

An Essay on the Origins of Compassion and Altruism

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Key Words: traditions, moral systems, art, ancestors, mothers, altruism.

Introduction

Compassion, in common usage, refers to a feeling of deep sympathy and sorrow for another who suffers and the desire to soothe and heal the suffering. Acts of compassion, which are encouraged by moral systems around the world, include mercy, gentleness, tenderness, generosity, kindness, patience, and self-sacrifice. Compassionate behavior, typically, is considered to be a form of altruism and it has long been a playing field upon which art and science have silently battled. While the sciences have tended to view humans, and even compassionate behaviors, as self-interested, competitive, and driven by Machiavellian tendencies, artists have often seen humanity in another light, often focusing their work on the importance of compassion as a form of self-sacrifice.

In recent years, influenced by the discovery of the explanatory power of modern Darwinian theory, scientists have begun to argue that they are, for the first time, appropriately positioned to be able to adequately explain altruism. I agree, but with the caveat that we take a closer and more critical look at the cross-cultural characteristics of traditional moral systems, which encourage altruism, and the arts, including the close association between art and the encouragement of altruistic behavior. This focus will provide us with descriptions of the compassionate behaviors being encouraged, the individuals involved, and the social setting in which it is likely to occur, and whether or not the encouragement is effective in promoting compassionate behavior.

In discussing moral systems and art, I distinguish traditional forms from contemporary ones. Traditional moral systems and art have the following basic characteristics: They are domestic, in the sense that they are kinship based, involving the extended family as well as those sharing descent from a common ancestor (actual or metaphorical); they are transmitted from one generation of kin to the next; they persist generation after generation; they have mechanisms that make them resistant to change; and they are unlikely to be lenient in

accepting nonconforming behaviors. More contemporary moral systems and art, while built upon traditional ones, tend to be more individualistic, relativistic, more readily subject to change, less likely to persist, and a tendency to be less punitive. They also have, particularly in the case of contemporary art, a horizontal transmission and (see discussions in Coe, 1995; 2003; Santos-Granero, 1991; Schapera, 1956; Hoebel, 1949; Wines, 1853).

The Sciences and Compassion

In the sciences, the term compassion has been probed, measured, dissected, and analyzed. We now know that millions of years ago, our single cell ancestor sprang into being, not out of the head of Zeus, or Hurúing Wuhti, or Tupâ, or any of a number of supernatural beings, but was brewed like a primordial cup of tea out of inert elements. Since that humble origin, natural selection, working on random genetic mutations, has produced modern humans who not only reproduce, but who have complex subsistence strategies, who favor close kin over distant kin, who have complex cultures, and who have, at least under certain conditions, a tendency to make art and behave in ways that seem to show concern for others. If we can call this last behavior compassionate, it is likely to occur, evolutionary biologists, explain, if and only if those receiving the act or benefiting from the act are close kin (inclusive fitness) or are very likely to reciprocate (reciprocal altruism). Group selection, the other possible explanation for such behavior, is unlikely to occur as the conditions necessary for group selection to occur make it unlikely (Lewontin, 1970).

Despite the advances made by science, if the measure of the success of a field is how widely or profoundly it has influenced social behavior, it is probably true that traditional moral systems and the arts, which would include tribal and religious art, have had, over time, a wider and greater influence on human thought and behavior than science has had. The influence of art and moral systems, however, does not lie in the fact that they are, as some claim, a strategy for revealing truth (see discussion in Coe, 2003). Truth finding, or hypothesis testing, is the realm of science. One importance of traditional moral systems, I argue, was the encouragement

of compassion, particularly towards those who are vulnerable (e.g., children, the ill, and the elderly). Traditional art's fundamental importance, I argue, was found in the way it is used to attract attention to messages about important social behaviors, including compassion, thus encouraging those behaviors. Across-cultures, as I briefly outline in the following discussion, these traditions were used to encourage individuals to behave compassionately with others who were not close kin, who were, in fact, much more distantly related than the 12.5 coefficient of relatedness that would be predicted by kin selection theory. Traditions also encouraged individuals to direct altruism at individuals who were unlikely to return the altruism to the original donor, as is required by reciprocal altruism theory. These traditions apparently were effective in influencing individuals to engage in these behaviors; both the rules and behaviors were so widespread that Fortes (1969) described them in terms of an axiom, namely the axiom of kinship amity, which specifies that altruism is being directed at individuals who are not closely related, but who share common descent.

Traditional Moral Systems and Compassion

Traditional moral systems are characterized not only by their method of transmission and persistence, but also by codes that specify behavior and outline the consequences of misbehavior (Coe, 1995). Across cultures, these codes can be divided into those that promote "welfare-provision, including acts of mercy or generosity towards others, which I argue are modeled on a maternal role, and those that promote "order, or social restraint, as indicated by rules and regulations," which I argue are modeled on paternal strategies (Maxwell, 1990, p. 74).

In traditional societies, ancestors are inevitably the source of moral codes (Edel & Edel, 1957; Johnson, 1984; Sumner, 1907; Tylor, 1891; Westermarck, 1912; Wines, 1853) and those ancestors, although long deceased, are said to continue to be concerned about their descendants' behavior. Across cultures, the moral codes themselves focus on the roles of and interactions between kin and/or metaphorical kin. Several rules are said to be of fundamental importance, but central among them was the rule urging females to be a good mother (Edel &

Edel, 1957). There also were rules that encouraged men to be good husbands and fathers; that identified as kin all those sharing descent from a common ancestor (actual or metaphorical); that encouraged all those identified as kin (often through clan or tribal decoration) to behave respectfully and compassionately towards one another; and that encouraged kinsmen and women to honor the elders and their traditions (see discussion in Coe, 1995).

In these domestic moral systems, authority often was held by right of birth (Schapera, 1956), but a leader's power was "diffuse and non-centralized" (Radin, 1953, p. 245). Leaders acted as advisors and arbiters (Westermarck, 1912). They were expected to be generous and lead by example, and their duties could be heavy (King, 1972; Schapera, 1956). Santos Granero (1991) noted that for the Amuesha of Central Peru, the ideal leader's behavior mirrored that of a benevolent father. It was characterized by responsibility, not privilege; restraint of self-interested behaviors; and enduring generosity, service, and patience. The boundary of early moral systems was the "tie of blood to forefathers" (King, 1972, p. 37). Outsiders, who did not share this ancestry, were regarded as not being fully human. These individuals were not protected by the moral codes, were likely to be hated, and could even be exterminated (Briffault, 1931; Santos Granero, 1991).

Punishment for breaking the codes could be formal or informal. In many societies, the guilty were publicly shamed. In some societies, they were marked (e.g., they were tattooed, their hands were cut off), while the Eskimo made up scurrilous songs about these people and sang them in public. For the Australian Aborigines, the most fearful punishment was banishment (Spencer & Gillen, 1938). The Bushmen who were guilty of breaking moral codes were thrashed, expelled from the band, or even killed, depending upon the moral code that was broken (Schapera, 1956). Among many people, the most serious retribution was said to come from a supernatural source, which was likely to cause drought or other natural disasters (Edel & Edel, 1959, p. 115).

The Arts and Compassion

The traditional arts are unabashedly propagandistic; across cultures the arts are used to promote specific behaviors. The function of myths (or traditional stories), Maynard Smith (1984, p. 12) argued, “is to give moral and evaluative guidance...to persuade others to behave in certain ways.” Aristotle explained that stories are used to shape “a certain kind of character” (Randall, 1960, p. 16). Among the Sami of Lapland, stories formed the basis of the entire education system across the lifespan; by listening to stories the Sami “learned their history, culture, values, world view, norms, rituals, and skills needed in everyday life” (Kuokkanen, 1998, p. 11). The Sami, as the stories were told repeatedly, also were reminded of those values.

Compassion also figures prominently in the narrative of sacred texts. In the *Koran*, God is said to be compassionate, beneficent, and merciful; he asks his children to behave similarly. In biblical narrative, a compassionate person is one who protects the vulnerable, who are one’s kin or metaphorical kin, and who can be compared to a hen who gathers her chicks under her wings (Matthew 23: 37) or a shepherd who gathers the lambs in his arms and carries them close to his heart (Isaiah, 40:11).

In the visual arts we also find a cross-cultural association of traditional visual art and stories that encourage altruistic behavior. The “great teachers of China,” Gombrich (1989, p. 104) wrote, used traditional visual art “as a means of reminding people of the great examples of virtue in the golden ages of the past.” Pope Gregory the Great, in the 6th century, argued that art should be used to teach religious stories to those who could not read (Gombrich, 1989, p. 95). In Zaire, the art of the Lega people consists mainly of human and animal figurines that are used to teach proverbs about appropriate social behaviors (Biebuyck 1973, p. 45). Among the Australian Aborigines, Morphy (1991, p. 60) explains, the “teaching of paintings is seen as part of the on-going process of initiations, and takes place in conjunction with the learning [from older male relatives] of songs and of some of the meaning of paintings.” Songs and stories describe how the ancestors in the paintings behaved and expect their descendants to behave.

Ancestral heroes who lived in the Dreamtime, Elkin (1964, p. 156) writes, are models for correct social behavior. "In this way," Elkin continued, "tribal history is handed down, and the patterns of life which the myths enshrine are instilled into the minds of the younger men present, for most do today what the great heroes did in the dream time."

It is of interest that even more contemporary forms of art, which on and off since the Renaissance have often tended to be idiosyncratic, a significant number of the works we classify as masterpieces depict universal emotions including compassion (see Clark, 1979). We find compassion carved on the sorrowful face of Our Lady in Michelangelo's *Pietà*, depicted in the paintings of Frida Kahlo and the prints of Kathe Kollwitz, described by Longfellow as things that touch the hearts, and represented in Kipling's *Mother O' Mine*. Everyone seems to have a favorite compassionate and memorable character from literature, such as the father in Anthony Trollope's *The Duke's Children*. Further, the death of Beth in Alcock's *Little Women* and Tiny Tim's plight of Dicken's *A Christmas Carol* are said to arouse compassion in many readers

Issues Raised by this Discussion

Several important issues have been raised or implied by this discussion. First, across cultures we see an association between traditional art and the encouragement of certain social behaviors, including altruism. As this association is widespread and the practice appears to be ancient, it may be of considerable importance to teach and regularly remind humans to behave altruistically.

Second, there is an implied association between the encouragement of altruism and shared ancestry, with kinship identified by descent from a common ancestor. The Sami were said to share a common ancestor, just as were many other people, including the Lega, Hopi, Navajo, and Australian Aborigines. Individuals who are said to share common ancestry often use kinship terms to refer to non-kin or to individuals who are only distantly related. While many traditional people may refer to all older women as mothers and treat them preferentially, all these women clearly are not all their biologically mothers. Clan "brothers and sisters" do not

share a 50% coefficient of relatedness; in fact they may be often only distantly related; yet traditions encourage individuals to be generous to and compassionate with them. This also happens in religions, traditions in which, to provide one example, we find God the Father, Mary the mother, and members of a congregation who regularly refer to one another as sister and brother and are encouraged to love one another.

As poets, painters, and prophets, encouraged by elders, have regularly encouraged us to behave in ways that do not seem to fit with the predictions of modern Darwinian theory, the question becomes, why did they do so? As these are traditional behaviors, why did our ancestors encourage their descendants to behave altruistically with non-kin and with individuals who, due to geographic separation if nothing else, are unlikely to reciprocate? Perhaps of more importance, why would such traditions, given their costs,¹ have persisted over many generations? I will argue that moral systems and art, along with other seemingly curious and inexplicable aspects of traditional behavior, was strongly influenced by the strategies of ancestral mothers. I call this the ancestress hypothesis.

What Were Mothers Doing: An Ancestress Strategy

Others before me have pointed out that mothers are important. Not long after Wallace and Darwin put pens to paper regarding their thoughts about evolution through natural selection, the Swiss thinker Johann Jakob Bachofen (1861, p. 79) wrote that “childbearing motherhood” was the “relationship that stands at the origin of all culture, of every virtue, of every nobler aspect of existence.” A hundred years later, Robert Briffault (1939, p. 57), in his book *The Mothers: The Matriarchal Theory of Social Origins*, echoed this claim, arguing that the “essential foundation...of social organization is the direct product of prolonged maternal care and does not exist apart from it.”

Mothers, for Bachofen and those he influenced, guided “the wild, lawless existence” of our distant ancestors “toward a milder, friendlier culture” (1861, p. 91) by being compassionate and self-sacrificing. Mothers countered “violence with peace, enmity with conciliation, hate with

love.” Today, this sentiment sounds histrionic; mothering often is seen as something that occupies after work hours. Bachofen, however, assumed that harmonious social living was guided by the skills of a good mother: gentleness, kindness, patience, generosity, trust, self-restraint, and an enduring commitment to the vulnerable that outweighed all other interests. Bachofen felt that this maternal selflessness was learned, writing: “Raising her young, the woman *learns* earlier than the man to extend her loving care beyond the limits of the ego to another creature, and to direct whatever gifts of invention she possesses to the preservation and improvement of this other’s existence” (p. 79, emphasis is mine).

Males, Bachofen and others of his time assumed, made it possible for a mother to attend to all her children’s needs by defending his home with “desperate valour” and by providing for his children (Tylor, 1891, p. 151). Men became helpful, however, only after mothers began to curb male selfishness through their authority over their sons. Males had to be moved into a “voluntary recognition of feminine power” (p. 84). Mothers and wives, Bachofen wrote, had “to tame man’s primordial strength, to guide it into benign channels” (1861, pp. 144, 151). He wrote:

at times the woman has exerted a great influence on men and on the education and culture of nations. The elevation of women over man arouses our amazement most especially by its contradiction to the relation of physical strength. The law of nature confers the scepter of power on the stronger. If it is torn away from him by feebler hands, other aspects of human nature must have been at work, deeper powers must have made their influence felt. (p. 85)

Although Bachofen argued that maternal selflessness was learned, as was paternal selflessness, he felt that paternal care required “a higher degree of moral development than mother love” (p. 79). This was because, as van Baal (1981, p. 90) would explain over a century later, “a man’s heart, unlike that of a woman, is at best only partly with his family.” A father’s love (and presumably his paternal behavior) was unlike maternal love, in that it not only involved

learning, but reason. While this reasoning process was not described, Bachofen did point out that males had to learn, perhaps through trial and error, to restrain their selfishness and use their strength, intellect, and resources for the benefit of those who were vulnerable. Males, in other words, had to be taught compassion and they had to see the costs and benefits of compassion. In other words, for males compassion was part of a social contract. However, if it is true that males learned to parent, something that mothers were already doing, maternal care provided the model for paternal care, whether it was contractual or not.

Few scholars today see generous and selfless mothers, grandmothers, aunts, and wives, as influential, or theoretically interesting, or even as someone who ever has existed. The foundation of mainstream modern social theory is not based upon the assumption that mothers play a significant role. The rare scholar who does focus on females (Knight, 1991) generally sees her youthful sexual attractiveness as her sole source of power over males. This thinking ignores any influence that mothers and grandmothers had over children.

As we are unsure whether or how humans learn to parent, I risk little by proposing that our distant ancestress began to develop, through trial and error learning, strategies for providing skilled care to increasingly altricial offspring who remained dependent for many years. These strategies, which required and promoted intergenerational cooperation, also included methods for promoting the transmission of the strategies from one generation to the next. One result of these strategies was an environment that involved lower risk for fragile and vulnerable human offspring. If the increasingly large maternal investment in offspring was a driving force behind the evolution of modern humans, then culture evolved not to help males find nubile mates or compete with one another for power and resources, but to protect the vulnerable.

To explain what an ancestress strategy is, it, first of all, is a maternal strategy, not just a female one. Mothers differ from non-mothers; "Pregnancy and motherhood," Hrdy (1999, p. 95) explained, "forever change a woman." Not all mothers, however, become ancestresses; an

ancestress is a dynast; she lived and reproduced in the past and left behind her a lineage of descendants who were influenced by her strategies. An ancestress strategy, rather than being aimed at personal survival or procreation, is aimed at using social strategies to promote the survival, reproduction, and social success of that offspring, its offspring, and their descendants.

Learning and the transmission of social and other strategies from one generation to the next clearly were important to our ancestors. However, it is not my intent here to claim that mothering behaviors are completely learned. Biology plays a role in maternal behaviors; genes, for example, are involved in the production of hormones that influence menarche, menstruation, pregnancy, lactation, and menopause and the moods associated with these events. Genes, however, are expressed in an environment that is, for many primates, social. Human mothering behaviors are learned, taught, supported and reinforced, by and large, through traditional kinship and moral systems (Coe, 2003; Dettwyler, 1995a & b; Edel & Edel, 1959).

We are like other mammals in that our young must be nursed, we teach our offspring, and we tend to be highly social. We also identify kin and preferentially cooperate with them and, like some other primates, we often organize ourselves socially with other members in our lineage who share descent from a common ancestor. While human culture is more complex than that of other species, the strategies developed by our ancestresses would have involved an elaboration of primate behavioral strategies. A clue to the behavior of our ancestral mothers lies in studies of primate behavior, particularly behaviors related to maternity, kinship, and lineage or descent.

Primate Mothers and Dynasts

To try to reconstruct the behavior of our distant ancestresses, we will take a look at Flo of Gombe and her offspring, our cousins (Goodall, 1971, 1999). Flo was not the most attractive female at Gombe. Goodall (1971, p. 80) writes: "Flo looked very old. She appeared frail, with but little flesh on her bones, and thinning hair that was brown rather than black. When she yawned we saw that her teeth were worn right down to the gums." Despite her looks, Flo was "exceptionally popular" with the males when she went into estrus (1971, p. 85). What made Flo

so “attractive” to males that they treated her differentially when she was in estrus (chasing away adolescent suitors) is not clear. The possibility cannot be ignored, however, that her mothering abilities were related not only to her attractiveness to males, but to her ability to influence males, as sons and as mates.

By calling Flo a dynast, as did Hrdy (1999), we imply that she had mothering strategies that promoted the success of her lineage through time. Compared with other chimpanzee mothers at Gombe, Flo increased the investment she made in her offspring, moving towards a greater K-strategy; her mothering strategy involved intensive care. She spent a lot of time with her offspring, during which time she was very “watchful” (Goodall, 1971, p. 107) and “quick to seize [her child] if she saw any sign of social excitement or aggression among other members of the group.” She demonstrated both “tenderness and patience” (Hrdy, 1999, p. 50), soothing and kissing her children when they were afraid (Goodall, 1971, p. 242). Flo encouraged her offspring to cooperate by distracting them when they engaged in sibling rivalries.

Flo, like other chimpanzee mothers, seems to have slowly transmitted her skills to her offspring largely by example. Fifi, Flo’s daughter, learned to mother by watching her mother care for Flint, the youngest offspring (Goodall, 1971, p. 106). Flo also influenced her adult sons, as they helped protect and provision their younger (half) siblings. Their help made it possible for Flo to devote more time to her younger children over a longer period of time. In species with social learning, a lengthy period of time is necessary for mothers to transmit to their offspring the skills the mothers (or perhaps the mother’s mother) had acquired through trial and error learning (see Boesch, 1993). The closer the relationship and the longer it endures, the greater the amount of knowledge that can be transmitted.

In Gombe, there were mothers who were inadequate, who lacked Flo’s parenting skills. These “occasional maternal inadequacies,” Goodall (1971, p. 137) writes, “...may have marked

consequences for the youngsters concerned.” A strategy that has marked consequence in one generation can have marked consequences on a lineage.

Kinship in macaques and baboons, is “recognized matrilineally” (Reynolds, 1994, p. 139), meaning that they identify descent. While there is considerable cooperation within these matrilineal units (primatologists refer to these cooperative units as coalitions), between them there apparently is considerable competition. The coalitions, which can be long-term, or stable, are said to center around maternal effort (Low, 2000).

How Humans are Unique

While humans are like other mammals and primates, we are also unique. Sexual dimorphism has decreased since early hominids, while brain size has increased significantly. Females conceal ovulation and when compared with other primates delay initiating reproduction and terminate it early, long before their death. Females, especially during infertile periods, often serve as allomothers, helping kinswomen rear offspring. Human infants are altricial and remain dependent upon their parents for many years. Males and females form enduring social relationships that involve a sexual relationship and the protection and provisioning of children. Further, humans live longer and during their lives invest a significant amount of resources in complex cultural behaviors and their transmission from one generation to the next.

Although hominid females undoubtedly had a variety of mothering strategies, we apparently are the descendants of mothers who selected an extreme *K*-strategy (few offspring, with a large investment in each) over an *r*-strategy (large number of offspring, small investment in each). As measured by a number of morphological, physiological, and behavioral categories, our species is the most *K*-selected of all animals (Bereczkel 1993). As Hrdy explains (1999: 177), “A critical distinction between humans and other animals...is the sheer duration and extent of parental investment...”

Basics of our Ancestresses’ Strategy

As the investment that our ancestress made in her children increased, the total number of children that she could produce decreased. This would mean that the survival and future reproductive success of each surviving offspring would become increasingly more important in an environment in which the death of an offspring from a variety of factors, including being killed by predators or conspecific males and females, was a constant threat. To counter these threats, our ancestress must have developed strategies to protect her costly and vulnerable offspring and prepare them for life, including situations they would face after her death, by building on the maternal kinship and descent (or lineage) strategies seen in other primates and by using the influence that mammalian mothers have over their children. This maternal influence made it possible to develop, maintain, and transmit to the next generation cultural strategies, traditions, to solve practical and social problems that regularly presented themselves.

As primates seem to be able to identify kinship and descent, I assume that early humans could have done so also. By creating mechanisms for identifying individuals who shared common descent, mothers could push the common ancestor back beyond the mother and grandmother identified by some other primates. As the common ancestor became more distant, a greater number of co-descendants could be identified. This is perhaps what E. B. Tylor meant when he argued that the “natural way in which a tribe is formed is from a family which in time increases” (1960/1881, p. 249). Anthropologists use terms such as tribes, subsections, moieties, and clans to refer to individuals who claim that they share common descent. Kinship-like generosity in these categories is so common in the ethnographic record that Fortes (1969) referred to it as the axiom of kinship amity.

If a mother modified the appearance of all of her children, perhaps through a particular hair arrangement or head ornament (such as is seen in the “Venus figurines, dating back at least to 28-24,000 BP), or the use of paint, or even a permanent form of decoration (such as the dental ablation, tattooing, and cranial deformation that were becoming widespread during the

Upper Paleolithic), then all her children would be identified as her descendants and as kin to one another. If all (or even most) of her children not only copied her behavior, but, using the influence implicit in the mother-child relationship, encouraged their own children to copy it, decoration in the second generation, instead of just identifying a mother and her children, would identify the grandmother, her daughters who are sisters to one another and who now are mothers themselves, and their children who are nieces, nephews, and cousins.

In the next generation, the grandmother, perhaps deceased, would be a great-grandmother and her descendants would include individuals who are second cousins, great-nieces, etc. Each generation, if this practice continued, more individuals and more distantly related individuals would be identified as co-descendants of the first mother who decorated her offspring. Mothers, by changing the appearance of their sons so that they resemble their fathers, could use that decoration to promote a male's confidence in paternity. Decorating offspring to resemble their fathers also could help promote an enduring social relationship between children and their father as well as their father's kin.²

While the identification of kinship and descent is necessary for kinship and descent cooperation to occur, it is not sufficient. In humans, cooperation between close kin or co-descendants must be encouraged; cooperation is enculturated. We are taught, often by our mothers, who our kin are and how we must treat them. Moral systems and art apparently were a way to teach children and adults who their kin were and how they should be treated.

The Arts as Maternal Strategies

I refer to traditional art and moral systems as maternal, first of all, because they are conservative and females tend to be the more conservative sex. Further, the core of traditional art and moral systems is kinship and descent. Mothers are centers of families; kinship is identified by birth to a particular mother, and females are the ones who, across cultures, tend to grave the ancestors. In addition, the production of art requires cooperation and the themes

encourage generosity and emphasize the obligations and duties one has to the elders, to the vulnerable, and to one's kin. The maternal-child hierarchy, which was the first human hierarchy,³ is characterized by the obligations (including generosity and compassion) that the one at the top – the mother – has for those beneath her, her children, and for those who preceded her, the ancestors. Further, social mechanisms for promoting the persistence of traditions included the universal rule, “be a good mother” (Edel & Edel, 1959), as well as rules encouraging good kinship behavior. Finally, the rules governing the arts are characterized by restraints placed on aggressive and competitive behaviors, which unless contained, are threats to fragile offspring. In addition, skills necessary to produce art often are acquired during childhood, a period during which mothers have a strong influence on children.

If traditional art (e.g., music, storytelling, visual art, etc) is maternal, it will promote generosity and self-sacrifice. Examples of such ancestral art would include virtually all traditional or ethnographic art, as well as funeral monuments for ancestors, paintings (and now photographs) of family members and ancestors (perhaps found on a family altar) or, in the case of an ancestral religion, the use of objects said to be identical to those used by a distant ancestor. Other examples would include religious art depicting metaphorical ancestors (e.g., paintings of the Rainbow Serpent done by the Australian Aborigines) and, among Christians, Mary the Mother, God the Father, Christ, the Son). It would also involve stories and depictions of Clay Lady, Corn Mother, and Pacha Mama, as found in the Americas. It would include patriotic art (George Washington, the Father of his Country, risking his life to cross the Delaware River). One common denominator linking all of these “ancestors” is the lesson they offer, namely the sacrifices that they made for their descendants and, by example and implication, the self-sacrificing behavior they expect of their descendants.

The visual arts provide a fairly good record supporting the persistence of traditions. In the archeological record we see remarkable persistence (meaning that one generation copies

the prior generation) of material culture, including art. As Richard Alexander (1979) noted, culture can extend unchanged across multiple generations and far beyond an individual's lifetime. As M. G. Houston (1920, p. 2) wrote specifically about art, "we are confronted with an extraordinary conservation or persistence of style, not only through the centuries, but through millenniums [*sic*]." To provide only a few of many available examples, Wood (1991) refers to the visual art produced by the Plains Indians over a 10,000-year period as showing "remarkable monotony of pattern" (p. 33). The Kakadu rock art of the Australian Aborigines shows continuity of a Rainbow Serpent design from 6,000 years ago to recent times (Mulvaney & Kamminga, 1999, p. 359). At Broadbeach Cemetery in Queensland, Australia, the majority of mature males buried over a thousand-year period have the right upper central incisor removed ante mortem. According to the ethnographic record, dental ablation was a common part of male initiation; the particular tooth removed was determined by one's ancestry and served as an identifier of one's clan membership. As a significant number of the males buried at Broadbeach also share a dorsal defect of the sacral canal, we can assume they shared actual descent from an ancestor with those biological and cultural traits (Haglund, 1976).

While moral rules and visual art, like other communicative behaviors, are used to influence behavior, they also can be used to promote enmity and conflict. Sometimes, perhaps often, they do both at the same time; one example would be an ethnic art that identifies insiders and outsiders. In the first century, Strabo described a Scythian initiation ritual in which young males clothed themselves in wolf skins and danced in a forest clearing. After these rituals, McEvelley (1992) explained, the young males regarded non-initiates as wolves' prey. How many people have been killed or rescued, raped or protected, starved or given succor, based on their art, particularly their manner of tribal or clan dress, a style they inherited from their ancestors?

What would make traditions vulnerable to loss or extinction would be the failure of one generation of descendants to replicate the strategies of their parents and ancestors. If one

generation failed to do so, those traditions, alone and in their holistic link to other cooperative traditions, would be lost. Selfishness and competition between co-descendants, particularly males, would be dangerous for other co-descendants and a threat to offspring and traditions. For these reasons, traditions, including those of morality and visual art, regularly encourage kinship amity and restraint of competition among co-descendants and they encourage the replication of the traditions. In ancient oriental urban societies, leaders and elders argued that “the traditional rules of art [were] as sacred and inviolable as the traditional religious creeds and forms of worship” (Hauser 1959:31).

When traditional constraints on social behavior disappear, visual art’s characteristics will change dramatically, becoming more like the visual arts often appreciated today and associated with a predominantly male stable of artists: creative, expensive, competitive, and highly individualistic. Innovation is rewarded and works of art deemed worthy by a cadre of critics often end up with high prices. Visual art that is anti-tradition, creative, and used competitively to promote the artist’s self-interest (often at the expense of others) is not an ancestress strategy. It is probably not just coincidental that even today politicians and conservative groups (including groups of mothers) regularly criticize visual art that contradicts traditional values, particularly when it is publicly funded.

In this section I have outlined what the characteristics of a maternally influenced art would be and then used this outline to show that much of traditional art fits comfortably within the parameters of this model. The next issue I address in the paper is what is meant by the term “good mother.” I end this paper by discussing how we might begin to reconcile the altruistic behaviors that traditional art and moral systems are encouraging, with modern Darwinian thinking. I conclude this paper by addressing one set of problems, namely those associated with our use of the terms competition and selfish genes.

Selfish Genes and Traditions that Promote Good Mothering Behaviors

When we refer to someone as a good person, we generally mean that that person behaves in ways that appear to be altruistic or unselfish. Darwin, however, used the word “good” to refer to traits that were produced by natural selection and had a positive effect on the organism’s ability to survive and reproduce. Darwin assumed that “good” traits persisted because they promoted the survival and reproduction of individuals who inherited the traits (1962:91). Darwin’s use of the term “good” meant, as Williams (1966) noted, that the trait worked over time. “Good,” as used by Darwinists, has nothing *necessarily* to do with unselfish or altruistic behavior.

A mother’s interest, in evolutionary terms, is to behave in ways that help get copies of her genes into the future. While the mother’s genes may be aimed at getting themselves into the next generation, the mother cannot help the genes do so by being selfish, by caring only for herself. A huge part of a mother’s “interest” is the well-being of her offspring.

Although it may be true that neglectful and cruel mothers are perhaps “likely to be mentally ill, often suicidal, or desperate beyond reason” (Hrdy 1999:290), public health data suggest that the children of neglectful or abusive mothers are more likely than children who were not abused to go on to abuse or neglect their own children (Johansson 1987:90). If it is true that abused children are more likely than non-abused children to abuse their own children, why isn’t it possible that they copied the abuse? Why isn’t it possible that children of attentive mothers are more likely to grow up to be attentive mothers? Why don’t we think of different maternal strategies, serving one’s own self interest versus serving the interests of one’s offspring, as having long-term effects, as being competing maternal strategies? Why don’t we begin to entertain the notion that strategies that are successful in the short term, in that women copulate, conceive, and give birth, may not be successful in the long-term?

Traditions are culturally inherited traits that persist, passed from one generation of kin to the next, generally from parent to child or at the parents’ encouragement. One tradition that is

widespread and apparently ancient, encourages women to be good mothers; that is, to put the children's interests first by giving up their own personal comfort to ensure their children are comfortable, giving up their a portion of their own food to ensure their children are well fed, and giving up their own hedonistic desires (e.g., the desire to have time for oneself, a full stomach, a room to oneself, etc.) to be patient, and generous, and dutiful.

Edel and Edel (1959) argue in their cross culture study of ethics, that "Mother take care of your child" is a "universal imperative" (p. 34). Given the needs of children,

[t]he need for maternal care is an absolute: children need the sheltering care of a mother if they are to grow up at all...no society that has failed to provide all these elements could possibly survive; and on the whole it seems this must be provided by a mother or a very nearly equal mother surrogate.

To test their argument, Edel and Edel (1959: 114) looked at the Marquesas and Mundugumor where women reputedly refused to bear children to avoid spoiling their figures and where mothers practiced infanticide "to spite their husband's families," were harsh in disciplining their children, and rejected and handled their infants roughly. To determine whether these mothering behaviors were new behaviors or traditions that the elders encouraged, they asked: "What do the old people think of the rejecting and neglectful young mother?" "Is she punished for her behavior?" Poor mothering behaviors, they concluded, were not tolerated. Further, the mothers'

cruelty and destructiveness were so great that being a tiny group they must surely have killed each other off if they had continued in the same way much longer....We must ask of any set of data which appears to contravene or limit the universal [be a good mother], how viable is this society in fact?" (p. 41)

Mothering behaviors, they insisted, are so important that they can be seen to have an "absolute structuring effect" upon morality and they serve as the foundation for restrictions and positive ideals and virtues (p. 114). Being a good mother is so important that mothers, cross-culturally, generate moral sentiments. Edel and Edel argue that while some maternal strategies

are “good,” in the sense that they work through time, others, such as those found at one time in the Margueas, are not.

Most readers know about the naturalistic fallacy, which involves the error of determining what is good in a moral sense from what is natural or has been favored by natural selection. If someone argues that rape may be good in the evolutionary sense of having been favored by natural selection (see discussion in Thornhill & Palmer, 2000), this in no way implies it is good in the moral sense. This type of thinking is a fallacy and must be avoided. There is, however, yet another sense of the word good. When I refer to good mothers or good mothering behavior, I am using these words in accordance with how they are generally used in our society to describe certain mothers. For example, most people would agree that a good mother tries to do what benefits her children while the bad mother indulges her own desires at the expense of her children’s well being. As most readers recognize, this use of the term good *happens* to often match with what is considered morally good behavior. As readers with knowledge of modern Darwinian theory will realize, this use of the term also *happens* to often coincide with behavior that is “good” in the evolutionary sense. That is, good mothering behavior in the everyday sense tends to increase the survival and reproduction of offspring, which is “good” in the evolutionary sense of being favored by natural selection, although this may not always be the case.

Mothers described in traditional societies as being morally good, may merely be those who copied the strategies of their mothers and those strategies happened to promote their ancestors’ long-term success in leaving descendants. By referring to such behaviors as morally good, ancestors would have encouraged their daughters to behave that way, thereby promoting the replication of the traditions, their daughter’s reproductive success, and their own -- the ancestors’ -- long-term success. Dynastic strategy is the term that I use to refer to behaviors that are considered good morally and which also are “good” evolutionary speaking.

As success in the past does not predict future success, the reader, thus, should take *none* of these uses of the word good to constitute my own, or an inevitable, actual moral judgment of

what is good. Readers can decide if good mothering behavior is good or bad, just as they are free to determine whether behavior that has been favored by natural selection is good or bad. Indeed, they are free to come to the conclusion that good mothering behavior that has also been favored by natural selection is bad, and that the bad mothering behaviors that were selected against are the very best behaviors in which a human could engage. Any possible combination of the three senses of good and bad is possible.

Self Interest and Selfish Genes: Concluding Remarks

In this paper I argued that dedicated mothers were the driving force behind the evolution modern humans and their culture. I presented evidence showing that traditional behaviors mirror those of dedicated mothers: they tend to be conservative, they are centered on kinship, and they promote cooperation and altruism. The idea that mothers are important and that dedicated mammalian mothers tend to become ancestresses, may seem so obvious that some may wonder why I belabor it. I do so for several reasons. First, as this rule is widespread, it presumably is ancient. Second, as much of mothering is learned (how else can we explain why how-to books on childrearing are so popular?), and perhaps is acquired, at least to some degree, by copying, females need to be taught to be a good (or bad) mother. Third, the fact that there is an explicit (or even assumed) rule, suggests that not only do human females need to be taught to be good mothers, but they also need to be reminded to be one.

One problem with our inability to recognize or appreciate traditions and mothers is related to our focus on competition and on selfishness. For Darwin, competition could refer to the behavior of two roots, one of which, for whatever reason (e.g., it can grow to be longer) gets more water than the other. As one plant is more successful in getting the resources needed for survival and reproduction, we can say that it out-competed the other. Although we often use the word as if it did, competition does not in any inevitable way imply aggression or violence,.

A second problem is the word “selfish,” which was an odd word to choose to refer to genes. According to most dictionaries, selfish means “devoted to or caring only for oneself; concerned primarily with one’s own interests, benefits, welfare, etc., regardless of others” (*Random House Unabridged Dictionary of the English Language*, 1966, p. 1294). In other words, selfish is a word that we use to describe behavior; it basically is a criticism of certain behaviors, namely those that promote one’s own interests and are at the expense of another’s. People use words like selfish and unselfish, good and bad, moral and immoral, for one purpose: to encourage or discourage these behaviors. Generally, words like good and bad, moral or immoral, have been ancestral. While they came from the past, they are not objective definitions; they did not and do not refer to an objective reality. Our ancestors apparently used these words to encourage their descendants to behave altruistically and to discourage selfish behavior.

The interest of a selfish gene, for Dawkins, was to promote its own persistence in future generations. While certain genes persist because of the particular effect they have within a particular environment (an environment that is complex, including even the other genes within that organism), all that genes really do, as Symons (1979) noted, is influence cells. Genes are not selfish, nor are they, and this is important, designed for future effects. Genes are found in individuals in any given generation because the ancestors of those individuals left descendants. If the environment changes, the gene may no longer have this same effect.

As natural selection acts on phenotypes, not genotypes, phenotypic traits (e.g., anatomical, physiological, behavioral) persist because their effect promotes their persistence. The trait’s effect, in other words, is the cause of the trait’s persistence. Genes for color vision, for example, persist because of their effect (e.g., being able to select ripe fruit) was adaptive, it promoted, in a particular environment, the survival and reproduction of the individuals who inherited the genes and the color vision.

Selfish-gene organisms are not necessarily selfish organisms; this is not the selfish phenotype theory. Social humans do not necessarily behave selfishly. Humans, however, often

are described as if they were selfish. Dawkins warns us that if we wish to build, as he does, “a society in which individuals cooperate generously and unselfishly towards a common good you can expect little help from biological nature. Let us try and teach generosity and altruism, because we are born to be selfish” (1976:3). This inconsistent use of the word selfish has been highly problematic. It has prevented us from seeing behaviors that appear to be unselfish and recognizing that these behaviors may threaten our current assumptions.

Footnotes:

¹ Costs associated with the traditional visual arts can be high, involving not only the time that is required to make an object, but many years must be spent to learn to make it properly. There are energy costs and obtaining the resources to make art could involve traveling long distances or, at least in the case of the Australian Aborigines, could require crossing into enemy territory. There also are health costs, particularly in the case of body decoration, which Weltfish (1953) and others have referred to as one of the earliest forms of visual art. Tattoos and scarification are painful and can lead to infection. Dental decoration (e.g., filing, ablation, inlay) can result in alveolar abscesses and bone infections, are more easily subject to wear, and can cause problems with speech and mastication (Linne 1940; Romero 1970). Intentional cranial deformation can cause exostoses in the auditory canal (Hrdlicka 1940), decrease cranial volume (6% in some Peruvian skulls, MacCurdy 1923), modify the shape of the orbital ridge (Dingwell 1931), deform the cranial base, and cause headaches (McNeill & Newton 1965). Finally, traditional tribal and clan decoration, one’s ancestral visual art, rather than increasing the number of females that a decorated male could attract, as one would predict from sexual selection theory, would limit the number. Given trial endogamy and clan exogamy, a male’s decoration would deter women of another tribe or of prohibited clans.

² Males began to behave altruistically under the influence of their mothers. Flo’s sons helped protect their siblings. Once a male primate began to invest in his costly younger siblings and then perhaps help care for his sister’s offspring, an enduring union between a male and female would come to make biological sense. Although males can produce more offspring by adopting an r-strategy, once our ancestress adopted an extreme K-strategy, a male’s dynastic (not reproductive) success would depend upon his sexual access to such a female. The price of access apparently involved using aggression in appropriate ways; that is, in defense of kin including offspring. At that point a compromise might become less costly for a male; concealed ovulation would have made this compromise even more intriguing, just as it would have made an enduring relationship necessary.

With marriage, or an enduring relationship between a male and female, a number of things could begin to occur. It may, for example, significantly increase not only the number of offspring that a female can produce, but it could promote their health and well-being (Blake 1955; Wright, Steadman, Palmer, & Stamile 1997). Keeping in mind that Darwinian competition by no means needs to involve combat, competition would occur between mothers who not only have male kin who are helpers, but who also have a mate who is a social father, and mothers without such helpers. Competition between males would involve not only competition for K-strategy females,

but also competition between differing paternal strategies that had a differential effect on the survival and future reproductive success of offspring and, apparently, descendants.

Further, the identification of paternity, which came with marriage, would have significantly increased the number of one's identifiable kin. Without identification of paternity, a female reliably could only identify her own offspring or the offspring (female or male) of female kin. With identification of paternity, mothers and children would acquire not only a father/husband, but also all of the father's kin (male and female) and all the offspring of all of those kin, and the offspring of the males who were their mother's kin.

In addition, marriage was endogamous (within the tribe, or category of individuals sharing a common, distant ancestor). It consequently involved a relationship between and among co-descendants. Females, therefore, would always live among individuals who were her co-descendants, who shared her traditions, and who saw themselves as her kin regardless of whether her residence was patri- or matrilocal. An effect of such ties would be that it is possible for a male not only to protect his offspring (which is less likely or more difficult to occur given polygyny or serial monogamy), but to address outside threats more quickly and effectively as cooperation would have occurred between male kin prior to the emergence of any threat. Loyalty to one's "kin" would mean that the fighting force would be formidable; the same reactions that prepare mammals to flight or flee are aroused when higher primates perceive a threat to important social relationships (Hamburg 1952).

3. One characteristic that distinguishes mammals is a ranked relationship: offspring are subordinate to, or depend upon, mothers who guide while offspring follow. The prolonged immaturity of human and primate offspring reflects not only their dependency, which we make much of, but also the responsibility of the mother. Offspring survival depends fundamentally on this long-term, or enduring, ranked relationship. The first human ranked relationship was that between a mother and her child. This ranked relationship, which is part of kinship systems in around the world, "provides the child with a blueprint for the parameters of most anticipated social interaction."

In 1651, Hobbes (1946:131) recognized that the first human ranked social relationship was that between a mother and her child, writing that "in the condition of mere nature, where there are no matrimonial laws...the right of dominion over the child depends on [the mother's] will." Although he used the word "dominion," a better term to use when discussing the mother-child relationship may be hierarchy (Steadman 1997). *Hiero*, the word's root, is a Greek word meaning sacred or keeper of sacred things; *archos* means to rule or lead. Hierarchs, thus, were leaders of religious groups or societies and obligated not only to supernatural beings (often ancestors), but also to the people whose servant they were said to be. Hierarchy, rather than implying exploitation, seems to imply generosity, obligation, and even subordination (Santos Granero 1991: 229; van Baal 1981).

The association of high rank and duty or obligation is widespread. Humans seem to frequently form such hierarchies and respond to them. According to Barrera Vásquez (1980: 343-344), "Maya hieroglyphic script talks about 'lineage authority' using the Yucatec Mayan term *kuch*, which refers to burden, such as a burden that is carried on a tumpline against one's back, a burden of conscience, a responsibility, an obligation, or the authority of an office. To paraphrase van Baal (1981: 114), the higher a person's position in the hierarchy of power, the more is expected, the greater are the obligations.

Exploitation of subordinates, assumed to be a privilege of rank, characterizes a pecking order, not a hierarchy. Pecking orders are distinguished from hierarchies in that the individual at the top has dominance or rank, but no obligations to the one(s) at the bottom, just as the one at the bottom has no influence over the one at the top (Steadman 1997). Pecking orders are impersonal and competitive: hierarchies are personal and involve a vertical form of cooperation. Pecking orders do not imply cooperation in any form..

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