

Reconceptualizing the Human Social Niche

How It Came to Exist and How It Is Changing

by Craig T. Palmer, Kathryn Coe, and Lyle B. Steadman

In this paper we present a reconceptualization of the social dimension of the human niche and the evolutionary process that brought it into existence. We agree with many other evolutionary approaches that a key aspect of the human niche is a social environment consisting primarily of cooperating and altruistic individuals, not a Hobbesian social environment of “war of all against all.” However, in contrast to the conception of this social environment as consisting of individuals who, in Boyd and Richerson’s words, “cooperate with large groups of unrelated individuals,” we propose that it is more accurately described as consisting of cooperating individuals who currently are often nonkin but who, until relatively recently in human existence, were primarily, and in many cases almost exclusively, kin. In contrast to the conception of this social environment coming into existence by way of a process of selection within and between groups, we propose that it is the result of selection operating on traditions originated by ancestors and transmitted to their descendants. We use our fieldwork in three areas of the world (New Guinea, Ecuador, and Canada) to illustrate this process and how current social environments can be roughly placed on a continuum from traditional to nontraditional.

For more than 2,000 years our best thinkers have attempted to unravel the “riddle,” as E. O. Wilson puts it (2013), posed by our own behavior, namely, that although conflict appears difficult for humans to avoid (McCullough and Tabak 2010), cooperation and altruism characterize much of the human social environment (see Nowak 2006).¹ We view this social environment characterized by cooperation and altruism as the result of social niche construction. By “niche construction” we refer to the process in which organisms transform aspects of their environment and in the process change “the selection pressures to which they and other organisms are exposed” (Laland, Odling-Smee, and Feldman 2001:22; see also Rendell et al. 2010). We use the phrase “human social niche” to refer to the behavior of the other humans in the environment of an individual and with whom that individual is likely to interact during his or her lifetime. We find this very basic and general conception of social niche to be more appropriate for explanations of the evolution of human cooperation than the far more specific use of “social

niche,” or “social niches,” to refer to “a series of overlapping, hierarchical role-structures” within more recent and complex societies (Lipatov, Brown, and Feldman 2011:901; see also Brown and Feldman 2009). We use the phrase “human social niche” instead of “human social environment” to emphasize that through social niche construction, organisms influence not only their own social environment but also the social environment to which “their descendants are exposed” (Day, Laland, and Odling-Smee 2003:80; see also Fuentes, Wyczalkowski, and MacKinnon 2010) and thus influence the selective pressures operating on those descendants. The use of the word “descendants” is important because it includes not just children and grandchildren but a potentially unlimited number of subsequent generations of descendants. To help solve the riddle of the relatively cooperative and altruistic social environment to which many generations of humans have been exposed, we present a new conception of both the characteristics of the human social niche and the evolutionary process that brought it into existence.

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We agree with other theorists that the social niche of our ancestors was characterized by a large amount of cooperation and altruism. However, in contrast to the conception of

1. We will use the word “cooperation” to refer to individuals influencing each other’s behavior in ways that benefit the fitness of both individuals and the word “altruism” to refer to acts that are costly to the actor’s fitness and beneficial to the receiver’s fitness (see West, El Moudden, and Gardner 2011).

Craig T. Palmer is Associate Professor in the Department of Anthropology at the University of Missouri (1205 University Avenue, Columbia, Missouri 65211, U.S.A. [palmerct@missouri.edu]). **Kathryn Coe** is Professor at the Richard M. Fairbanks School of Public Health, Indiana University–Purdue University, Indianapolis (714 North Senate Avenue, Indianapolis, Indiana 46202, U.S.A. [coek@iu.edu]). **Lyle B. Steadman** is Professor Emeritus in the School of Human Evolution and Social Change at Arizona State University (P.O. Box 872402, Tempe, Arizona 85287-2402, U.S.A.). This paper was submitted 18 IV 15, accepted 11 I 16, and electronically published 4 IV 16.

the human social niche as consisting of individuals who “cooperate with large groups of *unrelated* individuals” (Boyd and Richerson 1982:325, emphasis added), we propose that it is more accurately described as consisting of cooperating and altruistic individuals who now include many nonkin but until relatively recently in human existence were primarily, and in many cases almost exclusively, kin.² By kin, we refer to individuals identified by others as being related by birth or from common ancestors.³

We also agree with other approaches that the human social niche can be described as both biological and cultural, but we differ from many of those approaches by emphasizing the distinction between traditional cultural behavior (i.e., traditions) and nontraditional cultural behavior. By “traditions” we refer to behaviors descendants copy from their ancestors. Traditional behaviors are a subset of cultural behaviors, which we define as behaviors copied from any individual.⁴ These definitions allow us to describe people’s behavior as relatively traditional when a

2. We propose that the presence of “nonkin” in the residential communities of contemporary foragers found by Hill et al. (2011) is the result of individuals identified as very distant kin being classified as “nonkin” and various aspects of contemporary environments (described below) that made actual nonkin far more likely to be present than they would have been in the past. Significant sustained cooperation with nonkin may have occurred in some places several thousand years ago but in other places as recently as the current generation (see Diamond 1997:273, 2012).

3. “Fictive” or “metaphorical” kin are terms used to refer to individuals that are claimed to be actual kin in some circumstances but are also acknowledged not to be actually related by birth (i.e., not actually kin) in others. When individuals are identified as kin based on shared descent, kinship terms may be used metaphorically to refer to genealogically distant kin but by using a kin term that literally refers to a genealogically closer kin person (e.g., calling certain cousins siblings).

4. Culture may include information inside brains (Hill, Barton, and Hurtado 2009), but it can only influence others and be copied if it is exhibited as behavior. As behavior, both traditional and nontraditional cultural behaviors are biological in the sense of being an aspect of a living organism. However, behaviors are not purely genetic or purely environmental because all aspects of all living things are the result of genes interacting with many environmental factors (Freeman 1983:294). More specifically, we propose that people call a behavior cultural when one of the necessary elements in the developmental environment of the individual performing the behavior was another individual performing the behavior and serving as a model to be imitated. We also propose that a behavior is called traditional to indicate that the other person in the developmental environment serving as a model of the behavior is a parent, grandparent, or more distant ancestor. Parts of traditions may originate among nonkin or be significantly modified during transmission. Behaviors may even be invented and then falsely asserted to have been transmitted from earlier generations of ancestors (Hobsbawm and Ranger 1983). While acknowledging these possibilities, it is important to recognize the evidence of actual traditional transmission of behaviors (Mathews and Perreault 2015) and to realize that there would be no point in falsely claiming that a behavior is traditional if the actual multigenerational transmission of behaviors was not seen as being important. What is needed is a theory that can account for not only the breaking, manipulating, rejecting, and inventing of traditions but also for the existence of traditions (Palmer 2010, 2013).

relatively large amount of their cultural behavior is traditional (i.e., copied from ancestors) and relatively nontraditional when a relatively large amount of their cultural behavior is nontraditional (i.e., copied from individuals other than ancestors).⁵ We further propose that social environments in which much of the behavior is traditional probably correspond to the ancestral human social niche designed by selection more closely than do social environments where most behavior is not traditional. This is consistent with the observation by Cronk (1999) that the human niche, what he refers to as “the world we were made for,” includes the replication of behaviors with relatively little change and the preponderance of kin in the social environment: “we were made for a world that has mostly disappeared . . . a world in which all activities were enmeshed in webs of kinship . . . a world in which things rarely changed much over the course of a lifetime” (119).

This focus on kinship and traditions is in contrast to descriptions of social relationships relying on the concept of “groups.” Indeed, much of the novelty of our proposal comes from the absence of the term “group,” which we avoid for three reasons. First, “group” often refers to a reified abstraction (Murdoch 1971). Humans obviously come into close proximity with each other and interact in various ways, but when described as groups, these interactions between individuals are often endowed with properties they do not possess, such as being an animate entity that can do things such as survive, reproduce, and evolve (as opposed to merely “change”).

The second reason we avoid the term is that groups are often presented as preexisting givens that can be used as variables in evolutionary equations to explain the evolution of cooperation. For example, Traulsen and Nowak (2006:10952) start their explanation with the assumptions that “a population is subdivided into groups,” and “if a group reaches a certain size, it can split into two.”⁶ This assumed preexistence of groups with certain characteristics is also found in the many different models of cultural group selection, including those emphasizing conformity and prestige-based biases (see Boyd and Richerson 2010; Henrich 2004; Soltis, Boyd, and Richerson 1995).⁷ Preexisting groups are also used as variables in approaches that use the Price equation to conceptualize kin selection, reciprocal altruism, and group selection as “simply

5. We do not consider the term “traditional” to be either derogatory or complimentary.

6. Boyd, Richerson and Henrich (2011) make a similar assumption: “The population is structured into a large number of groups. Local population regulation maintains groups at a fixed, finite size and during each generation groups exchange migrants with all other groups” (433). Similarly, Hill, Burton, and Hurtado (2009) refer to theoretical modeling showing that “copying is most favored in groups that already have many copiers who have already produced adaptive culture” (190).

7. As Richerson and Boyd (2010:3788) point out, “group selection has many faces.” For a discussion of the many different meanings of both group selection and cultural group selection, see West, El Mouden, and Gardner (2011).

three systems of gene-tracking and fitness accounting from three different perspectives” (Bijma and Wade 2008; Hamilton 1975; Henrich 2004:10; Hill, Barton, and Hurtado 2009; Price 1972; Wade et al. 2010; Wilson 2015). In contrast, we propose that the interactions of multiple humans in close proximity should be conceived of not as givens but as what needs to be explained. We agree with Boyd, Richerson, and Henrich (2011) that “we owe our success to our uniquely developed ability to learn from others” (10918). However, we disagree that the construction of our human social niche, what they refer to as our “cultural adaptation,” is best seen as “a population process” (Boyd, Richerson, and Henrich 2011:10921). Instead, we try to specify from whom they were learning and who they were copying—kin.

The third reason we avoid the word “group” is that it is often used to refer to any category of humans, including categories where many members may never interact or be gathered together in close proximity (e.g., tribes, clans, phratries, sibs, peoples, cultures, ethnic groups, nations; Palmer, Fredrickson, and Tilley 1997; see also Godfrey-Smith 2006).

These three reasons for avoiding the word “group” are important because of the role the term “group” plays in both descriptions of the human social niche as consisting of cooperation within and between groups and in the hypothesized construction of this niche by a process of selection within and between groups. Fortunately, not only can the characteristics of the human social niche be accurately described without the use of the term “group” but also the process by which it was constructed can be described.

Reconceptualizing How the Human Social Niche Came to Exist

Our explanation of the construction of the human social niche attempts to answer the question, how did our ancestors manage to construct a social environment in which their descendants would live that was populated by many, primarily cooperative, and even altruistic individuals instead of by hostile competitors?⁸ Our answer is that they started traditions that influenced their offspring to both cooperate with and exhibit altruism toward their siblings and influenced those offspring to replicate that behavior in order to influence their own offspring to cooperate with and exhibit altruism toward all of the ancestor’s grandchildren (i.e., their siblings and their first cousins), and so on and so forth throughout subsequent generations (Palmer and Palmer 2015). Specifically, we propose that the human social niche is the result of selection operating on traditions originated by ancestors and transmitted, along with their genes, to their descendants and influencing those descendants to coop-

8. These ancestors were perhaps living in the type of simple social organization that limited the identification of kin to only two or three generations, as described by Chapais (2008).

erate with, and be altruistic toward, codescendants also identified as such by traditional names and “ethnic markers.”

Our explanation of how selection could have favored the transmission of these traditions starts with an explanation of altruism first put forth in the mid-1970s. The parental manipulation explanation of altruism (Alexander 1974; Dawkins 1982; West-Eberhard 1975) is based on the concept of parent-offspring conflict. As originally stated by Trivers (1974), the existence of parent-offspring conflict means that “parents are expected to attempt to mold an offspring, against its better interests” and in favor of the interests of the parent (249). This attempted molding, or manipulation, is the result of the simple biological fact that a parent is equally related to all of his or her offspring, but the offspring is completely related to itself ($r = 1$) and only half related to a full sibling ($r = 0.5$). Therefore, evolutionary theory predicts that an “offspring should value its personal fitness twice as much as it values any full sib’s fitness” (Kurland and Gaulin 2005:452), but parents should try to influence offspring to value a full sibling as much as it values itself (Wright 1994:166) because both siblings are equally valuable to the parent in terms of genetic relatedness because both are equally related to the parent.

The parental manipulation explanation is likely to be involved in the construction of the human social niche because “humans are parental manipulators par excellence” (Alexander 1974:367), and a human parent can suppress selfish behavior even in their adult offspring and even after the death of the parent (Alexander 1974:368; Trivers 1974:262). Voland and Voland (1995) come close to recognizing the consequences of parental manipulation when they refer to the possibility of offspring being “raised to ‘voluntarily’ stake at least part of their reproductive fitness for the maintenance and welfare of their families and thus to the long term advantage of their *lineage*” (407, emphasis added). The use of the word “lineage” is crucial because it refers to a chain of ancestors and descendants and therefore implies a time span much longer than one individual’s life span. The failure to follow up on this insight is unfortunate, because recognizing that this manipulation can be extended past a single generation leads to a profound new prediction about the behavior of distant generations of descendants.

If individuals who influenced all of their offspring to “treat each other as if you valued them as much as yourself” (i.e., $r = 1.0$) have been favored by natural selection over individuals who did not influence their offspring to behave this way toward their siblings, then individuals who influenced all of their grandchildren to “treat each other as if you valued

9. The concept of traditions being subject to natural selection is consistent with Darwin’s ability, before the discovery of genes, to realize the power of natural selection by observing phenotypic traits transmitted from parent to offspring. These traditions, or “ethnic markers,” are “one of the most striking and unusual features of the human species” (Boyd and Richerson 2006:104, 1982). However, this is not because they form ethnic “groups” but because they identify codescendants.

them as much as yourself” (i.e., $r = 1.0$) would have been favored over individuals who did not influence their grandchildren to behave this way toward their siblings and first cousins. Further, individuals who influenced all of their great-grandchildren to “treat each other as if you valued them as much as yourself” (i.e., $r = 1.0$) would have been favored over individuals who did not influence their great-grandchildren to behave this way toward their siblings, first cousins, second cousins, and so on and so forth. This leads to the conclusion that selection would have favored individuals who were most successful at influencing the social behavior among the most distant generation of their descendants (Coe et al. 2010; Steadman and Palmer 2008).

The next question is what process could enable individual humans to have such influence on the behavior of their descendants born many generations after their own death? We propose that the answer is as simple as it has been unappreciated: by transmitting traditional behaviors that influenced each generation to be willing to behave in those ways and then to go on to replicate that influence on the next generation.

This multigenerational approach is fully compatible with the view that natural selection can be better measured over a large number of generations than in terms of the number of surviving children or grandchildren produced (Alexander 1974:346, 374; Dawkins 1982:184). It is also consistent with the evidence of cultural traditions often enduring many generations (Coe 2003; Mathews and Perreault 2015; Palmer 2010; Palmer and Steadman 1997) as well as the fact that “large lineages or clans . . . grow up over time as the descendants of the original ancestor/ancestress” accumulate (Fox 1967:122). It is also consistent with the observation that “kinship predicates the axiom of amity, the prescriptive altruism exhibited in the ethic of generosity,” and that this “axiom” of “kinship amity” is apparently a cultural universal (Fortes 1949:231–232). Finally, it is also consistent with examples where explicit emphasis is placed on replicating the traditional code of ethics to the next generation (e.g., the Jewish prayer known as the *V’ahavta*; see Sosis 2008:214). We emphasize, however, that this process, which can lead to the axiom of kinship amity applying to tens of thousands of individuals because they are identified as kin (Keesing 1975), only occurs when traditions identifying kin are transmitted over many generations. This is important because it is difficult to see how large numbers of individuals can come to identify each other as kin without the transmission of traditions over many generations regardless of the selection taking place between and within groups.¹⁰

10. One of the few alternative ways such a social environment could be constructed is the fictitious one described by Kurt Vonnegut (1976) in his tongue-in-cheek novel *Slapstick; or, Lonesome No More!* As Cronk (1999:129) explains, Vonnegut’s character Dr. Swain runs for president on the promise to use “the computers of the federal government to recreate kinship networks like those of our ancestors . . . [including] 190,000 cousins, all obligated to help fellow clan members.” Although explicitly a fantasy, it highlights the challenge that evolutionary theories

Not only has the importance of traditions been largely unrecognized, so too has the difficulty and uncertainty of transmitting traditions. Evolutionary explanations of culture tend to see only cultural change as an active process involving such activities as “the hard work of invention” (Schiffer 2005:485), the operation of various cultural transmission biases (e.g., Henrich 2004), and random copying errors (e.g., Eerkens and Lipo 2005; Richerson and Boyd 2010). Overlooked is the fact that the preservation of traditional behaviors is also an active process that requires hard work (Coe and Palmer 2013; Palmer 2010).¹¹

To illustrate the process just described and how it has resulted in current social environments forming a continuum from traditional to nontraditional, we use examples from three distinct areas where we have performed extensive fieldwork (New Guinea, Ecuador, and Canada).

The Hewa

The Hewa are a people living in the western highland of Papua New Guinea who, Steadman (1971) writes, had small gardens and were excellent hunters. They were one of the last people in Papua New Guinea to come into contact with outsiders; in fact, they had very recently been discovered by an Australian Patrol officer. Several thousand individuals were called “Hewa,” and most of them lived in the large area bisected by the Lagaip River and its tributaries. Beginning in 1966, Steadman initiated his 2-year study of approximately 500 Hewa living on the western side of this area. While they wore similar traditional attire and shared many other traditions, they had no name for themselves. “Hewa” was the name given to them by nonkin living in the surrounding areas.

The habitat was characterized by dense rain forest, sharp mountain ridges, and swift rivers. Consequently, “the Hewa” were not only geographically isolated in the sense of having relatively little contact with outsiders—nonkin—but each family lived in relative isolation from other families. As Steadman’s knowledge of these people, their language, and their culture increased, he realized “the Hewa” were not a social group. While their language belonged to the Sepik Hill family, the way they spoke gradually changed as one crossed the area to the point that people living on one side of “the Hewa” would have a hard time communicating with those on the other side. Further, there was no overarching hierarchy; the largest hierarchies were tempo-

focused on selection between and within groups, and ignoring traditions, face in accounting for one of the most basic aspects of the human social environment.

11. Because of the social behavior resulting from the traditional social influence of parents and not the sharing of genes, changes in social influence could lead to cooperation with, and altruism toward, individuals not identified as kin. This is what allowed for the human social environment to be relatively recently modified from one populated almost exclusively by individuals identified as kin to one consisting of individuals who “cooperate with large groups of unrelated individuals.”

rary ones headed by Big Men who had some influence over six or seven households.

Steadman also came to realize that the relationships among these people were based on descent from common ancestors. Cooperation and altruism occurred only between individuals identified as kin; whenever Steadman asked why an instance of altruism or cooperation occurred, the reason given was always kinship, which as Steadman also quickly learned was not a group phenomenon.

Like most people in the world, the Hewa used two naming systems to identify their kin: kin terms to identify close kin and ancestral names (such as clan or “family” names) to identify more distant kin. In regard to those kin identified by kin terms, every individual was at the center of his or her own unique set of kinsmen (i.e., his or her kindred). Also, the Hewa, like many other people, extended kin terms metaphorically to all their identified kin, close and far. Certain cousins, for example, were referred to as “siblings.” This metaphorical extension, however, never violated a crucial kinship rule, that genealogically closer kin were favored over more distant kin.¹²

In regard to ancestral names (i.e., clan names), all individuals bearing one’s own clan name were always considered kin because the name identified them as codescendants—the only way to obtain a clan name was by descent from someone with that clan name. The individuals identified as kin by clan names included all those bearing the clan names of any of one’s four grandparents and the clan names of some great-grandparents and their offspring. And, of course, the children of any kinsmen were your kinsmen, as were the grandchildren, and so forth. Thus, by using clan names these people could identify many distant relatives. It is important to note that the residences of individuals with the same clan name were scattered in a wide variety of residential areas. Clans—comprising those individuals sharing the same ancestral name—were exogamous; one could not marry an individual bearing one’s own clan name. Thus, every household contained individuals of different clans.

The enduring cooperation and altruism between many individuals in the social niche constructed by the ancestors of these people did not arise as merely the result of shared genes. It was encouraged through traditional behaviors, many of which could be described as forms of ancestor worship, encouraging descendants to accept the influence of their ancestors, including the ancestors’ encouragement of cooperation with and altruism toward kin. One such tradition was the hanging of skulls of dead ancestors inside their houses, where they would be treated with great respect. People would also punish those who behaved in ways that violated the traditional taboos passed down to them from their ancestors, and

12. The existence of killing among the Hewa demonstrates how traditions do not eliminate conflict among kin. However, just as a Hewa would favor his closer kin in hunting and in exchanging food, a Hewa would also favor closer kin in a fight.

often the punishment involved making offerings to dead ancestors to make up for failing to accept their influence.

Many of the traditional forms of social cooperation and altruism were transmitted by observation, as were the many other traditional behaviors involved in such tasks as subsistence activities and house making. Proper social behavior was also often transmitted from one generation to the next during the evenings when people would praise the behaviors of some individuals and criticize those of others, often justifying these judgments by referencing traditional stories.

Although the Hewa had remained relatively isolated, and relatively traditional, when Steadman returned 15 years later, he found certain instances of increased contact between the people referred to as Hewa and nonkin. Kinship was still the basis of all cooperation, but it now became important in new ways, including trade. For example, Steadman found out that Tama, son of a man who had been an informant, had, at the encouragement of the Australian government, agreed to work on a distant tea plantation for 2 years, where he learned to speak pidgin English. Tama’s patrilineal clan name came from a distant male ancestor who, many generations ago, had crossed the mountains into the Hewa area from an area known as Kapiago (or Duna) and left male descendants, including Tama. The people called Kapiago had very different traditions from those called Hewa, including a completely different language. After Tama landed at Kapiago Airstrip and before he began the long trek back to his home, he decided to visit his alleged distant clansmen among the people referred to as Kapiago. After introducing himself, using his newly acquired pidgin English, he explained to them that even though he lived among people most outsiders called “Hewa,” he was a descendant of their clan ancestor. They welcomed him and he stayed with them for several weeks, returning with gifts for their kin.

Another example concerned Wato, another Hewa man also returned from working at a tea plantation where he learned pidgin English. Wato decided to cross the wide Strickland River to trade with people called the Oksapmin. He assumed that because he could speak the lingua franca of New Guinea that he could get along with anybody who could speak that language. However, although he could communicate with some Oksapmin in pidgin English, he could not show any kinship linkages with them. They killed him. These examples illustrate the importance of kinship, even distant kinship, and the extreme danger of attempting to cooperate with anyone but kin.

The Chachi

The people referred to as “the Chachi” (formerly called the “Cayapa”) live in Ecuador’s lowland coastal rainforest. Data on these people were collected over a 90-year period, beginning in 1907, by Barrett (1925), then continued by Altschuler (1964), who was there in the early 1960s, and then Coe (1995), who conducted her primary fieldwork in 1989–1990.

In 1989, seven thousand individuals referred to as the Chachi lived, as their ancestors had since prehistoric times, in isolated

longhouses located along the banks of tributaries located in an isolated section of northwestern Ecuador's Santiago Drainage,¹³ an area characterized by intermittent contact with the outside and accessible only by dugout canoe.¹⁴ Out of the several hundred categories of codescendants identified by descent from common ancestors that resided in the coastal rainforest of Ecuador in prehistoric times, the Chachi are one of only two whose descendants survive today. While maintaining many traditions, their behavior, in 1989–1990, was less traditional than the behavior of the people studied by Steadman because they were starting to experience the disappearance of many traditions because of contact with outsiders.¹⁵ The Chachi's claim that they share a common ancestor is supported by genetic evidence indicating that they actually do come from a small founding population with only occasional entry of genes from other individuals who came in as wives.¹⁶

Chachi, who have always claimed that their system of behavioral codes was ancient, when asked where their system of behavioral codes had come from inevitably replied, "That is the way the ancestors did things and that is the way they want us to do them" (Coe 1995). While they linked current practices to

their ancestors, Praet (2005:133), who currently studies them, argues that the Chachi have no ancestors, claiming that they, "like many Amazonian and Andean groups explicitly refuse to remember anything about the dead. The dead are relentlessly annihilated and systematically erased from living members." On the same page, however, he writes that the Chachi claim they live in "ancestral" territory, a claim, based on their traditional stories, that they used successfully in 1992 when they sought formal recognition of their land rights. Praet also contradicts his claim when he writes that the "living are not always neatly set apart from the dead," when he describes funerals as sacred rituals that involve playing games with the deceased, now an ancestor, and leaving food for them by their graves, and when he calls the ceremonial center where all kinship and traditional events are held "the village of the dead" (Praet 2005:136).

Although most Chachi lived in the Santiago Basin, "membership," or acceptance as a Chachi, was determined by birth. As Altschuler (1967:32) explained, membership "is limited to born Cayapa." Chachi, as Coe described, were identified by birth to a Chachi mother (a woman who had a Chachi mother). Fathers were identified through their close and prior relationship with the mother. If the father was not identified as Chachi, a rare event, the child would be considered to be Chachi, but illegitimate. On rare occasions (rare, given strong rules of endogamy), a Chachi was identified by birth to a non-Chachi female who had a close, intimate relationship with a Chachi male.¹⁷ All Chachi were considered to be kin based on descent from clan ancestors identified by patrilineal names; they saw outsiders—those with different ancestors—as not being true people. Although they were encouraged to behave in cooperative ways with all Chachi, they favored genealogically closer kin (e.g., those sharing two parents, one parent, grandparents) over more distant ones. Distant kin were identified as those sharing a ceremonial site (and a patrilineally inherited last name) as they shared a distant Chachi ancestor. A Chachi male or female was identifiable through a set of traditions described in detail by both Barrett and Coe and that included not only the ability to speak a unique language (Chapaalachi) but various forms of art (e.g., body decoration, paintings on dugout canoes, designs in weaving) that the Chachi claimed they had inherited from their ancestors.¹⁸ Participation

13. The small number of Chachi who live in Muisne separated from the others because they wanted to change the behavioral codes so they could marry polygynously.

14. Access to the area has been difficult; however, some gold has been found in the rivers, and the area has been rich in endemic plant life, including tagua (important at one time for making buttons), balsa (important during World War II), and bananas (important after blight destroyed the crop in other areas). While efforts to harvest these resources were initiated, none of the efforts were sustained. An African Ecuadorian population was also brought in at one time to pan for gold, a venture that soon failed. The extent to which these outside influences and missionaries changed certain specific practices (e.g., monogamy) is unclear (see Praet 2009:2, 10).

15. This contact was accompanied by the loss of land to lumber concessions and the introduction of diseases. The Chachi, as described by Barrett (1925), had good health. He wrote that the area in which they lived was "the most salubrious territory of the entire western coast of South America" (Barrett 1925:25). He observed no serious contagious diseases; typhoid was entirely unknown, dysentery was little known, and cases of malaria were mild. The most frequent causes of death were drowning, falling from trees, and being bitten by snakes. By 1989–1990, this situation had changed considerably; dysentery was widespread, and infant and maternal mortality were reported to be high. Additional causes of morbidity and mortality included malaria, anemia, malnutrition, chronic diarrheas, intestinal parasites, malabsorption, leishmaniasis, scabies, yellow fever, tuberculosis, bronchitis, and pneumonia. The first case of onchocerciasis was discovered in the area in 1980. According to data provided at that time by Ron Guderian, MD, 71.8% of the Chachi living on the Rio San Miguel tested positive for the disease in the late 1980s.

16. Genetic studies of HLA-B variants and mtDNA (C10 haplotype) support that the Chachi actually do share a common ancestor, that the genetic diversity of the founding population was limited, and that the Chachi have maintained relative isolation for a long period of time in situ (Garber et al. 1991; Rickards et al. 1999).

17. The children born to non-Chachi mothers but who had Chachi fathers were treated as social outcasts. When Coe asked the Chachi why endogamy was so important to them, they explained, "If our children do not marry Chachi we will be gone as a people in one generation."

18. These resembled those found in the Andes, where the Chachi claimed their distant ancestors had once lived and with whom even their more recent ancestors had maintained kinship ties. These art motifs also closely resembled those made by the Tsachila and Awa, people who lived in other areas of the rainforests in northern Ecuador and southern Colombia but who claimed descent from the same distant ancestors. It seems clear that the art of the Chachi, Tsachila, and Awa was inherited from a distant ancestor they all shared.

in Chachi ceremonies required cooperation and, through the stories and activities that were part of the ceremonies, promoted or encouraged cooperation with other Chachi. These stories related how the ancestors wanted their descendants to continue practicing the same ceremonies and described how they wanted their descendants to behave—in other words, stories were used to teach appropriate social behavior.

Neither Barrett (1925) nor Altschuler (1964) described how these cultural traits were transmitted across generations, although transmission obviously was occurring. Chachi children, based on data collection using both continuous and scan sampling, were instructed beginning early in life about the moral system and the duties they would need to perform later as parents and spouses. Through copying and guided practice, Chachi children learned complex technologies (e.g., girls learned weaving, boys learned how to make a dugout canoe). In the process, they also learned the history of their people and how to properly interact with kin.

Relationships within the family, Barrett (1925:42) writes, were held sacred, and family ties were binding; “one of the most characteristic features of the daily life of the Cayapa is the devotion of the members of the family toward one another.” Further, Altschuler (1964:57) explains that “it is expected that siblings will form an especially intense bond.” Chachi children, Altschuler (1967) writes, were taught to respect their parents, grandparents, other Chachi elders, and their ancestors. He describes how children treated their grandparents with respect, referring to them as mother and father. The children also were to attend and respectfully participate in the ceremonies, including those honoring the deceased.

In sum, kinship was the organizing principle among these people, with kinship defined broadly as based on birth and shared descent and as identified by kin terms and ancestral names and other traditions. The myths and stories used in ceremonies were traditional and often were accounts of how Chachi ancestors had behaved and wanted their descendants to behave. These stories formed the core of the system of behavioral codes that, as a result of being passed down for many generations, had constructed the Chachi version of the human social niche.

Newfoundlanders

The behavior of the people in Canada referred to as “Newfoundlanders” is much less traditional than that found in the two earlier examples.¹⁹ That is, less of the behavior of these people has been copied from ancestors, and much of

the behavior that has been copied from ancestors has not been passed down for as many generations as in the earlier examples. Further, the name of this category of people refers not to a common ancestor but to the geographic area to which most of the ancestors of the current population migrated from Europe, especially England and Ireland, over the last few centuries (Mannion 1977).²⁰ However, although the term “Newfoundlander” started as a name referring to a resident of a certain geographic area, it subsequently came to identify the descendants of those individuals. In a process that has occurred at many times and in many places in the last several thousand years, the name of a location started to be transmitted, along with many accompanying behaviors, from parents to offspring (i.e., it became traditional). As this happened, the traditions accompanying the name “Newfoundlander” started the same process seen in the other two examples. More recently, as in the previous examples, the influence of these traditions started to lessen.

The following description of Newfoundland traditions starts with Firestone’s (1967) description of life along the west coast of the northern peninsula of Newfoundland known as “the Straits” during 1962 and 1963. Although traditional compared with many areas of North America at this time, Firestone describes the deterioration of traditions passed down from earlier generations.

Firestone emphasizes that the people he studied did not form a social group but instead an environment where there was “a series of limitations to the social world” (Firestone 1967:33). At the core of this social world was a form of kinship cooperation and altruism traditionally encouraged by ancestors: “when brothers grow up they are expected to fish with each other and their father” (Firestone 1967:47). Thus, in the next generation “The essential nexus of co-operation is still brothers . . . [who] carry on together after their father has died, . . . [and with their sons] make up the nexuses of future crews” (Firestone 1967:66). Firestone also emphasizes that this pattern results from the traditional moral code stating that “Brothers and their father remaining together and ‘all hauling together’ is the ideal” (Firestone 1967:51). In an example of how the transmission of traditions to new generations can expand the number of cooperating codescendants, Firestone writes, “where cousins cooperate within a single crew, we have a family extending over four generations and including the founder, his sons, grandsons, and their immature off-spring” (Firestone 1967:51).

Firestone (1967) also describes how “if men split up before their boys are grown ‘people talk about it’” (52). Despite criticism of those who fail to follow traditional patterns, the

19. “Newfoundland” is used here to refer to the island part of the province of Newfoundland and Labrador. Because of the negative connotations sometimes associated with the word “Newfie,” the term “Newfoundlander” will be used except where “Newfie” appears as part of a quotation.

20. Some of the genes, traditions, and traditional material culture of the area (e.g., a traditional Inuit sled known as a *qamotiq*) have come from indigenous populations in the area (e.g., Inuit, Innu, Mik’maq). The primary indigenous population on Newfoundland was known as the Beothuk, the last of whom died in the early nineteenth century.

influence of traditions was weakening, leading to a decrease in the extent of cooperation among codescendants: "Instances where first cousins do fish together [were] . . . more prevalent in the past" (Firestone 1967:51). More recently, "After the father dies the oldest brother becomes the leader. . . . When the brothers' children grow up there will in most cases be a split and each brother will fish with his sons" (Firestone 1967:47).

Palmer's fieldwork began 25 years later and continued through the following generation among both descendants still living in Newfoundland and those who had migrated to Alberta to work in the oil industry.²¹ Palmer found evidence that many traditions in the Straits were fading.²² This includes even the patrilocality that had produced the "essential nexus of co-operation" between male codescendants.²³

The recent migration of many Newfoundlanders to Alberta not only reveals the inaccuracy of referring to this category as a group, it also reveals the extent to which the identity of "Newfoundlander" is now based on ancestry more than geographic location. Further, even the social behavior involved in this migration is still significantly influenced by traditions encouraging cooperation with and altruism toward kin. Kin provide crucial help with every aspect of the migration, including transportation, housing, employment, and childcare (Palmer, Groom, and Brandon 2012). While some of this interaction (e.g., residential clustering) might be described as a group (Wilson 2002), a closer examination of the interaction between Newfoundlanders in Alberta quickly reveals the inaccuracy of such a description. For example, the number of cooperating Newfoundlanders identified by descent names as cousins in Alberta can be extremely large (over 200 in one case described by Palmer, Groom, and Brandon 2012), despite all of these cousins never being gathered together.

The ability of descent names to allow individuals to identify even distant codescendants as kin the first time they

meet is illustrated by this story told by a Newfoundlander living in Alberta: "I stopped in the office, talked to this other lady that's there. . . . Turns out, her family are . . . [same family name as my maiden name]. So we're related five or so generations back." The ability to use descent names to identify individuals as kin even when they have a different descent name was illustrated at a party in Fort McMurray where a handful of Newfoundlanders who had never previously met were able to identify each other as kin through the tracing of birth links through female relatives back to individuals with the same descent name.

Visual displays signaling that one is a Newfoundlander (i.e., ethnic markers) play an important role in Newfoundland-to-Alberta migration because such displays can significantly alter the social environment. The transmission of the Newfoundland identity to children born in Alberta from Newfoundland parents is indicated by T-shirts saying "Made in Alberta, with parts from Newfoundland" (Palmer, Groom, and Brandon 2012). Such displays of Newfoundland identity often lead to cooperation and altruism (Hiller 2009). For example, a Newfoundland flag hanging off an apartment balcony in Fort McMurray is sometimes taken as an invitation to other Newfoundlanders that they could come in and have a place to stay (Palmer, Groom, and Brandon 2012). Newfoundland identity and social behavior are transmitted largely through the telling of stories about kinship cooperation back home in Newfoundland.

Discussion

Hewa, Chachi, and Newfoundlanders all exist in an environment populated with many individuals who are generally cooperative and altruistic. In all of these examples, this social environment has been at least partially constructed by traditions identifying individuals as kin and influencing cooperative and altruistic behavior toward individuals because they are identified as kin. These three examples also illustrate how social environments have been changing. This change has been taking place at vastly different rates in different places, but in general, as the influence of traditions diminish, the social environment becomes populated less by altruistic and cooperative kin and more by nonkin. On the continuum between the highly traditional social environments of our ancestors thousands of years ago and the nontraditional ones of today, the Hewa, and to a somewhat lesser extent the Chachi, fall close to the traditional end of the spectrum, while Newfoundlanders fall near the nontraditional end.

In this paper we raise three important points. First, the construction of the human social niche can be described without using the concept of "a group," much less a model based on selection within and between groups. Second, models based on selection within and between groups are unable to account for the large categories of codescendants identified by traditions (e.g., clan names) and the cooperation and altruism exhibited toward codescendants. Third,

21. Palmer's initial fieldwork from 1990 to 1992 was followed by eight subsequent periods of fieldwork between 1994 and 2011 in Newfoundland and four periods of fieldwork during the same time period in communities in Alberta where many Newfoundlanders had moved following the collapse of the cod fishery in the early 1990s (Palmer and Sinclair 1997; Palmer, Groom, and Brandon 2012). Most of this migration was related to employment opportunities associated with the oil industry. Although this migration may hasten the end of many traditions, it also revealed the extent to which the Newfoundland identity was based on descent, not current residence, and led to cooperation and altruism with those sharing that descent.

22. Palmer and Sinclair (2000:42) found wide variation in the percentages of male and female high school students who had participated in a wide range of traditional activities, ranging from 97.9% females and 93.4% males who had participated in picking berries to 1.4% females and 4.6% males who had participated in making sealskin boots.

23. Not only was the traditional male-only inheritance of land becoming actively debated (Palmer 1995), women were becoming more likely than men to expect to inherit part of their parent's land (Palmer and Sinclair 2000:39).

the three examples of the human niche in this paper are far from unique in the ethnographic record.²⁴

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24. A number of anthropologists claim that cross-culturally, moral codes originate with ancestors who “from time immemorial” were the “primitive custodians of the unwritten, uncodified, unclassified rules of conduct” (Rattray 1929:1). They were “neither more nor less than the rules of behaviour ordained by the ancestors and practiced by them” (Culwick and Culwick 1935: 203), and they “contain in themselves the authority of the ancestral ghosts” (Sumner 1907:232). Or, as the Lugbara of Africa state concisely, “the rules of social behaviour are the ‘words of our ancestors’” (Middleton 1960:27). Further, who is or is not subject to those traditional behavioral codes, as Edel and Edel (1959:16) explain, is typically determined by kinship: “Kin are those who count in its reckoning and take part in its proceedings.” Membership, Briffault (1931:57) writes, was based on kinship; for members there are rules of “kindness, love, help, and peace applicable to members of our own clan, tribe, or community, the other of robbery, hatred, enmity, and murder to all the rest of the world.” This “tie of blood to forefathers” led to the claim that membership was determined by kinship and descent, not geography (King 1972:37). Similarly, Confucius (Rainey 2010:36, 38) points out, marriage and filial piety are keys to understanding extended kin groups. This “ancestral law” or “proper way” (Keen 2004:244) emphasizes the “rules and conventions about how people in certain relations ought to behave towards one another.” It involves the transmission of an “ethic of generosity” (Hiatt 1982:23) alongside other traditional forms making an obligation of self-restraint: “The obligations of kinship govern a person’s behaviour from his earliest years to his death, and affect life in all its aspects; in conversation, visiting and camping; at the crises of life, namely, childbirth, initiation, marriage, sickness and death; and in quarrels and fights” (Elkin 1964:118). Among the Ndembu, the moral person is one “who bears no grudges, who is without jealousy, envy, pride, anger, covetousness, lust, greed, etc., and who honours his kinship obligations . . . [and] respects and remembers his ancestors” (Turner 1975:48–49). Turner (1975) also notes that this “ethical code” is universal and would be recognized as valid by all human groups. Fortes (1949) described the axiom of amity as behavior influenced by moral rules specifying generosity, trust, and altruism and which cluster around the sphere of kinship defined not only as relationships within the family but those created more broadly through lineage relationships. As Tylor (1898:250) notes, nothing displeased the ancestors more than “changing the old customs they were used to” and a “lack of respect for the aged.” Traditions are seen as wisdom coming from the past (Holkup et al. 2007). Rules honoring the elders, ancestors, and traditions, Diamond writes (1951), are found in all traditional societies. Ancestor worship may be a human universal (Steadman, Palmer, and Tilley 1996), and according to Tylor (1898), “the worship of the dead encourages good morals.”

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