

# Human Residence Patterns

ROBERT S. WALKER

## Abstract

This essay addresses the significance and evidence surrounding the debate about how hunter-gatherers and other humans organize their residential groups. In most species of mammals, either males or female remain in their natal group (the philopatric sex) while the other sex disperses at maturity (the dispersing sex). Sex-biased philopatry and dispersal has many downstream effects on all aspects of social bonds and organization. Recent genetic data and detailed cross-cultural ethnographic information suggest that human societies are quite variable and flexible in nature with males and females likely to either stay or disperse from natal families. Brothers and sisters commonly coreside in the same community and form life-long bonds in a system quite unlike that of our primate relatives. This multilocal human residence pattern of flexible residence combined with marriage exchange systems create complex meta-group social structures with kin-based coalitions that extend across multiple residential groups. Human kinship and social networks that encompass multiple communities led to the emergence of large alliances at scales unparalleled by other species.

## INTRODUCTION

The traditional view of human social organization is generally that patrilocal postmarital residence (women transfer at marriage) is a core human tendency and similar in structure to female-dispersal systems (females transfer at maturity, or male philopatry) in other African apes (Wrangham, 1986). This model was initially supported by some global genetic (Seielstad, Minch, & Cavalli-Sforza, 1998) and ethnographic (Ember, 1978) data. However, this view has recently been challenged on both fronts by more detailed studies at local scales. While comparative ethnographic databases suggest that over 70% of human cultures around the world have patrilocal tendencies (cultural “rules” or preferences for women to transfer at marriage), individual-level census data for both hunter-gatherers (Hill *et al.*, 2011) and lowland South American horticulturalists (Walker *et al.*, 2013) show that these human societies are best characterized as multilocal where either sex may disperse or remain in their natal group.

Multilocal residence patterns result in common co-residence of adult brothers and sisters in the same residential grouping (camp or village) which is unlike residence patterns seen in most other social animals where one or the other sex habitually migrates at maturity. There are many advantages to reporting and comparing actual counts of co-resident kin, as opposed to simply relying on stated cultural “rules”. Recent human coresidence studies point to both the uniqueness of human social structures and to considerable variation not fully described by traditional postmarital residence typologies or by biological designations of philopatry.

### FOUNDATIONAL RESEARCH

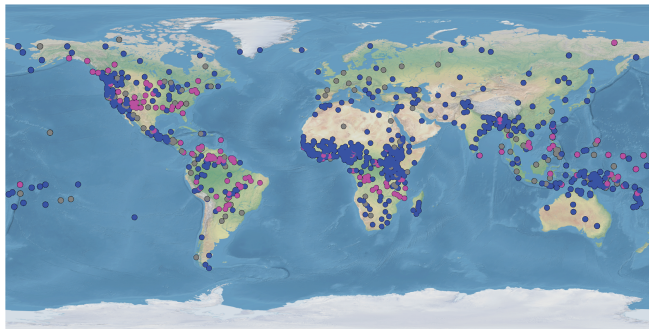
Ethnographic patterns of postmarital residence in traditional human societies around the world have figured prominently in models of human social evolution. Some anthropologists have long argued for mostly patrilocal human societies that are similar in social structure to female-dispersal systems typical of our closest living primate relatives. This patrilocal human model from a primate perspective suggests that patrilocality (or male philopatry) may have a long evolutionary history that extends back at least to the last common ancestor between chimpanzees and humans, if not earlier. Both stable isotopes in Australopithecines (Copeland *et al.*, 2011) and mtDNA in Neandertals (Lalueza-Fox *et al.*, 2011) have also provided indirect evidence of patrilocality and may also tentatively support a deep evolutionary history of male philopatry, although these results remain preliminary and the genetic evidence is inconclusive (Vigilant and Langergraber, 2011).

The emergence of large-scale genetic datasets now allows detailed analyses of human social structures and demographic histories of human populations around the world. In particular, comparisons between mtDNA (inherited through females) and Y chromosomes (inherited through males) reveal a history of sex-biased migration patterns that vary widely across human cultures and are best elucidated with an understanding of local sociocultural practices. Several early sex-specific genetic studies with humans seemed to suggest that at large scales (e.g., across the globe) that there was much more movement of mtDNA than Y chromosomes, implicating patrilocality (e.g., Seielstad *et al.*, 1998). However, one complication of these studies is that asymmetrical genetic histories between males and females can be a result of small male effective population size because of reproductive skew (polygyny) and/or increased female gene flow (Wilkins, 2006). More recent and nuanced finer-grained studies at local scales support considerable variation across different sociocultural contexts that generally tend to match with known ethnographic patterns of either matrilocality, patrilocality, or some mix therein (multilocality). In tandem, genetics and cultural anthropology

provide a robust methodology to evaluate in a comprehensive manner the different scenarios of both ancient and more contemporary behaviors of sex-biased migrational histories, but *neither* currently points to patrilocality as a core human tendency.

Classical social organization studies examined postmarital residence decisions by asking whether or not couples generally resided with or near particular relatives after marriage. Historically, the standard method was to note the ideal arrangement or the most common type of residence pattern and to ignore variation. The most extensive ethnographic dataset is a sample from over 1200 human societies around the world known as the *Ethnographic Atlas*. One of the primary variables in the *Atlas* is “transfer of residence at marriage” which shows that 71% of the sample is considered patrilocal, 16% matrilocal, and 13% ambilocal or neolocal (Figure 1). Comparative ethnography would then seem to support patrilocal tendencies for most human societies. However, these data generally rely heavily on stated preferences of residence or supposed cultural “rules” which may involve considerable flexibility and rule-breaking, not to mention demographic constraints that can nullify any preferences. Moreover, the current distribution of human populations is driven strongly by a number of large agricultural expansions stemming from various centers of farming around the world.

Human ancestors lived entirely as hunter-gatherers until relatively recent transitions to agricultural and pastoral lifestyles over the last some 10,000 years, and successfully colonized all of the world’s habitats long before agricultural revolutions. Therefore, the use of ethnographic data over large global samples may be misleading. Economic intensification, in particular land-holding and cattle-raising, often acts to increase patrilocal residence. Research concentrating on hunter-gatherer societies would seem to be a



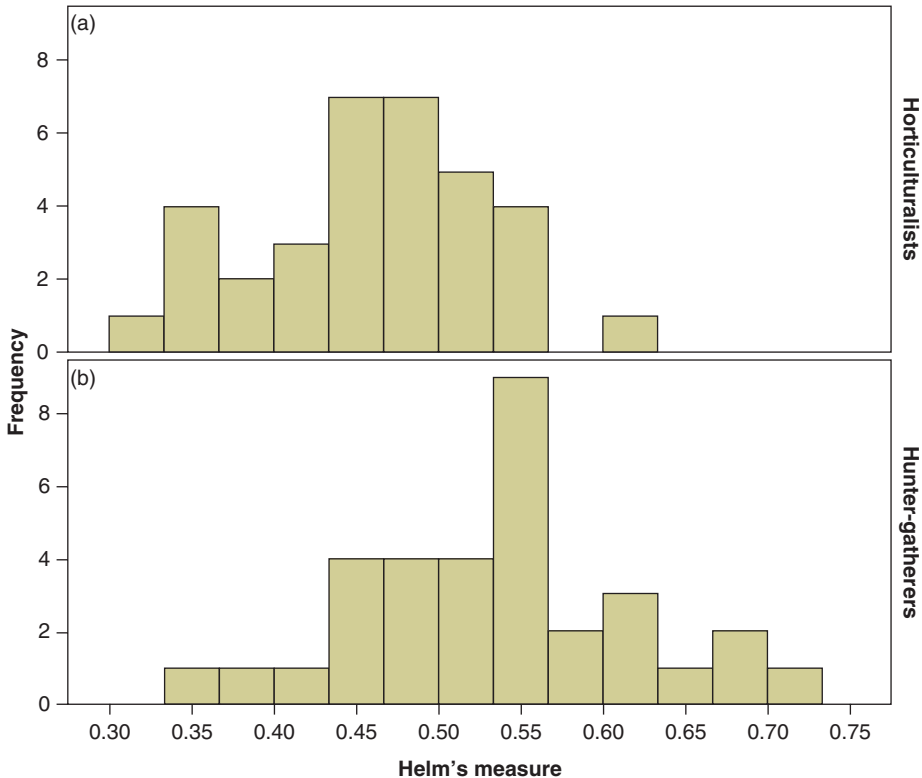
**Figure 1** Locations of 1,235 societies colored according to patrilocal (marked in blue, 71% of sample), matrilocal (pink, 16%), or ambi-/neo-local (gray, 13%) tendencies in postmarital residence. *Source:* Data used here are from variable #11 in the *Ethnographic Atlas* (Transfer of Residence at Marriage: After First Years).

logical solution. That said, the extent to which modern human societies represent ancestral human patterns may be partially addressed by concurrent examination of patterns in both hunter-gatherer and horticultural societies. One point of contention against strictly using contemporary hunter-gatherers as models of human evolution is that they reside in marginal habitats after being displaced by more powerful horticultural and agricultural groups. This displacement likely led to smaller residential groups and more flexible residence strategies. Horticulturalists are associated with higher-quality environments, larger social groups, more sedentary villages, more political inequality, and more intergroup conflict, and may therefore provide additional insights into evolved human social structures. In terms of material wealth and wealth inequality, horticulturalists are more similar to hunter-gatherers than to pastoral or agricultural societies. Furthermore, lowland horticulturalists supplement their small-scale agricultural production with considerable hunting, fishing, and gathering and have mortality and fertility profiles similar to hunter-gatherers.

#### CUTTING EDGE RESEARCH

Given the pitfalls of relying simply on purported residences “rules” or preferences from the ethnographic record, a promising strategy is to analyze actual census and genealogical data on group composition. Two comparative studies have used this strategy for 34 hunter-gatherer societies and 34 lowland South American horticultural societies giving an overall sample of 12,176 adults living in 571 residential groups (camps, longhouses, and villages, Hill *et al.*, 2011; Walker *et al.*, 2013). The average number of adult primary kin (i.e., mother, father, sisters, brothers, daughters, and sons) coresiding is available for each ethnographic study group. The expectation is that for truly patrilocal systems adult men should live with much more primary kin than women and vice versa for matrilocal systems. The relative number of coresiding primary kin living with men versus women is well described by a measure developed by June Helm. Helm’s measure is calculated as the sum of all adult primary kin living with an average man divided by the sum of all primary kin living with both an average man and an average woman. Helm’s measure can theoretically vary from zero, where women live with close kin but men do not, to unity, where men live with close kin but women do not (Figure 2).

The valid measurement of residence patterns is an inherently complex problem, but there is a simple elegance to Helm’s measure which easily incorporates some common critiques, such as defining marital residence in terms of individuals and not couples and reporting residence of both married and nonmarried individuals. However, Helm’s measure does not define residence in terms of the composition at the time of entry into



**Figure 2** Frequency distribution of Helm's measure for 34 lowland horticulturalists (a, mean = 0.46, sd = 0.07) compared to 33 hunter-gatherer societies (b, mean = 0.53, sd = 0.08). Helm's measure is the sum of all adult primary kin living with an average man divided by the sum of all primary kin living with both an average man and an average woman.

that household and does not specify the degree of social integration into residential groups, both of which are difficult to address given the available ethnographic data. A convenient aspect of Helm's measure is that it does *not* vary systematically with the size of residential units. While total kin counts do increase with residential group size, the increase is similar for both men and women.

Results have confirmed suspicions that there is considerable variation in residence patterns both within and between human societies that has led to their characterization as primarily multilocal in nature with both males and females commonly dispersing or residing with natal families. In fact, Helm's measure averages 0.53 for hunter-gatherers (slightly "patrilocal") and 0.46 for horticulturalists (slightly "matrilocal"). Adult brothers and sisters often coreside in both samples and there is no overall tendency in hunter-gatherers for either men or women to live with more parents or offspring as would

be expected if patrilocality (or matrilocality) were indeed a core human tendency. The only consistent male-biased kin category is a preference for men to live with brothers more frequently than with sisters. In Amazonian horticultural societies, the only bias is a slight tendency for women to live with more kin (despite a traditional anthropological notion that most tropical forest cultures were patrilocal). Slight matrilocality may very well be a recently derived feature of lowland South American societies and not indicative of ancient human social structure. Statistical patterns of coresidence, including both individual kin counts and Helm's measure, do match to some degree with ethnographically-reported postmarital residence typologies, although there are enough borderline cases and outright exceptions to make one nervous to rely simply on typology.

### KEY ISSUES FOR FUTURE RESEARCH

Explaining variation in residence patterns remains a formidable task. Some potentially important but underexplored variables include the relative economic importance of fishing versus hunting versus agriculture, value of brideservice, internal versus external warfare, brother-brother competition over mates, male or female cooperative labor, length of extended male absences, rates of wife capture, costs of obliging kin, and demographic stochasticity. Most of these variables are likely to affect residence strategies but are difficult to quantify given the generally anecdotal nature of the ethnographic record. We do note that lowland Amazonians are traditionally more warlike than the hunter-gatherer sample and yet lowlanders are actually more matrilocal and show less of a brother-brother bias than that seen in hunter-gatherers. Tentatively, it seems that those Amazonians traditionally under strong pressure of internal conflict within ethnolinguistic boundaries do emphasize brother-brother coresidence, whereas those under mostly external conflict, which potentially requires more male absence, are more matrilocal, as has been supported in a global sample of human cultures.

It can be difficult to clearly distinguish actual decisions made by individuals, and the on-the-ground availability of kin of different categories, from preferences for particular residence situations that may not be realized because of demographic constraints. Helm's measure using actual coresidence information may offer some advantages over standard anthropological typologies by reporting and comparing counts of coresident kin, but stated cultural "rules" may still be informative, however, since one cannot clearly distinguish moves between segments within villages from coresidence in the natal house when censuses are not specific to multiple scales of analysis. In some cases women live with more kin at the level of extended households, perhaps to facilitate childcare, but men live with more

kin at the village level, perhaps to facilitate male alliances. Because of these complexities, more complete accounts of ethnographic variation should ideally include both traditional residence typologies and actual patterns of coresidence from censuses taken at multiple scales of community structure. Corroborating such multiple-level census evidence with fine-grained genetic studies would help add a much needed time component to such analyses.

Chapais (2008) has developed a model that synthesizes contemporary primate socio-ecological studies with classical studies on human kinship and postmarital residence. His model explains how the affiliation of several men to the same woman, related to each other as consanguineal (blood) and affinal kin (in-laws), ameliorates hostile between-group relations and allows visiting and opportunistic coresidence in human meta-group social structures (multiple residential bands exchanging spouses, goods, and information). Long-term cooperation among adult brothers, sisters, and bilateral kin may have emerged from a novel and flexible human residence system facilitated by pair bonding (marriage) and recognition of fathers. Other primates lack a meta-group structure because either males or females generally emigrate at maturity without a system of exchange, a pattern that mostly isolates kin lineages to single communities. Human coresidence studies then provide support for the importance of long-term sibling and bilateral kin cooperation as predicted from this model where amicable between-group relations are facilitated by visiting and opportunistic coresidence. Meta-group social structure serves to ramp up the scale of warfare by uniting multiple lineages, villages, and even chiefdoms against other large confederations. Questions of how and when this human social structure evolved and its effects on cooperation and cultural capacity remain an important key to understanding the emergence of human uniqueness.

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#### ROBERT S. WALKER SHORT BIOGRAPHY

**Robert S. Walker** is an Assistant Professor of Anthropology at the University of Missouri. Rob specializes in comparative analyses of human culture and has been collecting comparative human databases over the last decade, in particular for global samples of hunter-gatherers and for lowland South American populations.

Personal webpage: <http://anthropology.missouri.edu/?q=node/84>

Database for Indigenous Cultural Evolution: <http://dice.missouri.edu>

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