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Cultural Traditions and the Treatment of Freeriders

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Abstract

Evolutionary approaches to the explanation of human behavior are often employed in hypotheses about the toleration and punishment of freeriders. Despite the explanatory potential of evolutionary perspectives, many such perspectives ignore the unique human factor that has influenced the economic, social, and political contexts within which, up until very recently in human existence, reactions to freeriding always occurred. This human factor is *the role of cultural traditions* (i.e., behaviors passed down from ancestors to descendants). Cultural traditions necessarily play an important role in identifying, defining, preventing, and determining the treatment of freeriders because many traditional moral codes apply specifically to socioeconomic exchanges in which freeriding occurs. In this paper, we use the cross-cultural record to examine the traditions that are used for identifying freeriders and defining their punishment.

Introduction

Explaining the treatment of freeriders—those who reap the benefits of collective action in social and economic exchanges while paying few or none of the costs—is the current focus of much research. When people cannot be excluded from a benefit provided by others, each individual is motivated to reap these benefits without contributing to the joint effort—they are motivated to freeride on the efforts of others (Ostrom, 1990, p. 6). Freeriding may preclude collective action all together, as it frequently does in large, latent groups, in which monitoring for freeriders is difficult or impossible. In these cases, without negative incentives to discourage freeriding or positive incentives to encourage cooperation, people are unlikely to act collectively (Olson, 1965). For example, any large category of people—college students, consumers, the poor, etc.—*could* cooperate to gain a benefit—health insurance for college students, lower prices for consumers, better schools for the poor—but the risks of freeriding in such large groups are high, as are the costs of monitoring, and collective action is difficult. Freeriding may also lead to the eventual demise of common-pool resources and collective efforts. Garrett Hardin (1968) provided an often-cited hypothetical example of this "tragedy of the commons," in which "rationally acting" herdsmen sharing common grazing land would increase the size of their herds without regard for the carrying capacity of the land. Because each herdsman gains all of the benefits from adding additional animals but pays only a fraction of the costs to the common resource (grazing land) shared by all herdsmen, each herdsman is compelled to "increase his herd without limit—in a world that is limited" (Hardin, 1968, p. 246), leading to the eventual depletion and failure of the commons. In smaller-group interactions, cooperation may also be threatened by freeriding, but transparency and proximity allow for better, less costly monitoring, and the importance of personal reputation and fear of punishment may be effective deterrents to freeriding.

Despite the potential for freeriding in any exchange, cooperation persists, and often, though not always, freeriders face punishment for their failure to reciprocate. We contend that the persistence of cooperation depends largely on the decision to either punish or tolerate freeriders. This decision to tolerate or punish is of fundamental significance to understanding cooperative behavior in humans. In this paper, we review evolutionary theories regarding the treatment of freeriders. We argue that these theories often ignore a very human factor that has influenced the economic, social, and political contexts within which, up until very recently in human existence, reactions to freeriding always occurred—the role of cultural traditions (i.e., behaviors, including talk, that are passed through generations, from ancestors to descendants). The role of cultural traditions as passed on through kin has long been acknowledged within anthropology and other disciplines, but in many of today's evolutionary approaches to the explanation of human cooperation, such traditions are rarely considered. Even the kinship through which these traditions are transmitted has been argued to be largely irrelevant in explanations of human cooperation (e.g. Hill et al., 2011).

However, traditions are of paramount importance to explaining the toleration or punishment of freeriders because cultural traditions include prescribed rules or "moral codes" about how to behave towards kin as well as toward other individuals in all forms of social interaction. In "traditional" societies, moral codes exert tremendous influence over the social behavior of individuals (March, 1978; Coe & Palmer, 2007; Steadman & Palmer, 2008; Palmer, 2009). As such, while we agree that evolutionary approaches can begin to explain complex human economic behaviors such as decisions to tolerate or punish freeriders, we propose that these approaches, to be accurate, must also incorporate cultural traditions into the causes of these behaviors**.**

The Evolutionary Perspective on the Treatment of Freeriders

Explanations of cooperation are a central theme in recent evolutionary studies of human behavior, and the potential problem of freeriders arises in nearly all of these studies. Freeriding presents obvious benefits and therefore threatens to undermine any cooperative endeavor. Despite the risk of entering into an exchange relationship with a potential freerider, however, humans often participate in transactions that are not based on immediate or exact reciprocity (Boyd, 1992; Hawkes, 1993; Roberts, 1998; Gurven et al., 2000; Hames, 2000; Hawkes et al., 2001; McAndrew, 2002; Patton, 2005). Because of the pervasiveness of the freerider problem, evolutionists suggest that natural selection should have favored traits—usually proposed as evolved psychological mechanisms—that enhance abilities to detect and deter freeriders. Further, the punishment of freeriders, which often comes at a cost to the punisher, may be necessary to maintain cooperation. This complex problem of maintaining cooperation, with the costs associated with punishment and the threat of exploitation by freeriders, has produced evolutionary explanations that describe how freeriders are avoided and deterred and, in some cases, why they are tolerated.

One way to escape the persistent problem of freeriders is to quickly identify them and avoid them as exchange partners. Cosmides and Tooby (1989, 1992) suggest that such detection and avoidance mechanisms arise through and function within exchange relationships between individuals in which there are opportunities and incentives for economically parasitic behaviors. For example, long-term exchange relationships are sometimes limited to individuals who interact on a frequent basis, who have knowledge of each other's hardships and gains, and who, because of this long-term relationship, feel a strong sense of obligation to reciprocate (Sahlins, 1972; Axelrod & Hamilton, 1981; Roberts, 1998; Leimar & Hammerstein, 2001). Such caution in selecting exchange partners may decrease the frequency of being exploited by a freerider, but it cannot completely eliminate this risk. Therefore, freeriders are also deterred by punishment. Such punishment is sometimes referred to as "strong reciprocity" (Gintis, 2000; Bowles & Gintis, 2001; Fischbacher & Gacher, 2002) and "altruistic punishment" (Fehr & Gachter, 2000, 2002; Bowles & Gintis, 2002; Fehr, 2004; Panchanathan & Boyd, 2004; Fowler, 2005), and these concepts usually involve cooperators acting altruistically toward other altruists and punishing those who are uncooperative (Boehm, 2008; Bowles & Gintis, 2000; Fishbacher & Gachter, 2002).

Although potentially effective in deterring freeriding, the punishment of freeriders creates another evolutionary puzzle—because, as Panchanathan and Boyd (2004) argue, the punishment of freeriders itself constitutes a form of altruism. The punisher must endure the costs of time, effort, and sometimes risk involved in punishing freeriders, while non-punishing cooperators reap the benefits without any of these costs. Basically, altruism on the part of the punisher creates both a second-order public good and an opportunity for non-punishing cooperators to become freeriders themselves. In such a situation, a would-be punisher may be better off deciding not to incur the cost of punishment at all, instead allowing all cooperators to incur the collective losses that result from the actions of freeriders (Panchanathan & Boyd, 2004).

Here again, despite the economic rationality of minimizing both the likelihood of second-order freeriding and the costs associated with punishing, freeriders are often punished. Keeping in mind that punishment of freeriders is actually a form of altruism, the explanations put forth to explain why individuals routinely undertake the task of punishing freeriders are based on explanations of other acts of altruism. For example, many explanations of toleration and punishment of freeriders focus on the concept of "indirect reciprocal altruism" (Alexander, 1978). In these cases, the act of punishing freeriders serves as a hard-to-fake signal that indicates

an inherent quality of the punisher—willingness to act altruistically and cooperatively. By gaining a reputation as an altruist, the punisher receives benefits through cooperation with individuals who receive these signals, become aware of the punisher's altruism, and who, as a result, are more likely to enter into social or economic exchange relationships with the punisher (Bliege-Bird et al., 2001, 2002; Hawkes, 1990, 1991, 1992, 1993; McAndrew, 2002; Hawkes & Bliege-Bird, 2002; Smith et al., 2003). When there are multiple individuals signaling their altruism by their punishment of freeriders, signals may become more intense or more frequent in competitions to be *the most* altruistic. This is known as "competitive altruism," even when it takes the form of altruism through punitive measures (Pollack & Dugatkin, 1992; Roberts, 1998; Barclay, 2004; Hardy & Vugt, 2006). In the ethnographic literature, there are many examples of avoiding or deterring freeriders through punishment, but there are also many examples of freeriders being tolerated.

The *toleration* of freeriders, like the act of punishing freeriders, can be conceived of as a form of altruism, and thus, the evolutionary explanations addressing the toleration of freeriders also focus on evolutionary explanations of altruism. Freerider toleration among close kin is readily explained by the theory of 'kin selection' (Hamilton, 1964), based on the premise that individuals have evolved to act altruistically when the benefits to those who carry their genes outweigh the personal costs incurred through the altruistic act. Evolutionary explanations of the toleration of freeriders who are not close kin again center on reciprocal altruism or indirect reciprocal altruism (Trivers, 1971; Alexander, 1987; Brembs, 1996; Nowak & Sigmund, 1998; Lotem et al., 1999, 2003; Wedekind & Melinski, 2000; Leimar & Hammerstein, 2001).

In some cases, the toleration of freeriding may be simple reciprocal altruism with exchange partners agreeing to terms of mutual freeriding ("you tolerate my freeriding today and I will tolerate your freeriding in the future"). Explanations based on indirect reciprocal altruism are again based on the premise that the toleration of unrelated freeriders is a means of signaling to other people that the "tolerator" is an altruist and, thus, a "good" person and a likely cooperator. Thus, these explanations predict that selection might have favored psychological mechanisms leading individuals to build reputations for being altruistic in some social environments (Palmer, 1991) by communicating cooperative tendencies through altruistic acts such as tolerating individuals who freeride on the efforts of cooperators. Again, the benefits that subsequently result from such altruistic reputations will be an increased number of individuals—those who witnessed the altruistic acts—who are willing to initiate and maintain cooperation with the altruist. In some situations, individuals may once again engage in competitive altruism (i.e., competitive toleration of freeriders) in order to establish that they are more altruistic than other individuals.

Despite the explanatory potential of these evolutionarily based theories, such theories ignore what has been a crucial and pervasive influence on human behavior for tens of thousands of years: the influence of cultural traditions on social and economic transactions, including freeriding. Incorporating an understanding of the role of cultural traditions is therefore crucial to our understanding and explanation of the treatment of freeriders. Part of the reason cultural traditions have not been given enough attention is that much of the research on freeriding is based on "investigations using game theory and experiments" (Bowles & Gintis, 2002, p.125). Even when these experiments are applied to people living in traditional cultures (Henrich et al., 2004), the artificial setting of the game makes the relationship between the results and the naturally occurring traditional behaviors uncertain. More fundamentally, the dominant theoretical approach today—evolutionary psychology—does not typically include a role for the influence of cultural traditions on behavior. For example, consider the absence of cultural traditions among the long list of factors seen as influencing human behavioral decisions in the following statement by Krebs and Hemmingway (2008, p. 36):

> From the perspective of evolutionary psychology, understanding human behavior entails determining the operating principles of mental mechanisms, that is to say, discovering the relevant instructions, programs, computational procedures, or algorithms that people use to make decisions that affect the probability that they will survive, reproduce and propagate their genes.

To partially correct this situation while improving the explanatory ability of our hypotheses regarding freeloading, we examine how and the extent to which cultural traditions influence social behavior, including economic transactions potentially involving freeriding.

Cultural Traditions and the Treatment of Freeriders

We use the term "tradition" to refer to cultural (i.e., socially learned or "copied") behaviors "transmitted from ancestor to descendant, generally parent to child, [often] over many generations" (Coe, 2003, p.5) or simply "behaviors copied from ancestors" (Palmer, 2009), and we see traditions as being of paramount importance in understanding human behavior and human evolution. In contrast to common perceptions of "cultures" and "societies" as primordial certainties in both cultural and evolutionary explanations of human behavior, we view cultural traditions and culture or society as inseparable. Traditions, passed down over generations are the *cause* for those behaviors considered "cultural" and the shared characteristics that define a "society." The networks of kin (i.e., co-descendants of common ancestors) are often falsely reified by the label of "a culture" or "a society" (see Murdock, 1971). However, societies are actually epiphenomenal—generated by individual humans who reproduce and pass on two crucial traditions to their offspring and influence their offspring to pass on those same two traditions to descendants over many generations. These two key traditions, across societies, are (1) the passing of a symbol from parent to offspring that identifies kin and (2) the passing of instructions to descendants to cooperate with (e.g., be altruistic toward, favor, support in conflict) individuals who are identified as kin. The first tradition—descent reckoning—is facilitated by the use of descent names and/or some form of body adornment (Palmer & Steadman, 1997; Coe, 2003), and the second tradition has been called the "axiom of kinship amity" (Fortes, 1969). Beginning at least several tens of thousands of years ago, the social environments that our ancestors created *required* these two types of traditions. Giving offspring some symbol that they are your descendants, such as a descent name, and influencing your offspring to copy your behavior (see Palmer & Steadman, 1997) are crucial because it is when—*and only when*—these traditions exist and are copied relatively perfectly over many generations that "large lineages or clans . . . [expanding] over time as the descendants of the original ancestor/ancestress" accumulate (Fox, 1967, p. 122).

The first of these two traditions, descent reckoning, is responsible for the formation of what is understood to be ancestral lineages or clans. It is important to note here that this formation of lineages and clans occurs through the passing of descent names from *literal* ancestors to their descendants. Thus, the co-descendants who form the living members of a lineage or clan are literally kin (related by birth links) to each other. (There are, of course, exceptions when an individual who is not descended from a clan member might be adopted into a clan; however, such instances are indeed exceptions.) It is *actual* kinship between individuals with the same *descent* name that has caused anthropologists to distinguish what they label a "*descent* group" from all of the other categories, such as age grades or co-residence groups.

Thus, even extremely large lineages and clans are not the result of a process by which individuals assert the existence of fictive (i.e., metaphorical) kinship with a large number of unrelated individuals. Rather, lineages and clans consist instead of large numbers of kin, including very distantly related kin, who are identified as actual kin by virtue of sharing a name acquired only from an actual ancestor.[1] The extension of kinship to distant kin is described by Alexander (1979, p.156; as cited in Murdock, 1949, p. 14):

> Some of the intimacy characteristic of relationships within the nuclear family tends to flow outward along the ramifying channels of kinship ties . . . [When an individual] needs assistance or services beyond what his family . . . can provide, he is more likely to turn to his secondary, tertiary, or remoter relatives than to persons who are not his kinsmen.

It should be noted that this extension of *actual* kinship identification and kinship cooperation among even very distant kin is distinct from the notion that unrelated individuals may appear to be "like" kin in some way (i.e., fictive kin).

Consistent with our hypothesis that the extension of actual kinship is the result of the cultural tradition of descent reckoning, Alexander points out that this extension of kinship is only found in traditional societies and is absent in nontraditional modern societies, saying that for "most people in a modern technological society, . . . the significance of distinguishing relatives decreases beyond some level, such as that of first cousins, because of low relatedness. . ." (1979, pp.148, 149).[2] Thus, the cultural tradition of descent reckoning appears to have extended kinship cooperation toward more distant kin than would be predicted by kin selection (freerider toleration among close kin) alone. That is, although there is still a lessening of altruism with kinship distance (e.g., greater altruism among third cousins than fifth cousins), the amount of altruism at all levels of genealogical distance exceeds the amount expected on the basis of coefficients of relatedness alone. We argue that the degree to which this is true is probably related to the ability of ancestors to successfully influence descendants via traditions. The greater the influence of traditions, the more frequently altruism among distant kin exceeds predictions based on only coefficients of relatedness (see Coe et al., 2010).

Although the correlation between individuals sharing the same descent name and actual kinship was probably quite high in past traditional societies, a greater amount of metaphorical inclusion of non-kin into purportedly kinship-based categories of people has probably taken place as traditions have deteriorated in recent times. Still, descent (as a function of cultural tradition) appears to remain, implicitly and very often explicitly, the essential element of the definition of those groups of "significant others" that go under a wide variety of labels: tribe, band, horde, deme, ethnic group, race, nation, and nationality (Van den Berghe, 1981). Even leading proponents of ethnicity as a social construction acknowledge that ". . . ethnic membership is at once a question of *source of origin* as well as of current identity" (Barth 1969, p. 29, emphasis added).

The identification of large numbers of individuals as kin would be useless without the second tradition: the passing of instructions to descendants, which influences these large numbers of identified co-descendants to *cooperate* with each other. This second tradition has

[1] It is also important to note that simply using a species of animal (e.g., totem) for a descent name does not make the genealogical links between the individuals inheriting that name from a common ancestor necessarily metaphorical or mystical.

[2] This pattern is particularly significant because it is only in recent modern non-traditional societies that kinship behavior is "consistent with a Darwinian model" (Alexander 1979, p.149) based on the calculations of kin selection.

consisted of influencing offspring to cooperate with individuals identified as kin, and to copy that behavior, influencing the offspring's offspring to do the same. The existence of such a tradition of prescribing behaviors is succinctly demonstrated by a saying among the Lugbara of Africa: "The rules of social behaviour are the 'words of our ancestors'" (Middleton, 1960, p. 27). The potential consequences of kinship identification and kinship cooperation being copied over a great many generations is illustrated by the fact that the axiom of kinship amity "applies to all of the Tiv" (Fortes, 1969, p. 237), where, as described by Keesing (1975, p. 32-33), "the whole population of some 800,000 traces descent by traditional genealogical links from a single founding ancestor" (Palmer, 2008).

Understanding the importance of both these two cultural traditions is important to understanding recent human evolution because all humans lived in very traditional societies until the last few thousand years, and most humans lived in traditional societies until the last few hundred years. Societies referred to as "traditional" thus resemble these earlier societies. Such societies typically consist of individuals identified as kin by virtue of being perceived as descendants of common ancestors. In the more purely kinship-based and traditional societies known in the ethnographic record, we suggest that the behavioral rules of conduct and the systems that support them (e.g., processes for identifying guilt, punishing offenders, enacting legislation, preventing conflict) are aimed at promoting a moral economy (Thompson, 1971; see also Scott,1977) in which cooperative relationships among individuals who are identified as kin through common ancestry endure over generations (see Coe & Palmer, 2009; Coe, 1995).

Examples of common ancestors being the source of moral prescriptions concerning proper social behaviors that have been passed down from ancestors to current generations of co-descendants are ubiquitous in the ethnographic record. For example, Fürer Haimendorf (1967, p. 148) claimed that Gond philosophy "leaves no doubt that the rules of behavior laid down in the ancestor's time remain binding for present generations." Culwick and Culwick (1935, p. 8) also write that primitive law was *ancestral*: "All of it [primitive law], is neither more nor less than the rules of behaviour ordained by the ancestors." Hoebel (1949, p. 366) writes that the source of the behavioral codes found in kinship-based societies are ancestors; Edel and Edel (1959, p. 87) state that moral codes are said to "be based on the practices of one's own ancestors," and Sumner (1907, p. 232) writes that moral codes "contain in themselves the authority of the ancestral ghosts." These rules often have no other justification than "we do it this way because the old men say it is wiser" (Sun Chief, 1942, p. 268), or "it was the custom of their ancestors" (Tylor, 1960 [1881], p. 252), or it is now our "duty" to our ancestors to behave the way they specified (Edel & Edel, 1959; Johnson,1984; Westermarck, 1912). Even in a study emphasizing the diversity of Australian Aboriginal societies, Keen (2004, p. 244) states:

> We shall see the people of several of the regions, perhaps all of them, shared a concept that can be translated as 'ancestral law' or the 'proper way,' having its origin in the intentions and actions of the totemic creator ancestors.

'Ancestral Law' in Aboriginal Australia is associated with the concept of 'The Dreaming,' a time when the original ancestors created the traditions that their descendants have been encouraged to follow ever since.

To fully understand the importance of cultural traditions specifying proper behavior toward kin, it must be remembered that such traditional rules of behavior were not merely something that occurred within a larger and pre-existing thing known as "a society" or "a culture." These rules were applied to individuals identified as kin by descent reckoning (e.g.,

names), and they influenced the way individuals behaved toward identified kin. In this sense, these rules *were* "the society" and "the culture." For example, Keen writes that in Australia before colonization, "kinship and society were co-extensive" (2004, p. 174; Maddock, 1972). Kendon also states that "kin relationships govern every aspect of social life in Australian Aboriginal society" (1988, p. 330), and Elkin states kinship "is the basis of [behavior]; indeed, it is the anatomy and physiology of Aboriginal society" (Elkin, 1979 [1964], p. 56,85; Radcliffe-Brown, 1931). Finally, Wolf (1984, p. 398) writes that ". . . the kin-ordered mode depends vitally on symbolic understandings of who is and who is not kin," and this ". . . imparts a characteristic directionality, a vectorial force to the formation and propagation of ideas. Thus, the operations of the kin-ordered mode generate claims to resources and services and apportion these resources and services among rival claimants within and between groups." The use of kinship to distribute resources and services depends, of course, "vitally on symbolic understandings of who is and who is not kin and upon a "symbolic [understanding] of what binds or distinguishes bodies of kin, or binds and distinguishes categories of kinsmen and affines" (Wolf, 1984, p.398). As these examples illustrate, there is a fundamental connection between identifying kin and allocating resources. Therefore, it is inevitable that an understanding of economic transactions, including freeriding, would benefit from an examination of traditional moral codes.

An important aspect of traditional moral codes is that they are often stated in terms of *obligations*: The obligations of kinship govern a person's behavior 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, 1979 [1964], p. 118). These obligations are often described as being both to one's ancestors and to one's co-descendants. For example, Gladwin (1953, p. 135) points out that "recently deceased ancestors [are said] to punish the lineage members for their neglect of their family obligations." Among the Ndembu, Turner writes, the "moral man" is one who "[honors] his kinship obligations" and "respects and remembers his ancestors" (Turner, 1979, p. 374). The difference between this "obligation" to follow traditional moral codes and the psychological mechanisms governing the punishment of freeriders proposed by evolutionary psychologists is clearly stated by Rattray (1929, p. xx), who explained in his book on Ashanti law, "the unwritten, uncodified, unclassified rules of conduct" were followed, not out of fear of punishment, but almost unconsciously from time immemorial." Thus, when a form of punishment occurs in traditional societies, it is not merely the result of an individual's evolved psychological mechanisms. Instead, the punishment is part of the cultural traditions passed down from ancestors that individuals feel obliged to obey regardless of their personal opinions. In other words, "The ancestors who gave the rules are said to [continue to] participate in social life, rewarding those who obey [the ancestors' rules] and punishing those who violate [them]" (Coe & Palmer, 2007, p. 9). Thus, in traditional societies, to act morally is one's duty to the ancestors; morals are not justified by a claim that they are "just" or "fair." Warren (1973, p. 32) writes that "[t]he ancestors among the Akan are not 'worshipped' as such; rather they are venerated, and they are invoked to ensure their cooperation with and aid to the living." In the world of the ancestral spirits (*asamando*), it is believed that the ancestors live as they did on earth. The living have a sense of dependence on the ancestors; it is believed that the ancestors are constantly watching over their living relations and punishing those who break customs.

The relevance of traditional moral codes specifically to economic transactions is seen in Hiatt's observation that "traditional values and expectations" regarding interactions between kin include "the ethic of generosity" (Hiatt, 1982, p. 23; see also Elkin, 1979 [1964], p. 118). Often traditional stories taught individuals to be generous and share. Ilyatjari (1998, p. 4) provides specific examples of parents telling their offspring traditional stories and teaching them accompanying rituals that "taught them to share": They told these kinds of stories, about a man,

or a good child, or a bad child who was hit or a child who was bad was punished. Ilyatjari explains, "These are the things they taught us using the leaves: living good lives, about a man getting plenty of meat and about sharing everything."

Traditions such as these can be seen as influencing freeriding in two ways. First, traditions in the form of traditional enculturation practices change the calculations that are used to identify freeriding and distinguish it from acceptable forms of reciprocity. Second, traditional moral codes stipulate the degree, form, and method of punishment for social transgressions such as freeriding. Both of these traditional influences are often overlooked simply because they are taken for granted. For example, Turnbull's well known description of the "crime of Cephu" (1961, p. 94) involves a clear example of freeriding. The crime occurs within the context of the "molimo," which is the name of a complex set of claims involving a type of trumpet and various related behaviors, some of which stipulate that individuals should contribute various kinds of offerings to be shared by everyone living together. For example, individuals are obligated to contribute food to the "molimo bakset." Turnbull describes how one man, Cephu, "had refused to contribute to the molimo basket" (1961, p. 97). Although this freeriding was disapproved of, it was tolerated until Cephu also committed "one of the greatest sins possible" (ibid.) among the Mbuti. During a communal hunt, Cephu "had slipped away from the others and set up his net in front of them" (Turnbull, 1961, p. 106). This act was seen as equivalent to stealing meat from others. In response, other individuals confronted Cephu and listed "the various ways in which Cephu had defaulted" (Turnbull, 1961, p. 106) on his obligations to contribute (i.e., engaged in freeriding). Turnbull then describes how Cephu's freeriding was punished (1961, pp. 109 – 110):

> The case was settled simply and effectively, without any evident legal system being brought into force. It cannot be said that Cephu went unpunished, because for those few hours when nobody would speak to him, he must have suffered the equivalent of as many days solitary confinement for anyone else. To have been refused a chair by a mere youth, not even one of the great hunters; to have been laughed at by women and children; to have been ignored by men—none of these things would be quickly forgotten. Without any formal process of / law Cephu had been firmly put in his place, and it was unlikely he would do the same thing again in a hurry.

Turnbull summarizes such ways of dealing with freeriders in a way compatible with explanations based on the second-order costs involved in the punishment of freeriders: "In a small and co-operative group, no individual would want the job either of passing judgment or of administering punishment, so . . . the maintenance of law was a co-operative affair" (Turnbull, 1961, p. 110).

What is likely to go unnoticed in this situation is the role of traditions. The molimo ceremony, including the obligation to contribute to the molimo basket, is itself a traditional practice handed down from ancestors for generations to promote cooperation among descendants. So too was the response to Cephu's freeriding, both in regard to the amount of freeriding to be tolerated and the extent, form, and duration of the punishment when that amount exceeded the traditional limits of toleration.

The role of tradition in resolving disputes over such things as freeriding sometimes includes the tradition of designating specialists specifically for the role of punishing a freerider and deterring others from freeriding in the future. For example, Evans-Pritchard points out that the ability of the Nuer leopard-skin chief to perform such a function partially relies on "the sanctity of the chief's person and his traditional role of mediator" (1940, p. 164). Shamans often

employ traditional ways to correct behaviors such as freeriding, often during ceremonies ostensibly to "cure" some alleged physical ailment: "illness does not mean so much an individual event but a disturbance of social relations" (Bichmann, 1979, p. 177; see also Middleton, 1960; Eliade, 1964; Lewis, 1971; Rasmussen, 1972; Turner, 1972; Siskind, 1973; Chagnon, 1983; Grim 1983; Brown 1993; Edgerton 1993; Howells 1993). To restore cooperation from disturbances caused by such things as freeriding, shamans draw upon knowledge of traditions, often learned during "a period of instruction, during which the neophyte is duly initiated by an old shaman . . . to learn the religious and mythological traditions of the tribe" (Eliade, 1964, pp, 110–11; see also Turner, 1964).

Although traditional moral codes prescribed punishment of individuals who failed to meet their obligation to be generous to kin (i.e., freeriders), Ghoshal (1959, p. 25) reports that even the punishments prescribed in codes were based on "benevolent principles." Santos Granero (1991, p. 226) reports that even today, tribal people such as the Peruvian Amuesha, claim that "yi" (morality), which promotes such kinship responsibilities as love and generosity, is crucial to the existence and perpetuation of harmonious and enduring social relationships (Coe, 1995).

Freeriding, if such a concept can even be considered to exist in such societies, would not be seen as some deviation from an equal exchange. Instead, it would probably fall into the category of "antisocial" behaviors that demonstrate "greediness or meanness" (Santos Granero, 1991, p. 226) in their "disregard for kinship duties and failure in one's duties towards other fellow Amuesha" (1991, p. 45). These immoral behaviors, the Amuesha report, were deterred through punishment, not because they triggered evolved psychological mechanisms, but because they violated the traditional moral code and thus precluded harmonious enduring relationships (see Coe & Palmer, 2007; Coe, 1995).

The aim of traditional moral codes, even when they call for punishment, appears to be the facilitating of enduring kinship relationships much more so than is the more punitive legal systems in place to punish freeriders found among non-kin, which tend to disrupt enduring social relationships (van Baal, 1981, p. 106; Coe, 2003). This kinship-based moral system is significantly different from those found in in political economies (see Popkin, 1979), where the influence of traditional moral codes on behavior has lessened and where interactions center on the exchange of good and services with non-kin. This point is crucial to an evolutionary understanding of freeriding for two reasons. First, there has not been enough time for natural selection to design psychological mechanisms to deal specifically with freeriding in more recent social environments. Second, it may only be in less traditional societies that our typical modern conception of freeriding becomes fully applicable.

Trade between Non-Kin and Freeriding

As economic interactions with non-kin increase in frequency and the influence of traditional moral codes decreases, several changes related to freeriding should occur. First, there should be a noticeable difference in what is considered proper economic behavior in relationships with kin and non-kin. Economic interactions with non-kin will be based on the conceptions of fair (i.e., even) trade and feature an increased concern about the possibility of freeriding. Economic interactions with kin, however, will still be influenced by traditional moral codes. It is for this reason that if such a situation was to arise, even today, family law, not other courts of law, would be the appropriate venue. Therefore, even today, there should be a clear distinction between what is considered to be proper economic behavior when interacting with kin and non-kin. Second, the increased contact with non-kin will often cause traditional moral codes to diminish to the point where even interactions with kin will become less influenced by

traditional moral codes. Sometimes, kinship formation may still exist even where kinship *function* has fallen away, such as in the case of the corporate patrilineages of pre-communist Southeastern China (Freedman, 1958), in which kinship organization was translated to commercial organizations (Wolf, 1966, p.3). As this occurs, economic interactions with kin should come to resemble economic interactions with non-kin (see Coe & Palmer, 2007).

The existence of different concepts of proper economic behavior applying to kin and non-kin is found in many societies. Clark (1989, p. 102) states that "Asantes confirm the contrast identified by Bloch (1973) in their ideas and their practice. The eternal, undeniable aspect of lineage ties makes non-specific reciprocity more plausible between kin than between spouses or neighbors." Briffault (1931, p. 57) states the difference more bluntly by describing two sets of rules related to socioeconomic interactions, one 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.

Bohannan (1968, p. 107) observed that among the Tiv, the moral code stated that "one does not lend to close kinsmen; one gives to them," while "one 'pawns to' non-kinsmen." Pearson (1985, p. 77), in his account of economic exchanges among the Navajo of Fort Defiance, Arizona, writes, "Kin relatives did not lend to one another items. The items were given. Neither a return nor a repayment was expected." Downs (1972, p. 26) states: "Within the domestic units of the Navajo there is a great deal of sharing, so that the ledger often becomes obscured by the overall obligation to support and assist relatives." However, Downs, continues, "Outside the network of kinship . . . quid pro quo is the rule." Often this takes the form of what non-Navajo might consider a blatant commercialism. Nonrelatives usually expect to receive money, food, or other recompense for their assistance. Gustafsson (1992, p. 71) also states that

> Relationships in the traditional social organization were based upon the notion of kinship. All other people, from other villages or other house communities, . . . with whom relationships through marriage had not been established, were treated as potential enemies. In trade every man, therefore, was a potential enemy.

We suggest that in contrast to traditional moral systems, in which the goal of resolving conflict was the maintenance or restoration of cooperative relationships among kin, laws and social norms in less traditional societies became aimed more toward preserving the nonviolent trading and other relations between non-kin. For example, in descriptions of relationships among non-kin, Linnekin writes that there is often critical gossip about "violations of reciprocity: alleged obligations, unpaid debts, or anything that might create an imbalance in the relationship" (Handy & Pukui, 1972, p. 186). Instead of being primarily motivated by a sense of obligation to one's ancestors, these newer forms of relations were often maintained nearly exclusively through fear of punishment by the state: "Within the state, the social order, whatever it may be, is maintained by the punishment of those who offend against the laws" (Herskovits, 1952, p. 330). In such social environments, it is not surprising that even the definition of what constituted "freeriding" would be very different in an interaction with a related individual than it would be in an interaction with an unrelated individual. This illustrates how in traditional societies, it is traditional moral codes, not a universal calculation of 'evenness' or 'fairness' automated by our evolved psychological mechanisms, that determined what constituted proper and improper behavior (e.g., freeriding). This is seen in Klass's (1966, p. 957) statement about Bengal villagers:

> [They] say that they cannot evaluate, they cannot deal with, the category 'good man' outside the contexts of village and kin group. Within these contexts the villager has obligations to others, and these others have obligations to him; it is solely on the basis of how a man fulfills his obligations to you that he can be evaluated.

If our view of how traditional moral codes influenced economic exchanges is basically correct, there should be many examples of societies in transition between the two kinds of value systems. That is, many societies should be becoming more concerned with concepts like fair or "even" trade and less concerned with moral obligations to ancestors. Amadiume (1987, p. 63) writes a description of a society that appears to be experiencing the first effects of the weakening of cultural traditions influencing economic exchanges:

> As Akunne put it, 'Christianity has reduced the people's ritual consciousness of Ibenne [a traditional moral oath], but the corporate ideology of lineage morality remains. Ibenne is still influential in commerce: individuals pool their capital to launch an urban business after taking their Ibenne oath, in their rural home, not to cheat one another. Ibenne is the foundation for trust and confidence—a ritual agreement with a ritual sanction.'

As traditional moral codes continue to lose their influence on human behavior, even economic exchanges with kin should increasingly be based on concepts such as even exchange rather than on moral obligation. Thus, Clark (1989, p. 102) may be describing a very widespread situation when she describes a society in the midst of shifting from a traditional society to a nontraditional society:

> Although a person ought and usually wishes to show generosity to kin, he or she has considerable leeway as to which requests to honor. Examples of self-sacrifice for kin coexist with evasions and open refusals. Legitimate considerations include the recipient's ability to profit from and reciprocate the assistance, as well as need. These conditionalities apply to virtually every kind of support, both material and non-material, immediate and promised.

As expected, when relationships are decreasingly based on cultural traditions and increasingly based on "even" trade, human behavior becomes more consistent with the predictions of evolutionary psychology, which ignore the role of cultural traditions. We suggest that it is the use of data from relatively non-traditional societies, in which there are many interactions with nonkin that are not governed by traditional moral codes, that is responsible for the overlooking of the role of cultural traditions among existing evolutionary explanations of freeriding, within which such traditions have not been recognized.

Conclusion

In this paper, we have focused on traditions or culture coming from the past, being transmitted from one generation of kin to the next, and the role such traditions play in identifying and dealing with freeriders. For decades, anthropologists focused on cultural traditions, pointing out several facts that should be considered when attempting to explain human behavior. In this

paper, we used these facts to understand freeriding behaviors and decisions regarding the treatment of freeriders. First, cultural traditions have functions. While they may not always be successful in fulfilling their functions, they serve a purpose or accomplish an aim. Second, cultural traditions can persist across many generations, over hundreds, thousands, and even tens of thousands of years. Third, throughout most of human history and prehistory, traditions were transmitted from one generation of kin to the next. Considering that humans have long lived in small groups of kin, this fact seems obvious. Finally, although there is cultural variation, certain cultural traditions are common to all enduring societies. These traditions include the fact that kin, both close and more distant, are identified culturally (e.g., body adornment) and there are moral rules encouraging cooperation among those who are identified as kin. These moral rules also specified methods for identifying and dealing with freeriders.

In the last decade, evolutionary psychologists have entered into the study of culture and added a new dimension, namely a focus on psychological mechanisms, perhaps modules in the brain, that when triggered by environmental factors, determine certain behavior. While advances have been made using this approach, the influence of cultural traditions on human behavior is just beginning to be incorporated into evolutionary explanations of behaviors including storytelling (Coe et al., 2006), the visual arts (Coe, 2003), moral systems (Coe & Palmer, 2007; Palmer et al., 2008), and others (VanPool et al., 2008). In sum, the archaeological and ethnographic records have the potential to contribute significantly to an understanding of human behavior, including freeriding behaviors.

References

Alexander, R. (1978). *Biology of Moral Systems*. New York: Adeline.

Amadiume, I. (1987). *Afrikan matriarchal foundations: The Igbo case.* London: Karnak House.

Axelrod, R. & W. Hamilton. (1981). The evolution of cooperation. *Science, 211*, 1390-1396.

Barclay, P. (2004). Trustworthiness and competitive altruism can also solve the tragedy of the commons. *Evolution and Human Behavior, 25*(4), 209-220.

Barth, F. (1969). *Ethnic groups and boundaries: The social organization of culture Difference*. Boston: Little.

Bliege-Bird R., D. Bird, E. Smith, & G. Kushnick. (2002). Risk and reciprocity in Meriam food sharing. *Evolution and Human Behavior, 23*, 297-321.

Bliege-Bird, R., E. Smith, & D. Bird. (2001). The hunting handicap: Costly signaling in human foraging strategies. *Behavioral Ecology and Sociobiology*, *42*, 9-19.

Bloch, M. (1973). The long term and the short term: The economic and political significance of the morality of kinship. In J. Goody (Ed.), *The Character of Kinship*(75-87). London: Cambridge University Press.

Boehm, C. (2008). Purposive social selection and the evolution of human altruism. *Cross-Cultural Research, 42*(3), 19-352.

Bohannan, P. (1968). *Tiv Economy*. Evanston, Illinois: Northwestern University Press.

Bowles, S. & H. Gintis(2000). Walrasian Economics in Retrospect. *Quarterly Journal of Economics,* November, 1411-1439.

— (2001). The Evolution of Strong Reciprocity: Cooperation in Heterogeneous Populations. *Theoretical Population Biology*, *65*,17-28.

— (2002). Social Capital and Community Governance. *Economic Journal, Royal Economic Society*, *112*(127), 419-436

Boyd, R. (1992). The evolution of reciprocity when conditions vary. In F.B.M. de Waal & A.H. Harcourt (Eds.), *Coalitions and Alliances in Humans and Other Animals* (473-489). Oxford: Oxford University Press.

Brembs, B.(1996). Chaos, cheating, and cooperation: Potential solutions to the Prisoner's Dilemma. *Oikos, 76*,14-24.

Briffault, R. (1931). *The Mothers: The Matriarchal Theory of Social Origins*. New York: MacMillan.

Brown, M. (1993). Dark side of the shaman. In A. C. Lehmann & J. E. Myers, (Eds.), *Magic, Witchcraft, and Religion, 3rd ed.* (92-95). Mountain View, CA: Mayfield.

Chagnon, N. (1983). *Yanomamo: The Fierce People,* 3rd ed. New York: Holt, Rinehart, and

Winston.

Clark, G. (1989). Separation between trading and home for Asante women. *Kumasi Central Market, Ghana*. Boulder, Colorado: Westview Press.

Coe, K. (1995). *Lectures from the ancestors: The moral system and art of the Chachi of lowland Ecuador*. Diss. Arizona State University.

Coe, K. (2003). *The Ancestress Hypothesis.* Newark, New Jersey: Rutgers University Press.

Coe, K. & C. Palmer. (2009). Human categories and health: New findings regarding the power of the concept of ethnicity. In D. Alberts & L. Hess (Eds.), *Fundamentals of Cancer Prevention* (137-158). New York: Springer.

Coe, K. & C. Palmer. (2007). The words of our ancestors: Kinship, tradition, and moral codes. *World Cultures, 16*(1), 2-32.

Coe, K., Aiken, N., & C. T. Palmer. (2006). Once upon a time: Ancestors and the evolutionary significance of stories. *Anthropological Forum, 16*(1), 21-40.

Coe, K., Palmer, A. L., Palmer, C.T., & C. L. DeVito. (2010). Culture, altruism, and conflict between ancestors and descendants. *Structure and Dynamics*, *4*(3).

Cosmides, L. & J. Tooby. (1989). Evolutionary psychology and the generation of culture, Part II. Case Study: A Computational Theory of Social Exchange. *Ethology and Sociobiology*, *10*, 51-97.
— (1992) Cognitive Adaptations for Social Exchange. In J. Barkow, L. Cosmides, & J. Tooby (Eds.) *The Adapted Mind.* New York: Oxford University Press.

Culwick, A. & G. Culwick. (1935), *Ubena of the Rivers*. London: G. Allen and Unwin, Ltd.

Downs, J. (1972). *The Navajo*. New York: Holt Rinehard and Winston.

Edel, M., & A. Edel. (1959). *Anthropology and Ethics.* Springfield, Illinois: Charles C. Thomas.

Edgerton, R. (1993). A traditional African psychiatrist. In A. C. Lehmann & J. E. Myers, eds., *Magic, Witchcraft, and Religion, 3rd ed* (158-168). Mountain View, CA: Mayfield.

Eliade, M. (1964). *Shamanism: Archaic techniques of ecstasy.* Trans. W. R. Trask. New York: Pantheon Books/Random House.

Elkin, A. (1964). *The Australian Aborigines*. Garden City, New York: Doubleday and Company, Inc.

Fehr, E. (2004). Don't lose your reputation. *Nature, 432*, 449-450.

Fehr, E., & S. Gachter. (2002). Altruistic punishment in humans. *Nature, 415*, 137- 140.

Fishbacher, E., & S. Gachter. (2002). Strong reciprocity, human cooperation, and the enforcement of social norms. *Human Nature, 3*(1), 1-25.

Fortes, M. (1969). *Kinship and the social order.* Chicago, Illinois: Aldine Publishing Company.

Fowler, J. (2005). Human cooperation: Second-order free-riding problem solved. *Nature*, *437*, 499-502.

Fox, R. (1967). *Kinship and Marriage*. Baltimore, Maryland: Penguin.

Freedman, M. (1958). Lineage organization in Southeastern China. *London School of Economic Monographs on Anthropology,* (18). London: Athlone Press.

Fürer-Haimendorf, C. von. (1967). *Tribal populations and cultures of the Indian subcontinent*. Leiden and Cologne.

Ghoshal, U.(1959). *A history of Indian political ideas: The ancient period and the period of transition in the Middle Ages.* Oxford: Oxford University Press.

Gintis, H. (2000). Strong reciprocity and human sociality. *Journal of Theoretical Biology*,*206*,169-171.

Gladwin, T. (1953). *Truk: Man in paradise.* New York: Wenner-Gren Foundation for Anthropological Research.

Grim, J. (1983). *The Shaman.* Norman: Oklahoma University Press.

Gurven, M., K. Allen-Arave, K. Hill, & A. Hurtado. (2000). It's a wonderful life: Signaling generosity among the ache of Paraguay. *Evolution and Human Behavior*, *21*(4), 263-282.

Gustafsson, B. (1992). *Houses and ancestors: Continuities and discontinuities in leadership among the Manus.* Goteborg: IASSA.

Hames, R. (2000). Reciprocal altruism in Yanomamo food exchange. In N. Chagnon, W. Irons, & L. Cronk (Eds.), *Adaptation and human behavior: An anthropological perspective* (397-416). New York: Adeline de Gruyter.

Hamilton, W. (1964). The genetical evolution of social behavior, II. *Journal of Theoretical Biology*, *7*, 17-52.

Handy, E. & M. Pukui. (1972). Native planters in Old Hawaii: Their life, lore, and environment. *Bishop Museum Bulletin*. Bishop Museum Press.

Hardin, G. (1968). The tragedy of the commons. *Science*, *162*, 1243-1248.

Hardy, C. & M. van Vugt. (2006). Nice guys finish first: The competitive altruism hypothesis. *Personality and Social Psychology Bulletin, 32*, 1402-1413.

Hawkes, K. & R. Bliege Bird. (2000). Showing off, handicap signaling, and the evolution of

men's work. *Evolutionary Anthropology, 11*, 58-67.

Hawkes, K. (1992). Sharing and collective action. In E.A. Smith & B. Winterhalder (Eds.) *Evolutionary ecology and human behavior.* (269-300.) New York: Adeline de Gruyter.

Hawkes, K. (1991). Showing off: Test of a hypothesis about men's foraging goals. *Ethology and Sociobiology, 12*, 29-54.

Hawkes, K. (1990). Why do men hunt? Some benefits for risky strategies. In E. Cashdan (Ed.), *Risk and uncertainty in tribal and peasant economies.* (145-166). Boulder, Colorado: Westview Press.

Hawkes, K. (1993). Why hunter gatherers work. *Current Anthropology, 34*, 341-361.

Hawkes, K., J. O'Connell, & N. Blurton Jones. (2001). Hadza meat sharing. *Evolution and Human Behavior, 22*, 113-142.

Henrich, J., R. Boyd, S. Bowles, C. Camerer, E. Fehr, & H. Gintis. (Eds.). *Foundations of human sociality: Economic experiments and ethnographic evidence from fifteen small-scale societies*. Oxford: Oxford University Press.

Herskovits, M. (1952). *Economic anthropology: A study in comparative economics.* New York: Knopf.

Hiatt, L. (1949). Traditional attitudes to land resources. In R. Berndt (Ed.), *Aboriginal sites, rites and resource development.*(13-26). Perth: University of Western Australia Press.

Hill, K., R. Walker, M. Božičević, J. Eder, T. Headland, B. Hewlett, A. Magdalena Hurtado, F. Marlowe, P. Wiessner, & B. Wood. (2011). Co-residence patterns in hunter-gatherer societies show unique human social structure. *Science*, *11*, 1286-1289.

Hoebel, E. (1949). *Man in the primitive world: An introduction to anthropology.* New York: McGraw-Hill.

Howells, W. (1993). The Shaman. In A. C. Lehmann & J. E. Myers (eds.), *Magic, Witchcraft, and Religion, 3rd ed.* (84-91). Mountain View, CA: Mayfield.

Ilyatjari, N. (1998). Traditional aboriginal learning: How I learned as a Pitjantjatjara child. In *traditional aboriginal society*, *2nd ed*. (1-5) South Yarra, Victoria: McMillan Education.

Keen, I. (2004). *Aboriginal economy and society: Australia at the threshold of colonisation*. South Melbourne, Australia: Oxford University Press.

Keesing, R. (1975). *Kin groups and social structure.* New York: Holt, Rinehart, and Winston.

Kendon, A. (1988). *Sign languages of aboriginal Australia: Cultural, semiotic, and communicative perspectives.* Cambridge: Cambridge University Press.

Klass, M. (1966). Marriage rules in Bengal. *American Anthropologist. 68*(4), 951-970.

Krebs, D. & A. Hemmingway. (2008). The explanatory power of evolutionary approaches to human behavior: The case of morality. *Psychological Inquiry, 19*(1), 35-38.

Leimar, O. & P. Hammerstein. (2001). Evolution of cooperation through indirect reciprocity. *Proceedings of the Royal Society or London.* Biological Sciences. 268, 745-753.

Lewis, I. M. (1971). *Ecstatic Religion.* Harmondsworth, UK: Penguin.

Lotem, A., M. Fishman, & L. Stone. (1999). Evolution of cooperation between individuals. *Nature*, *400*, 226-227.

Lotem, A., M. Fishman, & L. Stone. (2003). From reciprocity to unconditional altruism through signaling benefits. *Proceedings of the Royal Society of London, 270*, 199-205.

Maddock, K. (1972). *The Australian Aborigines.* London: Allen Lane.

March, J. (1978). Bounded rationality, ambiguity, and the engineering of choice. *Bell Journal of Economics, 9*(2), 587-608.

McAndrew, F. (2002). New evolutionary perspectives on altruism: Multilevel-selection and costly signaling theories. *American Psychological Society*, *2*(2), 79-82.

Middleton, J. (1960). Lugbara religion: Ritual and autrity among an East African people. Oxford: Oxford University Press.

Murdock, G (1971). Anthropology's mythology. *Proceedings of the Royal Anthropological Institute of Great Britain and Ireland* (17-24).

Nowak, M. & K. Sigmund. (1998). The dynamics of indirect reciprocity. *Journal of Theoretical Biology, 194*, 561-574.

O'Gorman, R. D. Wilson, & R. Miller. (2008). An evolved cognitive bias for social norms. *Evolution and Human Behavior, 29*, 71-78.

Olson, M. (1965). *The Logic of Collective Action: Public Goods and the Theory of Groups*. Cambridge, MA: Harvard University Press.

Ostrom, E. (1990). *Governing the commons: The evolution of institutions for collective action*. Cambridge University Press.

Palmer, C. (2009). Cultural traditions: The evolutionary advantages of non-innovation. In M. O'Brien & S. Shennen (Eds.), *Innovation in Cultural Systems: Contributions from Evolutionary Anthropology*. Cambridge, Massachusetts: MIT Press.

Palmer, C. (1991). Kin-selection, reciprocal altruism, and information sharing among Maine lobstermen. *Ethology and Sociobiology*, *12*(3), 221-236.

Palmer, C. & L. Steadman. (1997). Human kinship as a descendant-leaving strategy: A solution to an evolutionary puzzle. *Journal of Social and Evolutionary Systems*, *20*(1), 39-51.

Palmer, C. T., Steadman, L. B., Cassidy, C. & K. Coe. (2008). Totemism, metaphor and tradition: Incorporating cultural traditions into evolutionary psychological explanations of Religion. *Zygon: Journal of Religion and Science.* 43(3): 713-729.

Panchanathan, K. & R. Boyd. (2004). Indirect reciprocity can stabilize cooperation without the second-order Free Rider Problem. *Nature, 432*, 449-502.

Patton, J. (2005). Meat sharing for coalitional support. *Evolution and Human Behavior*, *26*(2), 137-157.

Pearson, K. (1985). *Processes of political development in a Navajo community.* Ann Arbor, Michigan: University Microfilms.

Pollack, G. & L. Dugatkin. (1992). Reciprocity and the emergence of reputation. *Journal of Theoretical Biology, 159*, 25-37.

Popkin, S. (1979). *The rational peasant: The political economy of rural society in Vietnam.* Berkeley, CA: University of California Press.

Radcliffe-Brown, A. (1931). *Social organization of Australian tribes*. Oceania Monograph 1.

Rasmussen, K. (1972). A shaman's journey to the Sea Spirit. In W. Lessa & E. Z. Vogt (Eds.), *Reader in Comparative Religion: An Anthropological Approach, 3rd ed.* (388-392). New York: Harper and Row.

Rattray, R. (1929). *Ashanti law and constitution.* Oxford: Clarendon Press.

Roberts, G. (1998). Competitive altruism: From reciprocity to the handicap principle. *Proceedings of the Royal Society of London,* Biological Sciences, *265*(1394), 427-431.

Sahlins, M. (1972). *Stone Age economics.* New York: Adeline Atherton, Inc.

Santos Granero, F. (1972). The power of love: The moral use of knowledge amongst the Amuesha of Central Peru. *London School of Economics Monographs on Social Anthropology*. London: Athlone Press.

Scott, J. (1977). *The moral economy of the peasant*. New Haven, CT: Yale University Press.

Siskind, J. (1973). Visions and cures among the Sharanahua. In M. J. Harner (ed.), *Hallucinogens and Shamanism.* (28-39). Oxford: Oxford University Press.

Smith, E. A., R. Bliege-Bird, D. Bird. (2003). The benefits of costly signaling: Meriam turtle hunters. *Behavioral Ecology, 14*(1), 116-126.

Steadman, L., & C. Palmer. (1997). Myths as instructions from ancestors: The example of Oedipus. *Zygon, 32*(3), 341-350.

Steadman, L. & C. Palmer. (2008). The supernatural and natural selection: The evolution of religion. Boulder, Colorado: Paradigm Publishers.

Sumner, W. (1907). *Folkways. A study of the sociological importance of usages: Manners, customs, mores, and morals.* Boston, Massachusetts: Genn and Company.

Sun Chief. (1940). *The autobiography of a Hopi Indian*. New Haven: Yale University Press.

Thompson, E. (1971). The moral economy of the English crowd in the Eighteenth Century. *Past and Present, 50*(1),76- 136.

Trivers, R. (1971). The evolution of reciprocal altruism. *The Quarterly Review of Biology*, *46*, 35-57.

Turnbull, C. (1961). *The forest people*. New York: Simon and Schuster.

Turner, V. (1979). Divination as a phase in social process. In W. Lessa & E. Vogt (Eds.), *Reader in Comparative Religion: An Anthropological Perspective*, *4th ed*. (373-376). New York: Harper Collins.

Tylor, E. (1881) [1960]. *Anthropology*. Ann Arbor, Michigan: University of Michigan Press.

Van Baal, J. (1981). *Man's quest for partnership*. Netherlands: Van Gorcium.

Van den Berghe, P. (1981). *The ethnic phenomenon.* New York: Elesevier North.

VanPool, T., Palmer, C. T., & C. VanPool. (2008). Horned serpents, tradition, and the tapestry of culture. In M. O'Brien (Ed.), *Cultural Transmission and Archaeology: Some Fundamental Issues.* (77-90). Washington D.C.: Society for American Archaeology.

Warren, D. (1973). *The Akan of Ghana.* Accra: Pointer Ltd.

Wedekind, C. & M. Milinski. (2000). Cooperation through image scoring in humans. *Science, 288*, 850-852.

Westermarck, E. (1912). *The origin and development of moral ideas*, Volume 1. London: Macmillan and Company, Ltd.

Wolf, E. (1966). Kinship, friendship and patron-client relations in complex societies. *The Social Anthropology of Complex Societies*. London: Tavostock.

Wolf, E. (1984) Culture: Panacea or problem? *American antiquity*, *49*(2), 393-400.