of the dwelling, with a distinction being made between the familiar territory where the respondent goes with pleasure and the more functional and utilitarian territory where he or she goes from necessity. Information is also collected on the reasons why places are frequented, those that determine the attraction of some places or the repulsion or lack of interest for other zones.

The data from the Biographies et Entourage (Event Histories and Contact Circle) survey conducted in France between 2000 and 2001 opened up new and particularly promising perspectives for the study of the individual's life space and its evolution over the lifetime (Lelièvre *et al*., 2002). The survey catalogues the mosaic of places that makes up the respondent's geographic universe, each place corresponding either to a *function* (i.e., place of residence and work, regularly visited places: school boarding facilities, barracks, weekend cottage, place of holiday) or to a *bond* maintained with the contact circle (i.e., places of residence of parents, siblings, uncles or cousins). The location of the kinship group at the time of the survey and at different stages in the respondent's lifetime, allows us to study the spatial dynamics and strategies at the level of the contact circle and to re-examine the analysis of diverse forms of mobility in interaction. Description can embrace commuting journeys (e.g., residence or work, family home or hall of residence) and international migration (e.g., place of origin or place of destination), and it can shift from residential mobility to space experienced and structured by networks of relations or space defined by personal mobility. By rethinking the temporal dimension of the processes and by placing individual strategies in their spatial context, we can avoid the single criterion of distance and the view of individuals as having a single reference point, while achieving a more balanced view of the economic determinants of migration decisions and envisaging mobility in its entirety rather than migration events in isolation.

We have gone from a narrow definition of migration as a change of residential location to a more general definition of migration as a change of life space. The former definition, elaborated on the basis of classic demographic statistics, is replaced by a definition that is more general and multiform in its quantitative operationalizations. Both of these definitions include the physical space in which the movements occur, which makes them familiar to geographers (Frémont, 1974). They differ from other definitions that are more tied to the conceptual and emotional space of individuals (Mangalam, 1968; Eisenstadt, 1953). This concept offers countless possibilities, because its flexibility of application means it can be adapted to the diverse problems associated with the range of types of mobility and immobility present in the field of migration.

Individual and Aggregate Approaches: The Need to Integrate the Different Levels Simultaneously

We saw earlier how various individual characteristics can influence migration behavior; this is possible with event history analysis. We also saw how different characteristics of the origin and destination areas, measured at the aggregate level, can influence the percentages of migrants; this is a task for which regression analysis is well adapted. The next step is to explore the relations that exist between the results produced by these two analyses.

In 1950, William Robinson showed that a correlation measured at an aggregate level is not necessarily the same as a correlation measured at the individual level. This introduced the concept of the ecologic fallacy, which occurs when we want to measure an individual correlation using aggregate data, the most often available. Almost 30 years later, Glen Firebaugh (1978) related the problems of aggregation to the theory of group effects and confirmed that an aggregate-level

variable often measures a different characteristic than that measured by the same variable defined at the individual level. In 1992, Michael Von Korff and colleagues showed that analyses that relate aggregate-level characteristics to outcome variables measured at the aggregate or individual level do not inherently produce ecologic bias. The ecologic bias is the result of improper interpretation of the correct relationship measured at the aggregate level.

A broader perspective then becomes possible with a multilevel analysis, which acknowledges the importance of individual and aggregate characteristics in determining migration behavior. We need to examine in more detail the theoretical and practical associations that exist between these different levels and to demonstrate the value of this type of multilevel approach (Courgeau and Baccaïni, 1997, 1998; Courgeau, 1994, 1995).

Without going into the detail of the demonstrations, we have verified that for the study of migration behavior, the effect of aggregate characteristics was virtually independent of that of individual characteristics in the cases of French and Norwegian interregional migration. It follows that it is entirely legitimate to introduce individual-level and aggregate-level characteristics simultaneously to get a more comprehensive explanation of migration behavior.

The effect of some of these characteristics, depending on whether they are treated as aggregate or individual, can lead to apparent paradoxes that have to be explained through a more detailed examination of the situations. Let us take as an example the case of French women working in farming, whose migration probability is much lower than that of the other occupational groups. However, the fact of living in a region where women working in farming are more numerous increases the probability of moving out of that region (Courgeau, 1994, 1995).

This apparent paradox is explained by subdividing the population at risk into two distinct groups: women in farming and women not in farming. Regression is then used to estimate the logarithm of the probability of leaving the region as a function of the proportion of women in farming in the various regions (Fig. 63–5).

Women in farming have a consistently lower migration probability, regardless of the proportion they represent in the region. This confirms the negative parameter obtained at the individual level (–0.333). At the same time, we see that the migration probability for all women, whether in or not in farming, increases as the proportion of women in farming increases. The result is a positive value (+3.785) for the parameter associated with this aggregate variable. This illustrates the danger of inferring assumptions about individual behavior from results obtained at the aggregate level. A high proportion of women in farming is associated with a higher migration probability for all categories of the population, partly because of the scarcity of nonagricultural employment in these regions. This does not mean that women working in farming have a higher probability of migrating than others; at the individual level, the exact opposite is observed. This result holds regardless of the region of origin.

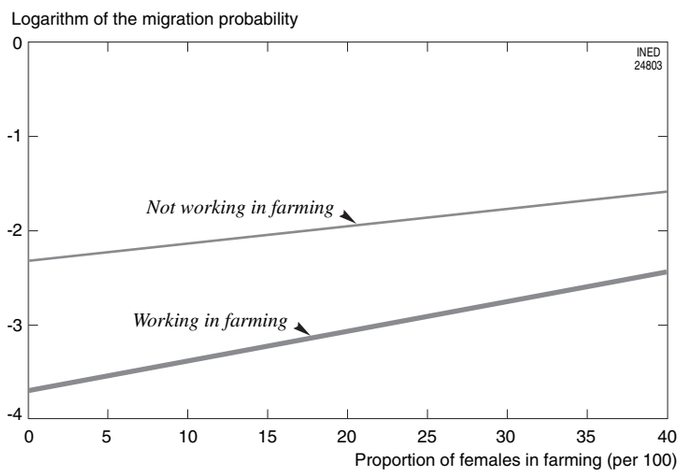

FIGURE 63–5 Logarithm of the migration probability for women working in farming and for other categories as a function of the proportion of women in farming in each region as found in the as found in the French Triple Biography survey of family, employment, and migration histories. (From Courgeau, 1994, p. 22.)

This suggests that to analyze migration behavior correctly, we need to introduce simultaneously the characteristics defined at different levels of aggregation: at the individual level and at the level of larger geographic units (e.g., regions, towns). At the same time, more far-reaching inquiry is essential into the significance of the different levels considered to identify the most relevant levels of aggregation for inclusion in the analysis. Does a choice have to be made between spatial divisions, such as that by communes, departments, or regions, or should they all be treated as relevant for inclusion in the analysis? Only further research in this field can provide the answer to such questions.

CONCLUSIONS

Our study of the motivations for migration has led us to broaden the scope of analysis by moving from an approach at the *micro* level to one at the *macro* level and then by attempting a synthesis of these two approaches.

The individual-level approach is a valuable tool for determining the motivations associated with the family and work domains of potential migrants, either through direct questioning about the reasons for migrating or by means of an event history analysis of migrations in interaction with a range of family- and work-related events. We have found this second approach preferable to the first, which in the case of retrospective surveys risks producing reasons reconstructed *a posteriori*. Event history analysis makes possible a very detailed analysis of these motivations, which are reconstituted from the succession of life stages of the respondents, such as marital migration, migration associated with divorce or widowhood, migration related to the birth of children, and work-related migration.

The aggregate-level approach is valuable for examining the motivations associated with the position of the individual in a space that is both social and geographic. The social space of origin is formed by the milieu in which the individual lives, which is apprehended through various aggregate characteristics of the place of origin. From this origin, there are various social spaces of destination that are more or less well known to potential migrants as a function of the physical or social distance that separates them. The attraction of these different spaces can then be modeled by introducing their various characteristics captured more or less precisely according to the distance between origin and destination zones. This approximate modeling results in aggregate migration models, which explain the flows in relation to the characteristics of the origin and destination areas and to a measurement of the information exchanged between these areas.

These approaches then must be generalized to give a more detailed view of migration in the form of change in life space and to attempt a synthesis linking the micro and macro levels. The first generalization involves conducting surveys with which to track the individual's contact circle (*entourage*), a concept whose complexity and value for social science we have already demonstrated (Bonvalet and Lelièvre, 1995; Lelièvre *et al*., 1997 and 1998). The second generalization leads to formulating models in which the characteristics measured at different levels of aggregation are introduced simultaneously. Such multilevel models can be used to test the independence between the effects of the characteristics measured at different levels. They show that in some cases the effect of the individual characteristic can run counter to that of the aggregate characteristic, although because of this independence, there is no paradox.

Much remains to be done to develop a theory that explains the role of the different levels of aggregation in migration behavior. The effect of individual characteristics can be taken to measure migration propensity according to personal situation while allowing for individual freedom of choice. Social constraints operate at a more aggregate level and influence the migration flows in a different way from the characteristics of the individuals who are going to migrate. The question then must be asked whether some levels of aggregation are more relevant than others for an understanding of migration behavior. This constitutes an entire field of research, both theoretical and empirical, which has only begun to be explored and for which many more studies will be needed.

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