Cross-Community Migration: A Distinctive Human Pattern

Patrick Manning
University of Pittsburgh

ABSTRACT

Human migration can be shown to have clear parallels to that of other animal species: the movement of individuals within communities, the colonization of new territories, and the periodic movement of whole communities. But the existence of language among humans allows the creation of distinctive language communities, and therefore of a uniquely human process of migration. Cross-community migration, the migration of humans across the boundaries of language and culture, is a consistent human pattern of behavior which provides a mechanism for social evolution. This essay poses a typology of human migration, a comparison to migration of other species, an expanded categorization of human migratory instincts, several historical sketches of cross-community migration, and an argument for the consistent place of cross-community migration in social evolution.

PERSPECTIVES ON MIGRATION

Humans have long been understood to be a migratory species, but not enough effort has been put into identifying the general characteristics of human migration. Studies of migration, while growing in quantity, breadth, and sophistication, have tended to aggregate within three distinct perspectives, which may be labeled as contemporary, historical, and anthropological. Contemporary migration is mainly the preserve of sociologists, demographers, and policy-makers, who have analyzed international labor migration, refugee populations, and urbanization. This work is highly theoretical, relies on ample collections of data including survey data focused

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precisely on the analysts' questions, and it is commonly linked to the development and analysis of public policy (Massey 1999; Petersen 1958, 1978; Portes 1996; Prothero 1967; Ravenstein 1885, 1889). The historical perspective on migration focuses mainly on human movements from early modern times to the mid-twentieth century, though it has also been extended as far back as written documents go. This approach to migration, carried out mainly by historians, has concentrated on colonization, forced migration, and refugee movements in the early modern and industrial eras. These historical interpretations, relying on individual accounts and aggregate records, have generally been put to the service of developing broader historical narratives of the migrants, their homelands and destinations (Thomas 1954; Hoerder 2002; Curtin 1969; Manning 1990; Eltis *et al.* 1999; Barfield 1989; McKeown 2001). The anthropological perspective is the most interdisciplinary and has the longest time frame. It includes the work of social anthropologists on small groups in recent times, but also the work of anthropologists, archaeologists, geneticists, and historical linguists addressing periods back to the earliest days of humanity, with emphasis on early human colonization, agricultural expansion, and pastoral nomadism. These scholars propose theories on general human behavior, yet tend not to apply them to contemporary society (Cavalli-Sforza 1994; Stringer 1996; Olson 2003; Fix 1999; Diamond 1997; Lewis 1982).

Scholars working in these three academic regions of migration studies have developed dynamic analyses going beyond the migratory characteristics of isolated populations to analyze migration through typologies, models, theories, and empirical procedures. Their studies have led to substantial advances in understanding of the mechanisms and institutions governing migration in various historical situations. Yet these same scholars, while seeking to develop broad statements within their own frame of reference, have tended to stop short of seeking links to other perspectives. Thus, while theorists of 'transnational' migration have made important contributions to contemporary migration studies, they have tended to assume that the postcolonial and deterritorialized phenomena they have identified for the late twentieth century are innovations, although it may be argued that these same phenomena are familiar

to historians working on earlier periods (Basch et al. 1994; Goeke 2005). More generally, it has been common and not implausible for scholars to assume that human migratory patterns were determined quite separately in the times before settled agriculture, in the era of preindustrial and industrial states, and in the contemporary era of urbanization and high technology.

HUMAN MIGRATION: ANALYTICAL FRAMEWORK AND HYPOTHESIS

The present study offers a fourth and encompassing perspective, and within it a hypothesis generalizing the migratory processes now under study. This species-based perspective on human migration is broad enough to encompass all of human history, yet specific enough to distinguish aspects of human migration from that of other species and to distinguish four general categories of human mobility. In the analysis I emphasize the advantages of a 'behavioral' approach to migration (emphasizing the behavior of migrants before, during, and after their movement) over an 'ecological' approach that analyzes migration in terms of origins and destinations (Dingle 1996: 10). I argue that common patterns unite the contemporary, historical, and anthropological arenas of migration because of an underlying unity in human behavior: thus, while the institutional differences resulting from larger populations and more elaborate technology have surely influenced the character and rate of contemporary migration, they may not have changed its basic social function. The enunciation of this framework arises from the confluence of numerous migration studies, which provide a platform for identifying the common patterns that have been analyzed in each of the three major perspectives. This general framework is useful for analyzing the range of habitats and communities, the types of mobility, reasons for mobility, and processes of migration. In this section the framework is summarized in four steps: First, the definition of human community. Second, a four-part typology of human migration. Third, a set of 'why' questions and 'how' questions about the four types of migration. Fourth, a statement of the overall hypothesis arising from this framework, emphasizing the role of cross-community migration as a significant mechanism for social evolution.

Language Communities. As disciplines enter into communication with one another, each step in interdisciplinary cooperation brings its own advantages. In this case, adding historical linguistics to social-scientific analysis creates a broader framework for the study of migration. To affirm this interdisciplinary linkage, I define human community in terms of language groups, and show how such an approach differs from defining community in terms of family, residential, or ethnic groups (Ruhlen 1994; Ehret 2002; Greenberg 1963; Manning 2005: 3–4). Since humans have developed language, human communities organize themselves into communities by their speech and not just by proximity, by blood relations, or by habitat. All those who share a language are able to communicate in depth with one another; communication with members of other communities is possible, but it can only reach its potential if one learns the language.

Typology of Human Migration. For communities defined by language, a four-part typology distinguishes migration of whole communities from migration within communities and between communities. This typology is designed to be trans-historical – that is, it is intended to apply to all periods of human history, given appropriate specification of the technology and institutions of successive historical periods. The categories are:

1. Home-community mobility: movement within the community, especially in search of mates. The function of such movement is to broaden the gene pool by moving within the community. All species follow this pattern, in one way or another. Among humans, the migrants are mostly females who move to settle in households with males.

2. Colonization: individuals and groups leave home, move to a new habitat, and form communities modeled on the home community. The function of colonization is to extend the range of the community to new territories. All species follow this pattern, in one way or another. Among humans, the initial colonists are mostly males who settle in new territories that resemble their original habitat.

3. Whole-community migration: the community moves to a new habitat, usually following the feeding habits or life cycle of species on which they feed, based on a seasonal pattern. The function of such migration is to alternate among ecological settings and

maintain an adequate supply of resources. Certain species of birds, fish, insects, and mammals are well known for the seasonal or life-cycle migrations of their whole communities. Among humans, pastoral nomads provide the clearest examples of whole-community migration.

4. Cross-community migration: individuals and groups move to join an existing community, learning its language and customs. The function of such migration is to share the experience and the labor of various communities. Such migrations are occasional rather than systematic among most non-human species. Among humans, cross-community migrants are commonly males.

Questions within this Framework. The analysis of migration in each of the categories just listed includes 'why' questions of individual motivations and social functions of migration, and 'how' questions on the process of migration, specific categories of migrants, definition and role of migratory networks. Responses to the questions reveal the distinctive nature of each type of migration and the way that the various types of migration interact with each other.

Hypothesis. The interpretive hypothesis emerging from this analytical framework is that, while several aspects of human migration are similar to or at least parallel to those of other species, cross-community migration is a distinctively human form of migration. Cross-community migration, in which human individuals and groups move to join an existing community and learn its language and customs, is a consistent, species-based form of behavior that systematically structures human life. Colonization, in which existing communities expand to new territories, is quantitatively significant in human migration, but has been less productive of social change than cross-community migration.

Leaving one community to join another does occur in other species, but not in the frequency that it occurs among humans, for whom language differences present both a barrier and a particular attraction to migrants. This process may be labeled a human instinct, in that it is a systematically recurrent pattern that is general to human communities: confirmation of this reasoning results from comparing human migration to that of other species.

The heritage of existing frameworks and theories. This species-wide analysis is proposed as an addition to the socially specific theories which now predominate: it is intended to supplement

but not replace current theories of human migration. Each of the four types of mobility can be traced to other typologies and to empirical studies. What I have labeled home-community mobility, with its emphasis on movement to arrange marriage partners and also match work and workers, is reviewed by Alan Fix in what he calls 'the anthropology of migration' (Fix 1999: 13–15, 17–50). Colonization is analyzed in historical perspective in the movements of large populations as described by William McNeill, and in anthropological perspective with L. L. Cavalli-Sforza's studies of early human migration and the arguments of Jared Diamond and Peter Bellwood on colonization in early agricultural times[1]. William Petersen's earlier typology addresses both historical and contemporary aspects of colonization[2]. Whole-community migration is the movement of refugees or of transhumants: this type of migration has received little attention from theorists, but is amply documented in ethnological studies of pastoral nomadism. (In this study I have chosen to identify whole-community migration briefly, but not to analyze it in detail.) Cross-community migration is analyzed by both sociologists and anthropologists: most of Douglas Massey's theoretical reviews of migration address cross-community migration, as do his empirical studies of Mexican migration[3]. Caroline Brettell notes that, where sociologists analyze arrivals of migrants, anthropologists tend to analyze departures (Brettell 1986, 2000). Anthropologist Fredrik Barth, however, is most explicit in describing the movement of individuals and groups across language barriers to adopt new occupations in neighboring communities (Barth 1969; Lewis 1982; Lovejoy and Baier 1975).

Thus the existing social-scientific literature, focusing on various human populations, addresses a mix of generalities and specifics in human migration. The analyses are logical and relevant for the type of community addressed, but they are not directly extensible to migration in general. For the most part, further, these analyses define communities without explicit regard for language, and they focus on the origins and destinations of migrants rather than on the behavior of migrants.

The present analysis emphasizes the encompassing, general patterns of human migration. To make this case, an essential step is to identify which types or aspects of human migration are shared with most other species, and which patterns of migration are spe-

cific to human behavior. To establish the differences between migration in general and specifically human practices of migration, I turn now to summarizing a recent and excellent overview of biological migration.

ANALYZING MIGRATION AT THE INTERSPECIES LEVEL

Studies of migration in species other than humans have been conducted with levels of funding and devotion to scientific rigor that, arguably, are at a level at least as high as those of human migration. Exploration of the procedures and the results of biological studies are surely of interest to any effort at general study of human migration. The contribution of biological studies to understanding human migration lies in clarifying which aspects of human migration are really distinctive to our species. Fortunately, Hugh Dingle's major synthesis of the biological literature on migration – with its integration of results on birds, mammals, insects, fish, and other organisms – provides a sound basis for comparison with patterns of human migration (Dingle 1996; Hanski 1999). Dingle's review is remarkably successful in its conceptual consistency, developing a dependable meaning for 'migration' while acknowledging that each disciplinary literature uses the term differently.

Dingle defines migration as movement that takes the individual organism beyond its habitat, is persistent in time, is straitened (in contrast to multidirectional movements at a more local scale), is undeterred by the availability of resources such as food, includes distinctive behavior on departure and arrival, and involves a reallocation of energy to sustain the voyage[4]. This approach focuses not just on the course and timing of migration, but on the behavioral characteristics of migrants, 'even though distance, duration, timing, frequency, and destination may all vary' (Dingle 1996: 23). Included within this definition are to-and-fro migrations (with a predictable safe haven at each end of the route, as for birds), nomadic and opportunistic migrations, one-way migrations, migration with the aid of devices (such as wind or mobile animals), and the phenomenon of migrations taking place in alternate generations, as among insects. Migration is generally linked to the life cycle, and often to breeding.

Dingle identifies his definition as a 'behavioral' definition of migration, focusing on the behavior and experience of individual organisms, in contrast to the 'ecological' definitions of migration that have prevailed particularly in the study of birds. The ecological definitions focus on identifying points of departure and arrival, and thus emphasize the outcome of the transit by migrants. The behavioral approach, he argues, allows for analysis and prediction of migratory phenomena, while the ecological approach is largely restricted to the descriptive level (Dingle 1996: 36–38). This distinction between behavioral and ecological definitions of migration, which seems logical in biology generally, should also be extended to migratory studies of humans[5].

Defining migration biologically requires attention not only to the dynamics of movement, but to the parameters and boundaries of migration. Migration is a sub-category of mobility in general, and must be distinguished appropriately from other sorts of mobility. In Dingle's general typology of mobility, the identification of the *habitat* of each organism is central, since he restricts the term 'migration' to movements from one habitat to another. Dingle draws on the work of Southwood to define *habitat* as 'the area that provides the resource requirements for a discrete phase of [an organism's] life' (Dingle 1996: 23). The *home range* of an organism is the portion of its habitat that it occupies. The other two main categories of the typology are 'station keeping' and 'ranging'. Station keeping includes those activities and movements that keep the organism within the home range: these are mostly movements in search of resources, such as foraging, and may include the search for mates[6]. Ranging refers to those movements in which an organism leaves its home range and seeks another one, exploring the habitat in search of new resources[7]. The boundaries between foraging and ranging, and between ranging and migration, are often difficult to specify, but Dingle emphasizes that the characteristics of the three behaviors and the associated physiology of the organisms have underlying differences[8].

Dingle's strongest critique of earlier taxonomies is reserved for the term 'dispersal', which has been commonly used for one-way movements of young mammals. Dingle (1996: 33–36) argues that the term 'dispersal' was adopted for studies of mammalian one-way migration because the term 'migration' had already been ap-

propriated by analysis of birds and their round-trip migration. The term 'dispersal', used to describe movement of organisms between birth and the age of reproduction, has the disadvantage of conflating individual and population processes. That is, while it refers at first to the movement of individuals away from the home with maturation, it suggests an observation on population – that the migrants are of growing distance from one another – when in fact such movements may include aggregation of individuals as well as dispersion. The term 'dispersal' is thus best restricted to aggregate patterns leading to dispersion of a population. This critique of the concept of 'dispersal' should also be extended to studies of human migration[9].

In his chapters on 'the *how* questions of migration', Dingle treats migrants as a specific sub-population or focuses on the migratory portion of an individual life history (Dingle 1996: 93–94). Studies of the physiology of migration show the distinctive characteristics and behavior of those migrating and preparing to migrate. Environmental stimuli, especially the changing length of day but also rainfall levels, provide external stimuli to govern migratory movements. Endogenous influences on migration center on the endocrine system, in which hormones build the fatty tissue providing the extra energy needed for journeys and suppress reproduction during migration[10]. Other metabolic aspects of migration are a common restlessness before migration and the change in behavior that comes with settling at the end of migration.

There are species in which migratory behavior occurs only in a fraction of a population – known to biologists as 'partial migration'. These cases provide an opportunity to contrast the genetic and environmental factors in migration. Studies of orcas and salmon, in which different sub-communities have different migratory habits, have been revealing. When different subpopulations have different proclivities to migrate or different migratory paths, cross-breeding the two groups has yielded offspring with intermediate habits, thus suggesting that migratory patterns are determined in part by genetics. That is, the available research suggests that patterns of migration for a given species are a sum of genetic and environmental components (Dingle 1996: 359–364). By an extension of this logic, it is seen that genetic analysis is appropriate both within behavioral and ecological approaches to migration. Meanwhile, throughout his analysis, Dingle underscores the point that

migration from one habitat to another is costly in energy and in lives to those who voyage.

Turning to 'the *why* questions of migration', Dingle develops five categories of underlying causes of migratory behavior. First, seasonal migration is resource-based, reinforced by degree of dependence on a resource. Second, special requirements of life histories – requirements for breeding sites, places for molting – create migratory paths. Third, ephemeral habitats reinforce migration. Migration is an adaptation to shifting or patchy environments: patchy environments select for migrants; stable environments have less migration. Fourth, variety in migratory behavior within species is shown to be functional, enabling the creation of new migratory paths when necessary[11]. Fifth, there exists a genetic basis for migratory life histories, creating variation within populations. This genetic basis for migrations, however, is more commonly polygenic than simple and Mendelian[12].

The benefits of Dingle's comprehensive overview are evident: both the broad similarities in migration patterns and the specific adaptations by various species are thrown into relief. Producing such a broad overview risks making errors and oversimplifications, but it also highlights areas in which further research will be most productive. My brief exploration of this interspecies overview of migration identifies several issues that will remain central in the following overview of human migration: the distinctions between behavioral and ecological approaches to migration; the nature and limits of habitat; the varying types of mobility; the definition of migration and its subcategories; the behavior of migrants; and the reasons for migration.

The common migratory patterns across species find clear echoes in human migration. At the same time, some distinctive aspects of human behavior and human conditions stand out from more general patterns. First, humans are exceptionally adaptable to varying environments, so that it is difficult to speak of the 'habitat' of a human population in such restrictive terms. Second, the physiological changes of human migrants may be less marked than those of other species. Third, social rather than biological mechanisms appear to be central in regulating human migration. And fourth, humans differ from other species especially in our development of language.

HUMAN MIGRATION: DETAILS AND APPLICATION OF THE FRAMEWORK

Defining human community, habitat, range, and customs. The contribution of historical linguistics to studies of human migration lies in clarifying the boundaries of communities and the nature of interactions across community lines. The key to the hypothesis of cross-community migration lies in defining human language communities, and in redefining sub-communities in terms of language. Human communities, redefined as communities of common language, may be described in terms of the range of their characteristics: their size, their composition in residential groups, the customs of language communities, and their habitat and home range.

The size of a language community is constrained within minimal and maximal limits by the inherent characteristics of a speech community. At the minimum, a language community must generally include several hundred persons or more, in regular communication with each other, in order for them to sustain the language over the long term: two ways to get a sense of the minimum population necessary to sustain a language are to review the number of speakers of existing languages and to trace the experience of the disappearance of languages (Ethnologue website; Crosby and Karttunen 1995). At the maximum, language communities are limited by the technology of regular communication. In recent millennia, the number of speakers of some languages has grown to many million, particularly through expansion of empires, trade, and religious groups. Thus, the upper limit on the number of speakers of a single language has grown with time because of improvements in communications technology, while the lower limit on the number of speakers in a sustainable language community has remained much the same over time.

Language communities are generally composed of multiple residential communities or familial groups. We are used to describing early human communities in terms of familial or residential groups, usually known as bands or hordes, but for present purposes these are best seen as subgroups of language communities. The gradual shift from the horde to the household, as described by Johnson and Earle, may indeed have taken place, but it needs to be emphasized that such changes took place within encompassing language communities (Johnson and Earle 2000). Considerations

of language survival make clear that groups of bands or hordes remained in contact and shared the same language. For these language groups, as for language groups today, one faced the distinctions among one's own language, the closely related dialects or languages that can be learned rapidly, and the foreign languages that require considerable effort to learn. Only the last requires crossing a significant boundary. As a result, one is led to assume that human communities, since the very earliest of times, have tended to include hundreds or even thousands of persons, rather than dozens, and that they included multiple residential groups rather than isolated bands.

Language communities correlate significantly with customs. By ‘customs’ I mean the many patterns of family, economic, and ceremonial life. (I use ‘customs’ as a non-technical term to refer to the full range of societal patterns specific to a community or a family.) These patterns too differ from one community to another, and can be learned by those who migrate. Customs range from patterns of dress, dance, and dining practice to complex religious and political rituals and, not least important, economic organization. Some customs are specific to the household level, and others are shared across large populations. My point here is that speech communities enable the sharing of customs, so that in entering another speech community, one is likely to make a relatively large step in changing customs.

Language communities among humans are commonly linked to a habitat. While ‘habitat’ has a less precise meaning for humans than for other species, since humans inhabit such a range of ecologies, there exist noteworthy correlations between language groupings and ecological settings that clearly reflect historical specializations of communities. Examples of these correlations include Andean languages in the South American highlands, Dravidian languages in tropical south Asia, Uralic languges in the Arctic, and Austronesian languages in maritime Southeast Asia and the Pacific. The characteristics of community, population, habitat, and language group thus overlap significantly.

With this background, one may propose a definition of ‘habitat’ that is relevant to humans yet parallel to Dingle's terms for other species. A habitat, among humans, is an ecological zone in which a community can function with a given set of customs.

When humans move to a region in which their life requires a substantial change in customs, they have entered a new habitat. Thus the definition of 'habitat', for humans, focuses more on community behavior than on individual or species behavior. With this definition one may say, in parallel to Dingle's terminology, that a community has its home range within the habitat – for Dingle (1996), the 'home range' is the region within the habitat that the individual habitually visits. Thus, the Eurasian steppes form a relatively consistent habitat; the Mongol peoples had a range in the eastern part of that habitat, and from time to time have expanded to occupy larger portions of it.

Languages, language communities, and the characteristics of these communities evolve in complex and overlapping patterns. The patterns of linguistic change, as traced through historical linguistics, provide reflections of the broader social changes of which they are a part. The differences among groups of related languages reflect the movement of ancestral populations, and in several cases linguistic classifications have been central in unraveling complex histories of movement (Bellwood 1997; Ehret 2001; Renfrew 1987). Languages evolve in lexicon and structure at a relatively steady rate. As soon as human communities were large enough to be spread over some distance, substantial differences among languages emerged, in a process that has continued to the present. Within the past two thousand years, we have examples of the deviation of language stocks into substantially different languages (such as the development of Romance languages out of Latin) but also the creation and maintenance of closely related dialects within those languages. Among linguists, the details of language classification can be made to reveal the successive layers of migration and cultural change. More simply and more centrally, however, historical linguistics provides support for the notion of language communities as persistent forms of human social organization. This approach gives to migration patterns a coherence that otherwise escapes notice. Languages provide a stable and significant type of distinction among human communities. They facilitate communication within their bounds, and render it difficult across language lines. Yet crossing language lines has been a consistent human habit.

Categories of human migration. The resulting typology is useful for analyzing the range of habitats and communities, the types

of mobility, reasons for mobility, and processes of migration. This behavioral typology, while intended to be general for humans, is not necessarily set at the largest scale. In particular, it replaces macrolevel models of human diffusion across continents and oceans with smaller-scale analyses of community-level migrations. This behavioral typology has certain benefits for both large-scale and small-scale analysis. It distinguishes migration from other sorts of behavior, and distinguishes four different types of migratory behavior from each other. It emphasizes the continuity in these types of migratory behavior across the ages, rather than identifying patterns of migration specific to each era[13]. The typology emphasizes the way that the various types of migration interact with each other. The first element of the typology is the set of four categories of migration; the remaining elements address the *why* and *how* questions about migration. The categories, as introduced earlier, are:

1. Home-community mobility[14].
2. Colonization.
3. Whole-community migration.
4. Cross-community migration.

Application: 'why' and 'how' questions. The hypothesis presents cross-community migration as a consistent pattern of migration since the development of fully-articulated language, and it provides a basis for analyzing human migration at an intermediate level of aggregation. It helps get analysis beyond the occasional extremes of treating all migration as a generalized dispersal or treating each experience of migration as unique[15] (Hoerder 2002; Stark and Bloom 1985). Cross-community migration, in association with colonization, accounts for a great deal of the pattern of human migration and population of the world. The following paragraphs argue for the usefulness of the behavioral typology in analyzing migration by showing how it addresses two types of what Dingle has called '*why* questions' and two sets of '*how* questions' as applied to human migration.

The '*why* questions' of human migration may be simplified to two basic questions. First is that of human desires: *why do individual humans want to migrate?* Here are responses suggesting a range of types of reasoning of individuals.

For individual benefit. The first reason for individuals to migrate is the hope that their personal situation will improve. This

may mean finding a mate, escaping an unhappy situation brought by social oppression or economic deprivation, or it may mean the possibility of achieving a higher status after completing a voyage, either at home or abroad.

To benefit family. The second reason for migrating is that individuals can hope to bring benefit to their family: the migrants may be going to retrieve needed resources, learn new skills, or bring back help. In recent times this means sending cash home; in earlier times it meant going to hunt or to retrieve needed minerals.

To preserve individual or family lifestyle. The third reason for migration is to propagate or recreate a lifestyle that is threatened at home. Refugees escaping oppression or disaster follow this reasoning, as do colonists replicating their practices in a new setting[16].

To benefit another community. The fourth reason for migration is Samaritan – the migrant may hope to contribute additional resources or benefits to the receiving community. This motivation is perhaps most easily seen for religious missionaries, who move to new communities with the desire of spreading their faith, but can also be seen for people who move to spread new technologies.

For individual pleasure. The fifth reason for migrating, for some people at least, is the pleasure of voyaging and the pleasure of learning new places, new people, and new ideas.

Compulsion. The sixth reason for migration is compulsion, as individuals are either expelled or carried off as unwilling migrants. In such cases there is a reason for migration but it has little to do with the wishes or decision of the migrants. Sometimes the decision is made by the leaders of the family or the wider community: many were the children forced to accept decisions by their parents to migrate. Other migrants were impressed into military forces, expelled from their homeland, or taken into captivity by raiding parties.

Where do these desires for migration lead in general? They lead to individual adventure, survival, and material advance, but they also lead to disappointment, suffering, and death. They lead to community survival and extension, but also to acts of dominance and oppression.

The second and more fundamental of the '*why* questions' lies at the level of causation: *what structures and forces pressured humans to migrate?* (The question can be rephrased as: what func-

tions does migration serve in human society?) Here are responses suggesting a principal function of each type of migration:

Home-community mobility serves the purpose of broadening the gene pool; in contemporary times it facilitates occupational redistribution.

Colonization keeps a community alive by spreading it to other places, and allows communities to adjust to splits within them.

Whole-community migration serves principally to enable populations to follow domestic or hunted animals on which they rely.

Cross-community migration brings social cross-fertilization to communities. The reallocation of population and labor among communities is the main short-term result, but in the long term the most important results are the spread of ideas and the development of new ideas and adaptations.

These four types of need elicited corresponding types of behavior. Even if most individuals lived out their lives in the land of their birth, all experienced these needs and all experienced migration either as migrants or as hosts.

The principal '*how* questions' address the processes of migration: *how is migration accomplished?* The first set of answers address the problem of displacement: completing the migratory trajectory. Migration, if it often generates hope, always brings its cost and dangers. The most obvious cost of migration is the mortality brought by displacement. Whatever the normal rate of death in a community, it is likely to be higher for those members of the community who become migrants[17]. For all categories of migrants, hunger, thirst, disease, storms, injuries brought by accidents, disputes in the course of travel, and encounters with warfare and piracy raise the risk of dying once one begins to travel away from home. Migrants, while they are in movement, have distinctive social roles and demographic rates, contrasting with those of the communities of their departure and arrival.

These initial '*how* questions', dealing with the rigors of travel and the need for maintaining order en route, are the same for colonists and cross-community migrants. In addition, a further set of '*how* questions' addresses the experience of surviving cross-community migrants, who must go through the effort of learning a new language and new customs, on the road and especially in a new community. Even after mastering the basics of communication, the

migrant must go through the effort of social initiation, joining and finding an adequate place in a new community or household. This process, known variously as 'seasoning', 'socialization', and 'acculturation', is an essential step in the successful completion of any act of migration, but is especially significant for cross-community migrants. In this seasoning and in the sequel, the behavior of cross-community migration differs from that of colonization.

Cross-community migration in further detail. The process of cross-community migrations operates neither at the individual nor at the species level, but at the level of communities, in that the origins and destination of migrants are sociolinguistic communities, not simply places. Decisions on migration take place at both individual and community levels.

Cross-community migrants are generally rather small in number, as a proportion of their home community. Most of the migrants are young adults, and most of them are usually male, though this may vary significantly. They cross community boundaries according to a variety of patterns, which I summarize with a simple typology of four commonly used terms: settlers, sojourners, itinerants, and invaders. *Settlers* are those who move to join an existing community that is different from their own, with the intention of remaining at their destination. (Note the distinction I am making between *settlers*, who move to a different community as an act of cross-community migration, and *colonists*, who are settling in an act of colonization of new territory by their home community.) *Sojourners* are those moving to a new community, usually for a specific purpose, with the intention of returning to their home community. Somewhat different from sojourners are *itinerants*, who move from community to community, but who have no single home to which they expect to return. A further category is *invaders*, who arrive as a group in a community with the objective of seizing control rather than joining. These four basic categories of cross-community migration can contribute, depending on the individual experience of migrants, to a much more complex pattern of migration in practice[18]. For instance, initial groups of settlers and sojourners, while they begin as immigrants fitting into a host society, may eventually establish dominance over the host society so that the pattern is transformed from cross-community migration to colonization, and later migrants become colonists rather than settlers.

Migrants may journey on their own, making their own way through the stages of migration. More often than not, however, the movement of cross-community migrants is facilitated by ***networks***: chains of people who facilitate their movement and their settlement at the end of the journey. These migratory networks are important to the success of cross-community migration. More generally, networks begin as improvised, ad hoc institutions, assembled provisionally and repeatedly to handle current patterns of migration. They are improvised from the underlying tools and logic of human existence, though they lack the permanence and structure of families, clans, religious principles, or states. They draw on a widespread fund of knowledge on making connections across localized institutions.

Networks of people have been developed for many purposes. Here my interest is to describe the general characteristics of a certain category of networks: *cross-community networks*. Such networks, involving cooperation across distance and across boundaries of language and culture, facilitate the movement of migrants from one community to another. The migrants themselves, willingly or not, are a part of the network, but the network depends primarily on others who encourage the movement of migrants. The networks, in turn, are composed of individuals and groups that perform the functions of recruiting, provisioning, instructing, and commanding the migrants[19]. My point is to argue that networks facilitating cross-community migration are not a new phenomenon, but have existed back to earliest times of human migration, to facilitate cross-community ties. The specific institutional forms have, of course, changed from the ancient times when voyagers sought and exchanged obsidian for knives, or with the Greek and Persian enslavement of agricultural workers, and to today's migration of domestics. Nevertheless, for each period one can imagine the differences among settlers, sojourners, itinerants and invaders, and the networks on which they relied for movement abroad and, for some of them, for return home.

While individual migrants may move without networks, any movements of large numbers of migrants soon created networks to organize the process of movement. Since these networks stretch across space and across community boundaries, they are not easily named or incorporated. And since patterns of migration are more

variable than communities, it is more difficult to define and theorize networks than communities. Yet these networks have been central to maintaining links among communities, and links among communities provide a key aspect of human history. Among formal structures of cross-community networks that are easily recognized because of their extent and permanence are the structures of the Atlantic slave trade and the systems of transnational labor recruitment for twentieth-century industry and agriculture.

This typology of migration, with its emphasis on cross-community migration and on networks of migration, is presented as a revision but not a revolution for migratory analysis. The typology consists mostly of reaffirming and reshuffling the logic of previous migration studies, systematizing and extending it to a world-historical level. In addition, the typology is partly the opening of a new analytical path, given its focus on language and the movement of migrants between communities. It involves some contradiction to earlier work, in arguing that past work has underemphasized the general patterns and the pervasiveness of human migration. And in part it presents an envelope to previous migration studies, in that this approach may be useful in analyzing migration more generally.

HISTORICAL SKETCHES OF CROSS-COMMUNITY MIGRATION

The contribution of world history to this effort is the comprehensive overview of human affairs, in search of both broad patterns and underlying mechanisms. To illustrate the hypothesis of cross-community migration, I offer two sets of examples. I begin with some cases from the past three thousand years for which there is historical documentation at various levels. I then turn to a set of more speculative examples from the occupation of the Americas, beginning perhaps 35,000 years ago. These examples are chosen to make the case for continuity in human migratory patterns.

A striking example from the era between one and three millennia ago is that of the Lapita culture and Polynesian migration. The background to the story is the preceding spread of rice-growing Austronesian-speaking migrants who colonized the Indonesian archipelago from the Philippines. Their material culture included rice, outrigger canoes, stilt houses, chickens and pigs. But as they

spread to New Guinea and the Solomon Islands, they encountered a dense population of Indo-Pacific-speaking peoples who grew taro and bananas. A combination of evidence from archaeological, genetic, cultural, and linguistic sources demonstrates the interchange among these groups: cross-community migration linking the two groups in northern New Guinea and the Solomon Islands. After a time, a cultural synthesis of these groups emerged in what is known as the Lapita culture, after the pottery produced in the Solomon Islands and traded widely. Their languages, known as Polynesian, are a subgroup of Austronesian. In their synthesis they kept taro and abandoned rice, built houses without stilts, and supplemented outrigger canoes with larger double-hulled craft. With this cultural synthesis, the new Polynesian group was able to voyage across the huge distances necessary to colonize the central and eastern Pacific (Bellwood 1997; Kirch 1997).

Hoerder describes European military forces of the fourteenth century, in the era between heavy cavalry and standing armies, in which migrants served as mercenaries. Men from such regions as central Switzerland, Provence, the Pyrenees, Brabant and Flanders traveled widely as pikemen and foot-soldiers: 'Russians fought in Byzantine armies, Christians in Moroccan service, Saracen archers in southern Italian forces, and English ones in Persian armies' (Hoerder 2002: 63–65).

From the sixteenth through the eighteenth century, well over a million Portuguese migrants, overwhelmingly male, went to India and, in smaller numbers, to Brazil and the Atlantic: they served in the military, as merchants, and on plantations. While a creole society ultimately developed in Brazil, in the other regions the surviving Portuguese migrants mostly became part of local societies, though sometimes preserving Portuguese language, as in Angola and Goa. Similarly and in a somewhat later period, roughly one million migrants went overseas to the Dutch territories in the Indian Ocean and the Atlantic, of whom roughly half returned to Europe. In the same era, numerous migrants moved into the Netherlands: Protestant and Jewish refugees from France and Iberia, and sojourners, mostly from Germany. Significant numbers of these immigrants joined the Dutch diaspora overseas (Canny 1994; Lucassen 1994).

Slave trade, from ancient to modern times, provided another sort of network that moved migrants across communities, particularly in the eastern Mediterranean. From the seizure of Hebrews by Babylon through the wars of Greece and Rome to the conquests of Justinian and the Islamic caliphates, captives were transported from the fringes of the Mediterranean and the Black Sea to the cities and the farms of the ruling orders, to serve as domestics, as field laborers, and as artisans. The technical, labor, and genetic contributions of these captives did much to sustain the vitality of societies of the Mediterranean and Fertile Crescent over several millennia. Later on, in coastal regions of the Americas, an expanded system of slavery brought involuntary migrants from all over Africa as farmers, domestics, herders, and craftsmen, then colonization of the rest of the Americas.

Mexican workers have migrated to the U. S. in increasing numbers for a century, some settling and some returning home. Douglas Massey led in conducting an extensive survey of four communities in Jalisco and Michoacán in the 1980s, tracing their flow of migrants to destinations in the U. S. (primarily California) and Mexico. The analysis emphasizes the migration process, the development of networks, and the implications of migration for households in Mexico and the U. S.[20]

For all of the above examples, we have some documentation of the cross-community dimension of migration, and its significance in initiating and sustaining migratory processes. Yet these examples go back little more than three thousand years. Can one extend this argument to the migrations of the many thousands of years before? Here is an example which, though argued speculatively, goes back to much earlier times and may help to strengthen the presumption of continuity in the basic processes of migration.

In the human occupation of the Americas, we may assume with certainty that the migrants settled first in the cold territories of Alaska – at a date variously estimated at 15,000 to 35,000 years ago – and worked their way by stages to the east and especially to the south. The mechanism of colonization might have worked well for settlement of large stretches of similar habitat – for instance the oceanic coast from the Aleutians to British Columbia and the Athabascan plains – but at the limits of these regions, major ecological changes would have halted simple colonization. Settling

communities, as they entered succeeding zones of forests, grasslands, mountains, arid zones, tropical forests, tropical mountains, and then grasslands again, needed time and again to invent new ways of life. The development of separate communities and the process of cross-community migration provided a mechanism that speeded the learning that needed to take place[21]. By facilitating experimentation and the dissemination of new techniques, cross-community migration provides the most logical explanation for the relative rapidity of the occupation of the Americas, given the remarkable range of ecological zones that needed to be mastered (Fagan 1987). A similar case can be made for cross-community migration in the spread of agricultural practices[22].

Thus the crossing of linguistic boundaries by individuals and groups who became settlers, sojourners, itinerants, and invaders can be seen as a regularly repeated pattern in all eras of human history. Periodically, the resulting innovations have brought cultural syntheses which led to large-scale colonization.

A MECHANISM OF SOCIAL EVOLUTION

To further generalize the argument presented in these pages, I argue that migration provides a mechanism for social evolution among humans. For humans, more than for any other species, a relatively unchanged biological form has given rise to a wide range of social forms. Processes and results of social evolution are thus distinct from those of biological evolution and generally more significant in determining changes in human life. Biological evolution is understood to take place within communities and populations. Social evolution, while it has often been modeled in processes within communities such as class differentiation, may turn out to rely heavily on cross-community links (Johnson and Earle 2000).

Language, distinguishing humans so sharply from other species, is important in spreading local innovations within human communities, thereby causing communities to differ from each other. Cross-community migration, by linking these diverging communities, performs two functions. First, cross-community migration brings convergence as it spreads innovations from community to community in much the same way as language spreads innovations within communities. Second, as cross-community migration brings new resources and new ideas into a receiving com-

munity, it stimulates further innovation and divergence among communities. This contribution of migration to the creation of new ideas (not just their spread) has been underemphasized in previous analyses.

While migration often brings benefits to individual migrants and their families the benefits of migration at the aggregate level are equally important. The exchange of language, customs, and technology leads to innovations, as different ideas are brought into contact with each other. Then the innovations themselves are spread through the process of migration. Known goods and services are spread among communities by migration. In addition, the movement of people speeds the movement of plants, animals, and minerals in the wake of humans and some of these have beneficial effects for the receiving society.

At the same time, however, there are also costs of migration at the aggregate level. Migration always spreads disease, and sometimes it spreads massive contagion, bringing waves of death to all connected communities. Migration also spreads other contagions – plants and animals that change the ecology of the receiving regions, making them less habitable (McNeill 1976; Crosby 1986). And while migration leads to the development of new innovations, it also spreads past innovations, and the result of this is sometimes to cause the disappearance of human communities and ways of life. In language, for instance, migration both creates new languages and causes the disappearance of existing languages as communities come into contact.

This pattern of development, stimulated especially by language and cross-community migration, helps explain how it is that Homo sapiens has spread into an incredible range of different ecologies without undergoing any but the tiniest steps in biological evolution. Language, migration, and the resulting evolution of human society and technology have given us the patterns of human history, with endless change and transformation. Yet all those changes remain based on certain fundamental habits, common for all human history. That is, the dynamic of families sending, splitting, and moving – and learning – remains similar. At the same time, the character of human history in every era differs from that in the era before, because the learning and the expansion keep changing human society in all but its most basic character.

Cross-community migration is valuable mainly because of the differences among human communities. Cross-community migration, in turn, generates changes that lead to further differences among communities. Cross-community migration is a favored behavior, at the species level, because it creates and spreads changes in human society. Paradoxically, however, at other times cross-community migration leads to greater similarity among communities.

For many millennia the differences grew steadily, as humans developed new languages, new technologies, new philosophies, and entered an ever-wider range of ecologies. Human communities, in occupying new territories with distinctive ecologies and resources, changed their technology, their social organization, and their beliefs. Languages diverged because of separation in time and space. Even human physical attributes differentiated, partly in response to 'genetic drift' resulting from separation, and partly through genetic adaptations to different environments. On the other hand, processes of interaction have tended consistently to counteract the patterns of dispersion and differentiation. Human communities, though separated and distinguished from each other, have remained in contact and in mutual dependence. For instance, the interactions of farmers, herders, and fishers have caused sharing of resources among communities, while the interactions of conquerors and their subjects have strengthened some communities at the expense of others.

The development and transformation in the lifestyle of a single species is peculiar to humans. The dispersion, differentiation, and interaction of human populations combined to create innovations that generated a remarkable social evolution, which has proceeded much more rapidly than biological evolution. The continuing development of human society eventually shifts from differentiation to bring about *convergence*[23]. Throughout human history, the movement of people has brought tendencies toward convergence that run counter to the processes of differentiation. Especially in recent centuries, migratory movements have led to increased sharing of new technology. Common languages and calendars, similarly, have spread widely in recent times.

In conclusion, the hypothesis of cross-community migration suggests several significant changes in the approach to human migration. First, it gives substantial attention to language communi-

ties as a basic element in the organization of human society, attention which has usually been implicit or minimal in social scientific analysis. Second, the hypothesis focuses increased attention on language as a tool of social analysis and on language groups as objects of research. Third, it interprets migration in a behavioral frame of reference, focusing on the process of migratory movement, in contrast to an ecological frame of reference identifying migration primarily in terms of points of origin and destination. Further emphasis on the process of movement may elucidate detailed social and even physiological processes that alternately launch and terminate migratory movements. Fourth, the hypothesis of cross-community migration emphasizes the commonalities and continuities in human migration (since the general structure of language and therefore of language communities has arguably remained little changed). It thereby treats the high levels of migration in recent decades as an acceleration of an ancient process rather than the development of a new process. The elements of the migration model persist across the whole of the existence of modern Homo sapiens, but they have influenced each other differently at every turn. Fifth, it draws attention to the relationship between the processes of colonization and cross-community migration. While colonization may appear to be the dominant form of human migration, in that large numbers of people occasionally move to settle in communities modeled on their home, it is argued here that large-scale colonization movements can only begin based on previous social learning resulting from cross-community migration.

NOTES

[1] William McNeill's synthetic statement on migration includes an implicit typology of migration built around the categories of civilized and barbarian. Dirk Hoerder, in an extensive analysis of migration in the past millennium, has sought at once to engage the analytical literature and to demonstrate the social and demographic continuities in migratory patterns (McNeill 1984; Hoerder 2002; Cavalli-Sforza 1994; Diamond 2003).

[2] William Petersen's 1958 review of migration studies includes key insights on the psychology and behavior of migration, but his concluding typology focuses on the large-scale social organization and purpose of migration in each era, rather than on the community-level processes undergirding migration. Descriptions of colonization appear in the categories of migration that Petersen calls primitive, free, and mass migration, though these same categories include more numerous examples of cross-community migration. Petersen's critical review of migration

typology came, as he noted, at the beginning of an effort to theorize migration (Petersen 1958: 265).

[3] Douglas Massey's reviews of migration theory have focused on twentieth-century migration, but have shown the range of social situations associated with migration (Massey 1993). Demographers were generally slow to take up study of migration, though Kingsley Davis's study (1951) of India and Pakistan provides an important exception. Among geographers, R. Mansell Prothero (1967) created a typology of African mobility in the 1960s that, though of brief time frame, was highly detailed.

[4] The definition was developed by J. S. Kennedy in his studies of flying aphids (Dingle 1996: 23–26).

[5] Petersen's typology, in the form of a 5-by-6-cell table, addresses both ecological and behavioral issues but gives primacy to descriptive (ecological) categories (Petersen 1958: 265).

[6] The full set of principal categories in the typology of mobility is: stasis, station keeping, ranging, migration, and movement not under control of organism. The sub-categories of station keeping are kineses, foraging, commuting, and territorial behavior (Dingle 1996: 10).

[7] 'Ranging tends to be sex-based toward males in mammals and toward females in birds' (Dingle 1996: 16).

[8] Habitat and population are usually defined with regard to each other. But because of the 'patchy' nature of habitats, neighboring populations may be linked: for instance, a population near extinction may join another population. This issue has given rise to the field of metapopulation ecology, which analyzes the interaction of neighboring populations, particularly among insects. In philosophical terms, this is one more of many moves away from the tradition of positivism, in which problems were broken into the smallest possible segments for analysis (Hanski 1999).

[9] Cavalli-Sforza has sought to demonstrate patterns of dispersion of humans from Africa as they moved to other areas. Another aspect of his work is the case for dispersion (or 'demic' migration) of populations from a Middle East center of agricultural innovation throughout Europe. Jared Diamond and Peter Bellwood have combined to make similar arguments for agricultural dispersion in general. These models are vulnerable to the critique of 'dispersal' by Dingle, as given above. In general, human migration is more purposeful than generalized dispersal, and there is a need to develop models that articulate the specific patterns of migration in more detail (Cavalli-Sforza 1994: 108–109, 154–157, 296–299; Diamond and Bellwood 2003).

[10] Hormones serving other purposes appear to be 'captured' to serve the ends of migration, as shown in studies of birds, insects, and fish. Dingle notes that the role of the central nervous system in governing all of these physiological changes has been under-studied (Dingle 1996: 137, 154).

[11] Dingle summarizes applications to migration behavior of an evolutionarily stable strategy (ESS), a game-theoretical formulation in which a population avoids being displaced by an alternative mutation (Dingle 1996: 307–310).

[12] That is, there is usually no single gene determining proclivity to migrate, but a series of genes promoting complex and interactive behaviors associated with migration.

[13] Results of these behaviors, under specified ecological conditions, are expected to lead to outcomes with the characteristics by time and place that are given in the existing ecological typologies.

[14] The term 'mobility' is preferred here, rather than 'migration', since it is movement within the community and within the habitat. In contrast Fix, in a section on 'the anthropology of migration' (analyzing marital movements for low, moderate and high densities of population), cites Dingle's analysis, but persists in calling these movements 'migration' though they clearly correspond to 'station keeping' in Dingle's definition (Fix 1999: 13–15, 17–50; Dingle 1996: 10).

[15] Another attempt to avoid this dichotomy is the development of 'meso-level' analysis of migration (Hoerder 2002: 19–21; Stark and Bloom 1985).

[16] Petersen emphasizes this point in his distinction between innovating and conservative migration (Petersen 1958: 259).

[17] One can imagine exceptions, as with natural disasters, epidemics, and warfare in the home territory, but mortality for migrants is generally higher than in the homeland.

[18] Refugees, escaping social conflict or ecological disaster, can be allocated among these categories of cross-community migrants, or they can be considered as a separate category.

[19] The roles to be performed within a migratory network include those of *recruiters* (seeking voluntary or involuntary migrants), *dispatchers* (who make arrangements for sending migrants on their way), *facilitators* for travel (guides, guards, provisioners, ships' crews, and teamsters for caravans), and *hostelers*. Of the hostels along the way, perhaps the most important is the hostel at the destination of the migrant. There one locates those who will assist in social and biological seasoning in the new habitat. In the course of this seasoning, the migrant establishes an identity – a name and a description – in the community of destination. A final element in the network provides the connections to work, enabling the migrant to gain acceptance as a person who can enter the community and take up a role within it.

[20] Mexican examples, along with slave trade, focus most immediately on labor demand rather than on sharing of expertise. But the areas in which sharing and learning were most productive might have been other than in the areas of labor – as in cultural exchanges (Massey 1987). For an analysis emphasizing the 'brain drain' and the skills contributed by migrants to their destinations, see Peterson's review of the movement of trained medical personnel from India, Pakistan, the Caribbean, and Turkey (Petersen 1978: 539–542).

[21] The six subgroups of the Amerind language phylum correspond rather closely with the principal ecological regions of the western hemisphere (Greenberg 1987).

[22] For agricultural dispersion the case is not so obvious, but it is worth arguing. Jared Diamond and Luca Cavalli-Sforza, each in their own way, have argued

that agriculture, once invented, spread more by colonization than by any other mechanism, and that the genetic imprint of the earliest agriculturists became immensely more widespread in the millennia to come. Their argument is plausible, but an alternative mechanism for agricultural spread is equally plausible: some settlers from farming populations may have joined other communities. There the combination of the settlers' knowledge of the crops and the local population's knowledge of the ecology enabled the crops to thrive, and agriculture grew among a population that, genetically, was primarily of the old home population rather than of immigrants. My impression is that each mechanism was dominant in certain cases. The spread of wheat was mostly by cross-community migration; the spread of rice was mostly by colonization (Cavalli-Sforza 1994; Diamond and Bellwood 2003).

[23] For a discussion of differentiation and integration (or convergence) in more recent times, see Charles Tilly (1984: 43–54).

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