

Chapter 2

On the Evolution of the Human Capacity for Inequality and/or Egalitarianism

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Introduction

Many theories of the evolution of human social inequality are based on the necessity of overcoming the inertia of egalitarianism, which rests in turn on the assumption that egalitarianism is our default social organization at least in small groups (e.g. Smith and Choi 2007). Wiessner (2002: 234) has described this assumption as a "slate of simplicity" upon which a variety of forces acts to create inequality. She is critiquing agency theory approaches to inequality, but the assumption is much broader. Its roots lie in the concept of the *tabula rasa*: the notion that "people are so widely malleable by their social environment that the very concept of human nature must be rejected" (Gintis 2006: 377). While varying in language and formulation, it shapes theory building, explanations and expectations of the archaeological record (Wason 1994), especially for hunter-gatherers. It is also the basis of archaeological methodologies for determining the presence of inequality; inequality has to be proven, egalitarianism does not. The absence of evidence for rank is evidence for egalitarianism (Ames 2007a). However, it is reasonable to hypothesize that human inequality is at least in part due to a pan-Primate order propensity for social differentiation, dominance, and subordination. Those can take highly variable forms from primate to primate species and perhaps from hominin to hominin species. It follows from this that there is no general "inertia of egalitarianism" to overcome, or that it is weak. In other words, inequalities are always present in human societies, as is the potential for more formal systems of rank.

I do not try to prove such a propensity exists, although I think it does, but explore some of its ramifications. This is not to advocate biological determinism, but that we must understand the creature we are. I wish to avoid and have my readers avoid the "naturalistic fallacy" (Moore 1903): the idea that "natural" behaviors, whatever those may be, are therefore inherently "good" and moral or must be accepted as

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inevitable. Richerson and Boyd (1999) show how societies, through what they term "work-arounds," deal with human nature, and as Ruse puts it, "On many occasions, that which is right involves fighting that which has evolved rather than supporting and promoting it" (Ruse 2006: 239). No alleles for prestige competition have been identified. Proof will be difficult to come by; it will ultimately be indirect and take the form of a consilience of inductions and arguments to the best explanation (Ruse 2006).

Permanent social inequality is almost universally seen as a major attribute of social complexity among humans. Complexity, of course, can mean many things, including having many interrelated parts (e.g. Price 1981). As with simultaneous hierarchy (Johnson 1982), differentiation (McGuire 1983) and even heterarchy (Crumley 1995) this does not explicitly require political hierarchy or permanent inequality. However, this is not the common meaning of "complexity." When the concept of "complex hunter-gatherers" was first developed (Price 1981), inequality was one among an array of social, economic, technological and demographic traits that differentiated complex hunter-gatherers from generalized hunter-gatherers (e.g. Kelly 1995). These traits include relatively high population densities, semi to full sedentism, intensive subsistence economies moderately to heavily dependent on food storage, corporate groups, some degree of occupational specialization and so on. Substantive and theoretical research over the ensuing years has decoupled inequality from many of those initially associated traits (Ames 2007a, Arnold 1996, Sassaman 2004). Despite this decoupling, inequality is often seen as the last of these traits to emerge, or as not emerging without some or all of them being present as causes or preconditions. Theories about the origins and evolution of permanent inequality are often also theories about the origins and evolution of political economies. Earle defines political economy as "... *the material flows of goods and labor through a society, channeled to create wealth and to finance institutions of rule*" (Earle 2002: 1, *italics his*). Political economies institutionalize and pay for permanent inequality (e.g. Clark and Blake 1994). Recently, there has been discussion whether complexity, broadly defined, can exist without inequality (Ames 2007b). The issue in this paper is whether inequality can exist without social complexity, including a political economy.

This question arises as the known archaeological record expands, revealing small scale societies who seem to exhibit some degree of inequality but lack many of the other traits associated with complexity. For example, in the southeastern USA, large and elaborate earthworks were constructed in the Middle Holocene (e.g. papers in Gibson and Carr 2004) by societies that lacked many of the normal attributes of complexity, such as sedentism, high population densities, and surplus production (Sassaman 2004, Saunders 2004). Watson Brake, the most famous of these, was apparently constructed during a short period of time around 5400 and 5300 cal BP (Sassaman and Heckenberger 2004, Saunders et al. 1997). However, it was part of a more extensive system of works and a cultural pattern that persisted for centuries that to some researchers indicates "enduring inequalities" in the absence of economic and political institutions (Sassaman 2004, 2006, Sassaman and Heckenberger 2004).

My own example of this comes from the interior Pacific Northwest of the USA between ca. 10,600 BC and perhaps as late as 3500–2500 BC, a period spanning the Paleoarchaic and portions of the Archaic in the region (Ames 2000). The region's Paleoarchaic and Archaic people were generally mobile foragers, although Paleoarchaic people were somewhat more logistically organized than later Archaic groups (Ames 1988). Available evidence suggests Paleoarchaic and Archaic group territory sizes ranged between 8,000 and 10,600 km² (e.g. Connolly 1999, Hess 1997, Reid and Chatters 1997) with "long-term" land use estimates of territories ranging between 70,000 and 500,000 km² (Hess 1997). The former territories are large enough to support a small, mobile band (Reid and Chatters 1997), while the long-term estimates encompass a group's movements over a generation or more (e.g. Binford 1983).

High mobility seems to have been coupled with mortuary practices that tied people to fixed points in the landscape, marked by burial grounds with no associated residential sites. Grave goods accompanying these burials suggest some differences in access to wealth and status. Minimally, at least, there were people who were buried in these places and those who were not.

Elements of this pattern are present with the region's earliest known burial ca. 10,500 BC (Green et al. 1998) at Buhl, Idaho. Better-known examples were recovered at the Marmes Rockshelter in southeastern Washington (Ames 2000, Rice 1969). Twenty-two inhumations were excavated there, in addition to a large cremation hearth containing remains of five individuals. The cremation hearth is the oldest evidence of funerary ritual at Marmes and may date as old as 9500 BC. Of the 22 burials, five pre-date ca. 5700 BC and 15 span the period from 5700 BC to at least 2200 BC.

There are differences among the burials in the cost of the mortuary treatment. Although the cremations may not seem costly, Schulting (1995) suggests cremations are expensive forms of mortuary ritual, since they require the accumulation of the fuel. The five inhumations dating between ca. 9500 and 5700 BC have *Olivella* shell beads, projectile points, bifaces, cobbles, and bone and other chipped stone tools associated with them. The *Olivella* shells are from the Pacific Coast, at least 480 km west. While some burials had only two of these, others had 50 or more. In addition to the grave goods listed above, post-5700 BC grave goods included milling stones, stone beads, bone pendants, ochre, atlatl weights, and bear canines. Burial #9 is a good example of a rich interment. The individual was accompanied by 54 *olivella* shell beads, a cobble tool, an anvil stone, two bear canines (one grooved), an antler point, and red ochre. Several individuals were also associated with organic materials, including choke cherry seeds (Rice 1969).

The Marmes mortuary program was part of a broader regional pattern Pavesic (1985, 1992) terms the Western Idaho Archaic Burial Complex (WIABC). Other examples include the DeMoss site in west-central Idaho and several sites in southern Idaho. The DeMoss site dates to ca. 5000–4700 BC and yielded the skeletons of 22 individuals. In addition to the skeletal materials, 236 large well-made bifaces and biface fragments were also recovered. Many of these are of sufficient artisanship to suggest they were made to be placed in the graves (Green et al. 1986,

Pavesic et al. 1993). Open WIABC sites are dated as early as 5000 BC by radiocarbon dates on human and dog bones (Yohe and Pavesic 2000). Dates derived from obsidian hydration analyses indicate an age between 3200 and 2500 BC, although Pavesic feels those dates are too young (Max Pavesic personal communication). In any case, the WIABC disappears after these dates. The mortuary program includes flexed burial positions, commonly in sandy knolls overlooking large rivers. Red ocher and *Olivella* shells are common grave goods, as are a variety of large well-made bifaces, including so-called turkey-tailed blades, large side-notched points, and caches of bifaces and blanks. Much less common grave goods are canid skulls, bone and shell beads, pipes, hematite crystals, and bone, chipped stone and ground stone tools, including pumice shaft straighteners. Technologically, the DeMoss and SWIBC bifaces are linked. As noted above, the burial sites are not associated with residential sites (Green et al. 1986, Pavesic 1985).

Reid and Chatters (1997) argue these practices are the result of communal reburial by small, dispersed groups. Pavesic (Max Pavesic personal communication 2000) strongly disagrees with these conclusions, arguing the cemeteries are associated with large, stable residential groups. There is empirical support for Pavesic's views. Radiocarbon dates from the oldest documented house structure in the general region overlaps with WIABC radiocarbon dates. The pithouse, recovered in the north central Oregon uplands, was an oval structure of about 5 × 4 m, and 30–50 cm deep (Pettigrew and Schalk 1995). It is dated by four dates, the oldest of which is 5500–4300 BC (Pettigrew and Schalk 1995). Three other associated dates are considerably younger and are closer to 3800 BC. The Givens Hot Spring site (Green 1993) on the Snake River in southwest Idaho is a residential site within the general vicinity of WIABC cemeteries. House 2 there is dated by six dates on charcoal and may date as early as ca. 4000–3600 BC. There are a number of other early houses on the Plateau, most of which date between 3500 and 2500 BC, although a few are somewhat earlier (Ames 2000).

Similar to the Southeastern mounds, the SWIBC can be interpreted to reflect enduring inequalities in access to ritual, in this case mortuary ritual, as well as to markers of wealth and/or status. The pattern persists for millennia and seems associated, for several millennia, with high mobility levels. It disappears in the southeastern Plateau after collector mobility strategies, semi-sedentism, intensive economies and storage became well established in the region around 1800 BC (Ames 2000, Chatters 1995).

The inequality hinted at by these data was probably never strongly expressed, perhaps even invisible on a daily basis. The differential flows of material indicated by the grave goods were likely not the result of a formal political economy but rather consequences of the kinds of behaviors described below. This is not what Arnold (1993, 1996) and others mean by inequality and this paper is not about that inequality. It is rather about the social and economic organization from which that inequality evolved.

There are other cases like these (e.g. Glassow 2004), where indications of prestige differentials far less substantial than the Watson Brake mounds twinkle on and off in the archaeological record with no accompanying evidence of affluence or

complexity, just as there are cases in which affluence is obvious but the evidence for inequality frustratingly ephemeral [e.g. the Japanese Jomon (Ames 2007a)]. There is little in the record of the southeastern Plateau suggesting the presence of affluent foragers or complex hunter-gatherers before ca. 1800 BC and aside from the mortuary practices, nothing that would even lead them to be classed as transegalitarian. The burial data would not support claims of permanent inequality in the form of ranking. On the other hand, the Idaho data, like the southeastern mounds, intimate long-term persistent patterns of differentials of prestige and material flows not readily accommodated either to our ethnographically based notions of either egalitarianism or inequality, or to our ideas about how inequality evolves from egalitarianism.

Several distinctions and concepts are basic to this chapter. These include external and internal constraints on cultural variation (Trigger 1991), dominance, and prestige (Henrich and Gil-White 2002), and attention structures and costly signaling (see below). The rest of this section discusses these ideas. The sections following examine a series of issues including the possibility that a human propensity for inequality rests on our primate heritage, conceptions of egalitarianism including about its origins and persistence, explanations for the long-term persistence for prestige seeking, the evolution of prestige technologies, and the evolution of egalitarianism. These discussions suggest that human inequality and egalitarianism may be aspects of the illusive quality of "modernity" and briefly review the relevant archaeological record.

Constraints and Freedom

Over the past decade or more Bruce Trigger engaged in a vast intellectual project: accounting for cross-cultural continuities and similarities, sources of local variation and the interplay between them to explain the course of history (e.g. Trigger 1991, 1998, 2003). For Trigger, variation in human culture and behavior is limited by external and internal constraints. He identified three sets of external constraints: first, ecological, technological and economic constraints; second, humanity's biological nature, including our brain, a product of biological evolution; and thirdly, systemic constraints: e.g. there are only so many ways to successfully organize human societies. Keen's analysis of the interplay of ecological and social factors in limiting the development of social hierarchies in Australia exemplifies the actions of the first and third constraints (Keen 2006). Johnson (1982) and Kosse's (Kosse 1990) suggestions that the structure of human short- and long-term memory processing contribute to hierarchy formation exemplify the second kind of constraint, which also, for Trigger (2003) includes an evolved human nature with a propensity toward inequality. Trigger (2003), saw the first constraint contributing to cross-cultural variability, and the last two contributing to cross-cultural regularities.

Trigger's internal constraints are

Knowledge (or lack of knowledge), beliefs, values, and culturally conditioned habits. In this case...the main challenge is...the need for patterns or structural principles that provide some degree of coherence and meaning to the inexhaustible variety of concepts that the human mind is capable of inventing and manipulating (Trigger 1991: 557-558).

In addition to coherence and meaning, these patterns or principles have to have "some reasonable congruence to objective reality" (Trigger 1991: 555) for them to persist. Following Childe, Trigger argued that culture is free to vary in content, within the limits set by external and internal constraints and objective reality. Another internal constraint, although not mentioned by Trigger, would be cultural transmission and selection (Boyd and Richerson 1985, Durham 1991).

Prestige, Dominance, Attention Structure, and Costly Signaling

According to Henrich and Gil-White (2002), prestige is given or awarded to individuals by others in their social group while dominance is enforced through agonistic behavior and fear. People to whom prestige is awarded are honored; they are "*listened to*, their opinions are heavily weighed (not obeyed) because the person enjoys credit, estimation or standing in general opinion" (Henrich and Gil-White 2002: 168, *emphasis theirs*). Prestige may or may not carry authority, the ability to channel the behavior of others in the absence of power (Fried 1967). High status is usually invested with moral worth (Berremen 1981), although the source of worthiness may vary considerably. Moral worthiness is generally attached to prestige but can justify dominance. It is also possible for dominant individuals or groups to have low moral worth. However, human systems of inequality as we know them are inevitably invested with meaning. This is one fundamental way in which they differ from those of hominin kin.

Wiessner's distinction between repressive and affiliative strategies for gaining status or rank (Wiessner 1996a) parallels Henrich and Gil-White's distinction. She claims non-human primates rely most commonly on "aggression or repression to dominate and displace competitors, while in human societies nurturant and affiliative 'prosocial behavior'—initiating and organizing activities, protection or sharing—plays a greater and, in the long run, a more effective role" (Wiessner 1996a: 6–7). She also notes, however, that the latter behaviors also occur among chimps and bonobos. Among humans then those who behave in a "nurturant and affiliative" way are awarded moral worth and prestige by other people.

Wiessner distinguishes between status and rank or rank order. Status seeking, according to Wiessner, is "part of a complex of behaviors in which individuals strive to be in the focus of attention in order to improve their position in the rank hierarchy of a group" (Wiessner 1996a: 2). By this definition, relative status is measured by the extent to which an individual is the center of attention in a group; by how much attention that person receives. In this sense, high status is given by others. This is similar to the awarding of prestige in Henrich and Gil-White's thinking. However, attention need not carry symbolic meaning while prestige does. Rank orders result from the interplay of individual status-seeking strategies. For some, being of subaltern or even low status may be a viable strategy: "a lower position may have its own rewards . . . include[ing] avoidance of conflict, predictability of relations, protection, the benefits of organization, and other factors that also increase reproductive success" (Wiessner 1996a: 3).

The concepts of attention structures and rank orders come from ethological research with primates and pre-school age children. Hold-Cavell (1996) and Grammer (1996) argue that the frequency of being at the center of attention (Hold-Cavell 1996: 20) is a better measure of relative status in a group than are simple linear dominance hierarchies and their associated behaviors. Attention structures are essentially what animals pay attention to and how often. An individual's status is measured by the frequency with which other animals pay attention to it. There are two foci of attention: "One focus was based on positive relations, such as social grooming and proximity, where dominance or status is maintained through display, and the other was based on negative relations such as attack and threat" (Hold-Cavell 1996: 22).

An example of attention structure and status familiar to academics occurs at professional meetings. In a large and spatially dispersed discipline such as anthropology, we wear name tags at conferences so we can identify and be identified by individuals who may know us only by our name on publications and not by face. We are all familiar with talking with people who constantly scan the passing name tags, focusing their attention elsewhere and then often going off in pursuit of a higher status name as well as with the common circumstance of a room filling when a famous scholar presents her paper and then emptying like the tide going out when the unknown graduate student follows regardless of the presentation's quality. The name tags have one important departure from the kinds of attention structures described by Hold-Cavall (1996) and others. Those attention structures are based on propinquity and regular interaction. The names on the tags attract attention, but they also allow for the preservation of stable rank orders from annual conference to annual conference, although the actual personnel in the orders change through time.

An example of attention focused on attack or threat occurred to me when I was 13 years old. My family moved to a new town where I attended 8th grade in a large junior high school in which the students were drawn from a large catchment, thus the prestige structures were very unstable. During my first week there, the school's most infamous bully bodily picked me up, crammed me into my school locker and closed the door on me. He made his point. After that, I scrupulously avoided him (negative attention), and he paid no further attention to me. His subalterns, however, tormented me unmercifully for the rest of the year with little fear of direct retribution; the threat of his physical force being always there. This event illustrates several features observed among small children: status competition peaks at the beginning of the school year and, once the rank order is established, it becomes invisible unless disrupted by some event, such as vacation. After vacation, competition again peaks and then disappears. Competition of course can go underground and boil up from below. In my case, at the beginning of the year, I was a big, new, outsider male with no allies. I made friends as the year progressed but we were all low status in the school's hallways and common areas and had to pay close attention to where this person and his myrmidons were.

Because attention structure is a measure of status given by others paying attention, the concept of attention structure parallels Henrich and Gil-White's definition of prestige (Henrich and Gil-White 2002). People with prestige are attended to, the

more attention, the greater the prestige. With prestige, the paying of attention carries symbolic meaning—that of worthiness. Not all attention inevitably does so. My tracking with my 8th grade bully did not confer prestige or worthiness on him, although it was a measure of his dominance.

Attention structure also may compliment costly signaling at least in terms of status dynamics. According to a definition of costly signaling,

[Costly signaling theory] proposes that communication between individuals with conflicting interests can be evolutionarily stable if the signal honestly advertises an underlying quality of interest to observers. Advertising is kept honest and thus mutually beneficial to both signaler and observer as long as the cost or benefit of advertisement is so closely tied to the quality of the signaler that faking it costs more than the signal is worth (Bliege Bird et al. 2001).

This latter aspect about “faking it” is termed as the handicap principle. Boone (2000) explains it succinctly:

Costly signaling operates as a handicap to the sender because it costs something—time, energy, or risk—to undertake: the higher the level of extravagance of the display, the higher the absolute cost of the display. . .the costly aspect of advertisement will act as a guarantor of the honesty of the display only if those of higher underlying quality pay *lower marginal costs per increment unit of display* than those of lower quality (and not, it should be emphasized, because they get more benefit per incremental unit of display) (Boone 2000: 86).

In anthropology, costly signaling has been used to explain the seemingly irrational costly displays associated with high status. In particular it has been applied to male hunting among foragers (e.g. Bliege Bird and Smith 2005, Bliege Bird et al. 2001, Hawkes and Bliege Bird 2002) as well as to cooperative behavior among humans (Gintis et al. 2001, Sugiyama and Sugiyama 2003). The key issues here are the nature of the signal and of the benefits accruing from the signal. Some signals may be only information, albeit expensive information, but just information. The benefit to the displayer is based on how the recipient of the information behaves toward the displayer. However, the signal may also benefit the audience. In a Northwest Coast potlatch, the person holding the potlatch has their status confirmed or increased, while the attendees receive gifts and attend an often sumptuous feast. The signaler may also receive benefits from the signal’s recipients that can take a variety of forms (Bliege Bird and Smith 2005). It has been suggested that costly signaling can, under some circumstances, explain altruism, in that altruism can be a strong signal since it handicaps the sender and provides benefits for the receiver (Roberts 1998). Further, altruism can be maintained when altruists compete for the attention of other altruists (Robert 1998). However, in terms of attention structure, costly signaling is what one does to attract and sustain attention.

The Origins of Inequality or of Egalitarianism

Social scientists have formulated diverse explanations for the origins and evolution of inequality, some of which I list elsewhere (Ames 2007a). Currently many explanations focus on the actions of “aggrandizers.” Aggrandizers are

"aggressively ambitious" individuals acting to advance themselves, their close relatives and perhaps supporters. Hayden (1995: 191) describes them as "AAA-type personalities" who "regularly arise in small numbers in all societies." The explanatory appeal of aggrandizers crosscuts theoretical orientation (e.g. Clark and Blake 1994, Maschner 1991, Maschner and Patton 1996), since aggrandizer "theory" emphasizes the actions and intentions of a few individuals. It also carries ironic echoes of the "Great Man" theory of history in which all history results from the actions of a few individuals such as Julius Caesar and Napoleon. However, I do not pursue that here. Although not developed anywhere in the literature, the notion of aggrandizers as a universal, albeit perhaps relatively rare, personality type carries the implication that other, less ambitious and even perhaps anti-ambitious personality types are also universal to humans. Put another way, inherent to aggrandizer theories is the assertion that there are dominant and subordinate human personality types. Aggrandizer theories tend to ignore subdominance and subordination as active social strategies. Rather, people tend to be acted upon by aggrandizers. In any case, the assertion that there are universal personalities begs the fundamental questions of whether that is true, and if so, where they come from.

There is an emerging but still ill-defined body of theory that indicates there is at least some truth to this claim and that human inequality is based on propensities deriving from our primate heritage if not on personality types. It is clear for example, that Trigger (2003) is correct in some instances in calling egalitarianism "social engineering" (Cashdan 1980, Wiessner 1996b). He actually makes several claims about universal human propensities: that inequality is due at least in part to what he terms "a general acquisitiveness . . . deeply embedded in human nature" (Trigger 2003: 670) and to a universal human tendency to interpret conspicuous consumption as evidence of political power (Trigger 2003: 677). The latter can be restated that humans invest costly signaling with symbolic meaning, especially relating to prestige and power (see below). He also saw our sociability and competitiveness as primate legacies. Maschner (1991, Maschner and Patton 1996) sees prestige competition as an innate tendency. Wiessner (1996b) has a somewhat different list of human behavioral dispositions: social and spatial territoriality, possessiveness and respect for norms of possession, reciprocity to create bonds, incest avoidance, creation of in and out groups, and the quest for status or high regard. Richerson and Boyd (2001) argue for humans having two sets of innate social predilections: an older set that is part of our primate heritage and a newer set they call the "tribal instincts" that evolved as part of biological-cultural convolution. Among the ancient instincts is the quest for status; among the tribal instincts are cooperation in large groups, and reciprocity. They hypothesize that our hyper-sociality is supported by these instincts and attribute what they see as our ambivalence toward leadership and exploitation to the consequence of contradictory tendencies from these different sets of instincts.

Among scholars accepting the idea of a primate legacy shaping human behaviors, this legacy generally includes bonding, competition and aggression; dispute settlement, reassurance and some limited food sharing; dominance and social control; subordination and flight as strategies in dominance relationships; coalition

formation and strategic behavior; and individual personalities and social roles associated with sex and age (Masters 1991). If this is correct, it implies that humans are likely to develop dominance relationships and hierarchies as a matter of course, unless constrained from doing so. The pressing theoretical issue then becomes explaining not inequality, but egalitarianism.

Egalitarianism

Conceptions of egalitarianism vary widely. In some cases, it just means absence of permanent ranking (Woodburn 1982). It is often used to refer to acephalous societies in which certain individuals may be equals but have to compete very hard to gain the prestige of being equal, competition in which there are winners and losers. In Fried's classic definition, egalitarian societies are those in which "there are as many positions of prestige in any given age/sex grade as there are persons capable of filling them" (Fried 1967: 715). Leadership is informal and leaders are chosen for their abilities in certain circumstances and their leadership does not carry over. In such societies individuals also have equal access to the means of production; reciprocity and generosity are valued. Fried's definition recognizes the existence of prestige and the potential for differences in prestige. Woodburn (1982: 432) defines egalitarian societies as immediate return societies that "systematically eliminate distinctions—other than those between the sexes—of wealth, of power and of status. There is here no disconnection between wealth, power and status, no tolerance of inequalities in one of these dimensions any more than in the others." He goes on to argue that this is accomplished by social means that as he puts it "systematically disengage people from property." Individuals have direct access to cultural, social and environmental resources. Helliwell (1995) suggests Woodburn (1982) may conflate ideas of individual autonomy with egalitarianism and that while personal autonomy may be one strategy of maintaining egalitarian relations, ideals of autonomy are not incompatible with inequality. Brunton (1989) uses Woodburn's focus on individual autonomy to argue egalitarian societies essentially lack institutions and the capacity to transmit culture across generations. As a consequence, such societies will be short lived. This idea has interesting implications for the long-term resilience of egalitarian societies.

In some ways, Hawkes' (2000) description of egalitarianism among the Hadza (among whom Woodburn also conducted field work) mirrors that of Woodburn. She suggests that hunting is a logical avenue for competition among men for prestige, especially given its dietary and ideological importance to the Hadza. However, the inherent unpredictability of hunting undercuts any sustained claim to high status based on hunting success. In this case, egalitarianism is a very unstable, fluid rank order, rather than an institution repressing prestige competition.

Boehm (1993, 1999, 2000) posits that egalitarianism does not exist; rather he postulates a "reverse dominance hierarchy" in which coalitions of subdominant individuals prevent normally alpha individuals from exercising dominance. Importantly, for Boehm this is a learned behavior while prestige seeking is part of our primate

heritage. He also stresses the ideological aspects of egalitarianism, that it represents a moral order. In some ways, he seems more interested in the evolution of moral orders than in egalitarianism per se. Erdal and Whiten (1994, 1996) reject his notion of a reverse dominance hierarchy, preferring "counter-dominance." They see counter-dominance evolving from a positive feedback loop between prestige competition and the continued evolution of social intelligence in humans. The social intelligence is also part of our primate heritage, in their view. But, over the course of human evolution, it has ratcheted up and at some point, the social dynamics and manipulations required for maintaining dominance became too expensive; it was energetically cheaper to resist dominance (counter-dominance) and ensure a fair share of resources via sharing than expending energy to control resources. They see sharing as having some innate basis.

In contrast, Wiessner argues egalitarianism is the outcome of complex institutions and ideologies created and maintained by cultural means that empower coalitions of the weaker to curb the strong (see also Cashdan 1980, Kelly 1995). Egalitarian coalitions vary as greatly in configuration, composition, scope, and nature as do hierarchical power structures, producing a wide variety of paths to and outcomes of the institutionalization of inequality in different societies (Wiessner 2002: 234). She (Wiessner 1996b) describes the range of sanctions employed in a sample of 27 foraging societies to prevent the accumulation of prestige by successful hunters. She concludes such sanctions are virtually universal among egalitarian foragers, although diverse in form. Their ubiquity suggests to her that status seeking is a universal human disposition that can be repressed but not eradicated. She explains the necessity for these measures by arguing they are part of long-term pooling of risk—not just hunting risk, but "an extraordinarily wide range of risks must be pooled over the long-term through reciprocal relationships" (Wiessner 1996b: 186). This explanation for egalitarianism is perhaps the most widely accepted by anthropologists and archaeologists (e.g. Ames 2004), although it is challenged, sometimes on sharply differing grounds (e.g. Hawkes et al. 2001, Sassaman and Heckenberger 2004).

A number of theorists suggest egalitarianism is part of the prosocial human instincts and behaviors ensuring high levels of cooperation within small human groups despite "low levels of genetic relatedness among group members" (Bowles and Gintis 2004). They postulate a proximal mechanism that they call "strong reciprocity: where members of a group benefit from mutual adherence to a social norm, strong reciprocators obey the norm and punish its violators, even though as a result they receive lower payoffs than other group members" (Bowles and Gintis 2004: 17). The emphasis here is on cooperation, and so includes reciprocity as risk reduction. More importantly, however, these models rest on the postulates that strong reciprocity requires modern human cognitive abilities (Bowles 2006), and on prosocial instincts or tendencies that evolved through gene-culture coevolution (Richerson and Boyd 2005).

These theories and others vary in the degree to which they stress the absence of prestige-seeking behavior (e.g. Boehm 1993, 1994, 1999, Knauft 1991, 1994) or the active repression of prestige-seeking behavior (e.g. Wiessner 1996b, Woodburn

1982) and the degree to which that requires institutions or sanctions to accomplish (e.g. Brunton 1989, Wiessner 1996b). They also vary somewhat in the societies included in their ethnographic samples, which in turn shapes their results, producing some controversy (e.g. Erdal and Whiten 1996, Knauft 1991, 1994). This variance probably also reflects variability in what constitutes what is labeled egalitarianism in actual practice. It seems to conflate an array of social practices from weak, unstable or stable rank orders with no repression of prestige competition to active repression of competition and a strong egalitarian ethos. When the distinction is necessary here, I term the latter option formal egalitarianism. There is similar variation in the mechanisms scholars propose to overcome the inertia of egalitarianism (Ames 2007a).

Whatever mechanisms are proposed, they assume that all Pleistocene societies, or at least Late Pleistocene societies, were egalitarian despite possible evidence to the contrary (e.g. Soffer 1985, Vanhearen and d'Errico 2005). This assumption is made a self-fulfilling prophecy by archaeological methodology. Egalitarianism in the archaeological record is demonstrated by negative evidence—the absence of evidence for inequality. Inequality has to be proven; egalitarianism does not (Ames 2007a). Because the evolution of permanent inequality is widely seen to be a major Rubicon in human history, archaeologists have developed a large armorium of methods for investigating its presence and variation in ancient societies (e.g. Ames 2007a, Wason 1994). We have no equivalent methods for positively demonstrating the presence of egalitarianism, nor are such methods generally thought to be necessary. Scholars often apply Yoffee's rule: if you have to argue whether it is, it isn't (Ames 2005, Pauketat 2007, Yoffee 1993): if it is possible to debate whether a particular ancient society had inequality, then it did not, which means, *ipso facto*, it was egalitarian, especially if it was a small society of mobile hunter-gatherers. As a consequence, the seemingly lengthy archaeological record of egalitarianism is a record of cases assumed to have been egalitarian on the grounds of "default egalitarianism" or which failed Yoffee's rule. Even the concept of "transegalitarian" societies which was proposed (Clark and Blake 1994) to encompass the typological murkiness between egalitarian and stratified societies requires demonstration of "emerging" inequalities. This is not to recommend less rigorous standards (see Ames 2007a) rather to stress that a failure to demonstrate ranking is not the same as demonstrating egalitarianism and that without positive evidence, the case is unproven. To paraphrase Lieberman (2008: 56): to establish whether an ancient society is egalitarian or ranked should be equally burdensome in terms of rejecting a hypothesis. There also may be more alternatives from which to pick.

These issues aside, the origins of egalitarianism are generally placed either in the more remote human past, in the Lower Paleolithic (Wiessner 2002) or as much as two million years ago (Hayden 2001). Other estimates date it to ca. 100,000 years ago (e.g. Boehm 1999, Gintis et al. 2003, Richerson and Boyd 1998). These latter estimates link egalitarianism and human forms of inequality to modern human cognition regardless of whether the behavior is learned or part of recently acquired innate tendencies. Egalitarianism then becomes part of the package of cognitive and behavioral traits comprising "modernity," which distinguishes modern *Homo*

sapiens sapiens from all other hominids including not so modern *Homo sapiens*. For others (e.g. Hayden 2001), egalitarianism either predates modernity, or modernity predates modern *Homo sapiens sapiens* (e.g. Barham 2007, Hayden 1993, Zilhão 2007). The first of these possibilities is unproblematic if egalitarianism is our default form of organization or if Hawkes (2000) and Erdal and Whiten (1996) are correct, since their theories do not require culturally based norms. The second possibility is a matter of intense debate and well beyond the scope of this paper.

The persistence of egalitarianism, regardless of when it originated, is generally seen as the consequence of the balanced, reciprocal social, and economic relationships egalitarianism is thought to maintain among individuals and social groups. These ties are believed to have been essential to survival in the high-risk environments of the Pleistocene (e.g. Hayden 1995, 2001, Wiessner 2002). This explanation has been challenged. Hawkes et al. (2001) use Hadza data to argue that the meat sharing thought to be central to these reciprocal relationships represents costly signaling rather than reciprocity. Additionally, egalitarianism is not necessary to maintain widespread reciprocal social ties that give access to resources (e.g. Hadja 1984, Suttles 1960) and the environments occupied by the classic egalitarian groups may not be as high risk as generally thought (Porter and Marlow 2007). But that is not the immediate issue here. Rather, the issue addressed here arises from the claim that modern human inequality rests upon tendencies in human nature rooted in our primate heritage: if egalitarianism was the norm for hominin societies for some 100,000–2,000,000 years, how and why did our innate tendencies toward inequality persist? Put another way, if egalitarian behavior was advantageous over many millennia, why did natural selection not work against the more competitive, dominance-seeking individuals. If it can build “prosocial” tendencies, including egalitarianism (Bowles and Gintis 2004, Boyd et al. 2003, Boyd and Richerson 2006, Gintis et al. 2003, Richerson and Boyd 1998, 1999, 2001, Richerson et al. 2003), why not work against prestige seeking? Knauff (1991) seems to suggest that it did exactly that over much of the Pleistocene until increasing population density and economic production revived hierarchical organization in the Late Pleistocene/early Holocene. Erdal and Whiten (1994, 1996) are quite explicit on this point. In their “Machiavellian Intelligence” model, egalitarianism, as resistance to dominance, develops as the less costly alternative to dominance seeking. One ensures his or her own fair share of resources (meat in their model) while preventing others from getting more is cheaper than trying to get the most resources via prestige competition. This seems to describe a circumstance in which selection might work against individuals with innate tendencies toward prestige seeking.

The Persistence of Prestige Seeking

Frankly, at some level, asking why an innate tendency toward inequality would persist seems like a stupid question, but it leads in some interesting directions. There are a few answers: the tendency could be so deeply engrained in our genome (similar to having five fingers or binocular vision) that it would be exceedingly

difficult for selection to eliminate. More narrowly for humans, Heinrich and Gil-White (2002) suggest that the granting of prestige by humans facilitates and speeds cultural transmission. A more obvious answer is that it is simply biologically good to have high prestige; benefits accrue to high prestige individuals, including better health, access to resources and ultimately relatively higher reproductive fitness, even among apparently egalitarian foragers (e.g. Maschner and Patton 1996, Smith 2004). These benefits are well documented and widespread among social animals (Sapolsky 2004). Further, they may accrue within very finely graded systems of ranking.

In a series of studies of health status among British civil servants, Marmot demonstrates significant health differences even between immediately adjacent ranks (Marmot 2004). These are not the obvious differences in health between lower and upper class individuals but are differences among members of the same social class who differ narrowly in their civil service rank. Marmot (2004) has extended this analysis beyond Britain to encompass other industrialized countries in what he terms the "status syndrome." He explains these differences proximately as a consequence of less individual autonomy at lower ranks, even between immediately adjacent ranks and ultimately to mind-body interaction. Be that as it may, what is important here is that these differences exist between individuals who differ only slightly in their status and in ways that might be invisible to all but the best informed observer. Therefore, it is plausible that differences in health status might accrue within otherwise apparently egalitarian societies that have a stable prestige rank order, even where the difference seem slight or invisible. Speth (1990) argues that these slight or seemingly invisible differences can have important health and nutrition consequences, particularly during annual periods of food stress. He documents these consequences for women in forager societies but raises the possibility that there may be status consequences as well.

A study of dental health among three Pygmy groups lends supports for these inferences. The three groups—the Efe, Aka, and Mbuti—are generally archetypes of egalitarian organization. Walker and Hewlett (1990) examined the dental health of members of all three groups as a proxy measure of overall health. Dental health varied along two dimensions: gender and status. Women had poorer dentition than men. Men who were leaders (i.e. with higher prestige) had significantly better teeth than those who were not leaders. Additionally, Aka leaders are on average 3 cm taller than the average Aka male (Hewlett 1988). They propose that gender differences reflect women having more carbohydrates in their diets. There are no visible prestige-based dietary differences. However, the likelihood is that the prestige-related differences reflect greater amounts of meat in the diet. They propose two alternative explanations. Good teeth are prized in these societies and thus men with better teeth are more likely to become leaders, or men with higher prestige have wider social networks that give them greater access to meat. Kent (1991) proposes a third explanation: that good hunters have more meat in their diets and therefore have better teeth, and good hunters (or men with good teeth) become leaders. A key issue in all three explanations is that whatever is causing the good dental health has

to be sustained over time, since the leaders in the survey were middle-aged men, years past when their adult teeth erupted.

Walker and Hewlett (1990) place little credence in their first explanation (men with good teeth become leaders because good teeth are prized) since it does not explain how good teeth are maintained over a lifetime. In their response to Kent (Hewlett and Walker 1991, Kent 1991), they develop their second hypothesis more fully in arguing against her hunting hypothesis. They note that there are three leadership positions among the three groups, one of which is clearly based on hunting prowess. These individuals are generally elephant hunters but are also active in spiritual affairs. There is usually one of these individuals for every two or three camps. Although the other two leadership positions are held by the oldest active hunters in a camp, hunting or spiritual abilities are not leadership factors; rather, it is the ability to "calmly and thoughtfully mediate disputes." Additionally, they observe these individuals come from the largest patrilineages present in a camp. The resulting greater "kinship resources" affect a range of other resources, including marriages. They hypothesize that the larger kin network would give individuals life-long access to a relatively greater range of foods, including meat, which would contribute to sustained dental health. While they do not develop the point, this seems to carry the implication that leadership positions are associated with particular kin groups and therefore may have some degree of ascription (see also Hewlett 1988).

Kent's hunting hypothesis (Kent 1991) would require that an individual have access to a regularly successful hunter while their permanent dentition was coming in, and then themselves became a regularly successful hunter in turn. This seems to necessitate a level of hunting success higher than what the ethnographic record indicates for hunters generally. It also requires access to the meat gained in the hunt. Even if one invokes Marmot's autonomy explanation, that sense of autonomy would need to exist even before the person became a leader to account for the good dentition.

Sugiyama and Sugiyama (2003) postulate that higher prestige may bring health benefits in the form of greater care in a health crises. They argue that giving health care is costly to the provider and ask what benefits does the provider accrue when giving care and how does one ensure in turn they will get the care they need when it is needed. They argue this is done through the cultivation of valued and essential skills, i.e. costly signaling that benefits the audience, in fact, that needs to benefit the audience. The cultivation of skills brings prestige (see also Olausson 2008).

Walker and Hewlett's (1990) empirical study has not been duplicated (which is different from saying their results have not been duplicated). Thus extrapolating just from their sample (albeit with its three but related populations) to all egalitarian foragers and human evolution is risky. However, their results combined with Speth's (1990) and Marmot's (2004) show that higher status and prestige can differentially benefit their holders even in situations where the differences in prestige are slight to invisible and the causes of the differentials in benefits difficult to perceive. A number of studies have shown that among foragers hunting success leads to increased prestige, which positively affects fitness (Smith 2004). Given that good health

should also positively affect fitness, Walker and Hewlett's (1990) study raises the possibility that the size of social networks impacts fitness. However, the point here is that even in ostensibly formal egalitarian societies, there are a number of avenues along which natural selection would maintain a human predilection for status differentials and competition. Taking this point further, these subtle but likely persistent differentials occur in the absence of any overt control of resources.

This returns the discussion to the notion of "altruistic competition" (Roberts 1998) and the nature of status competition in egalitarian societies. My father was a protestant minister, and I grew up in the Baptist church (although anyone familiar with Baptists will know there is no Baptist "church"). Churches, their congregations and individuals within congregations compete for prestige and control along any number of avenues. The members of church music committees, for example, can compete over the tempo at which hymns are played during services by the church organist, themselves often a volunteer and member of the committee. This competition may seem pathetic, but the person who controls the pace of music controls the tone of the service (e.g. slow, reverential, and funereal vs. upbeat and cheerful) and markedly affects the experience of the congregation. A protracted battle can even drive out a minister. Congregations can also compete among themselves via relative piety. In my childhood, at least, Baptist churches and services were quite austere; the buildings had few decorations and embellishments; the services were equally plain. This was originally a reaction to the rich decorations and elaborate rituals of Catholicism. However, Baptist churches and congregational factions also vied among themselves to be the more austere as a reflection of greater piety. This competition required little in the way of material resources; in fact it made a virtue of apparent relative poverty. The less one displays, the greater one's piety or purity. In formal egalitarian societies, high prestige accrues to those who exemplify egalitarian values, humility, generosity, and what might be termed altruism. In the same way that congregations can compete via the relative austerity of their services and churches, foragers can compete via being more humble. In fact, I would suggest that's exactly what an aggrandizer with a Machiavellian intelligence would do: humble him or herself all the way to high prestige.

While austere piety may not be materially costly, it is hard work and has marginal costs. Austere piety requires continual vigilance and enforcement; individuals who stray need to be identified and punished, sometimes by being severed from the church. This is not unlike the work required to maintain egalitarianism through what Boyd et al. (2003) term altruistic punishment; the punishment of non-cooperators in group situations where the punishment costs both the punisher and non-cooperator. The ongoing costs of norm enforcement and punishment are borne by the group and by the individuals who enforce group norms both on themselves and others (Gintis 2006).

From this it follows that one of the effects of egalitarianism may not be the elimination of status competition, but making it materially cheap. The material costs of costly signaling via humility may be very low even if the signal provides some benefit to the audience (Gintis et al. 2001). I am not suggesting this as an explanation for egalitarianism, merely that this may be one of its effects. Henrich and Gil-White

(2002) compare what they term the ethology of dominance among chimpanzees and of prestige among humans. None of the human prestige-granting behaviors they list carry much if any cost. Feinman and Nietzel (1984) enumerate high-status markers in a sample of middle-range societies. Among these are special houses, multiple wives and elaborated mortuary ritual, all of which might be costly. However, they also list several that are not costly, including obeisance, special language, and services. All of these considerations taken together suggest that, like our close primate relatives, it is possible humans and our ancestors have had rank orders conveying differential biological and social benefits over long periods of time without what Hayden calls "prestige technologies" (1998) or visible political economies.

On the Evolution of Prestige Technologies

The discussions of attention structures and costly signaling are the basis for suggesting two parallel hypotheses for the evolution of prestige technologies and for the maintenance of rank orders and dominance hierarchies in hominin societies. Attention structures require regular propinquity to maintain rank orders. They can be sustained by periodic aggressive enforcement as with the reassertion of dominance in school groups at the beginning of a new year or after a holiday. Primate data also show that rank orders require renewing and reorganization when new individuals join the group or others leave. According to Dunbar (1997, 2003), mutual grooming, an intimate, tactile form of attention, is a primary means by which primate rank orders are acted out and created on the fly as it were and is the glue holding most primate societies together. Humans, of course, do not socially groom. Dunbar (1997, 2003) argues language evolved to replace grooming in the large, spatially dispersed groups that characterize humans.

Gamble (1998) postulates a scalar ordering of hominid social networks, identifying four such ego-based networks and linking them to the famous "magic numbers" of hunter-gatherer social demography. The networks are the intimate network with perhaps five to seven people, the effective network has six to perhaps 34 people; the extended network encompasses 100–400 people; and the global network that has an upper limit of about 2,500 people. These demographic thresholds have appeared in other guises (e.g. Kosse 1990). Gamble argues the global network is unique to modern humans, while the other three are general primate networks. He operationalizes them archaeologically by distinguishing among locales, where individuals interact, local-scale networks, which are the intimate and effective networks, and the social landscape, which encompasses the demographically largest global network and is itself a set of linked local networks. The smaller networks have regular face-to-face interaction and are the scale at which mutual grooming works. At their level, dominance hierarchies and rank orders could be maintained by on-going reinforcement of attention structures. Overt dominance might be rare. However, this would not be possible at the large demographic and spatial scale of social landscapes. It is at this level, for example, that symbolic signaling of group membership, status, etc., would come into play (Wobst 1977). Such signaling would be unnecessary

at more intimate scales where the individual is known. Indeed, for Gamble (1998, 1999), symboling makes social landscapes possible and he places the appearance of social networks between 100,000 and 60,000 years ago, a time he sees marked by greatly increased mobility and expanded networks. He calls this the "escape from proximity."

Beads and other forms of personal adornment, especially ochre (Barham 2002, Marean et al. 2007, Watts 2002), are among the very earliest items often thought to mark the appearance of modern cognition, or at least symbolic capacities. The specific symbolic meaning of beads and arrangements of beads can be extremely difficult if not impossible to establish (d'Errico et al. 2003, Kuhn and Stiner 2007). However, from the standpoint of attention structure, their ancient meaning is actually irrelevant. They materialize attention, capturing and focusing it on the wearer in the same way name tags do at academic conventions. They store attention structures (Donald 1991) while at the same time providing new avenues for competition. In populations that were mobile and dispersed, and/or participating in Gamble's (1998) social landscape, a materialized attention structure would stabilize rank orders across space and time. Their appearance in the archaeological record could mark circumstances where proximity-based rank orders were increasingly difficult to maintain and increasingly fluid with expanding social networks and increasing mobility.

In its broadest form, costly signaling theory is about natural and sexual selection building expensive organic structures or behaviors. Among humans, it is generally applied to hunter-gatherer hunting and modern "conspicuous consumption," which is costly signaling via material culture, either through making or consuming things requiring labor, time, and/or skill. Costly signaling does not require symboling. It is unlikely peacock hens symbol, and, among hominins, it can convey information in small face-to-face networks as well as in large social landscapes. Given its ubiquity among animals, it likely has great antiquity among hominids (e.g. O'Connell et al. 2002).

It is also plausible, even likely, that as symboling evolved, however and whenever that happened, it co-opted costly signaling, or costly signaling co-opted it, via mutual reinforcement. The same would hold for attention-getting devices such as beads and red ochre. Human prestige is attention giving with an overlay of symbolic meaning that reinforces the original behavior and gives it an ideological significance that it did not originally have. For example, if O'Connell et al. (2002) are correct about hominin males competing for prestige via meat acquisition at the Plio-Pleistocene boundary, meat's role in hominid status construction is far more ancient than its current wide spread symbolic meaning as a prestige food.

The discussion in the preceding two sections suggests that differential access to resources including food, health, and reproduction can persist in egalitarian societies in the absence of an overt or visible political economy. Intense competition via competitive altruism or competitive humility can occur using non-material resources. Even costly signaling may have no material consequences. This latter point is not to suggest that resources and differential resource flows are irrelevant. Seemingly minor differences in health and fertility can have long-term evolutionary

consequences. However, it is to suggest that differential access to resources and unequal benefit from resources can exist without an overt political economy. Inequality, at least in the form of persistent rank orders, does not require complexity.

At the same time, costly signals, attention structures and existing rank orders, when coupled with symboling, can literally materialize. This materialization does not necessarily mean their emergence or origin but the material manifestation and perhaps intensifying of preexisting rank orders. The same holds for political economies; they evolve from preexisting differential resource flows rather than from some blank economic slate.

The Evolution of Egalitarianism

Paleontological and DNA evidence together suggests anatomically modern humans evolved in Africa perhaps 200,000 years ago and subsequently dispersed out of Africa (Balter 2002, Mellars 2006). When modernity develops is much more difficult to date as is what constitutes modernity. The evolution of "modernity" is a greatly vexed subject, especially since there is no agreement on what it is (e.g. Clark 2002, Henshilwood and Marean 2003, Milliken 2007, Wadley 2001, papers in Mellars et al. 2007). There are debates over what the criteria should be, whether the current ones are universal, Eurocentric, or should be Afrocentric (Henshilwood and Marean 2003). The issue is made more complicated by the likelihood that the evolution of modern cognitive abilities was a multistage process involving the evolution of not only symboling (e.g. Deacon 1997, Donald 1991) but memory and neural processing capacities as well (e.g. Coolidge and Wynne 2001, Dunbar 1997, 2003, Wynne and Coolidge 2003). Henshilwood and Marean's definition is

Modern human behavior is ... behavior ... mediated by socially constructed patterns of symbolic thinking, actions, and communication that allow for material and information exchange and cultural continuity between and across generations and contemporaneous communities. The key criterion for modern human behavior is not the capacity for symbolic thought but the use of symbolism to organize behavior (see Wadley 2001) (Henshilwood and Marean 2003: 635).

They suggest the "use of symbolism to organize behavior" might be recognizable in "the complexity of ... general behavioral systems" and that egalitarianism may be an example of such a system. Wadley (2001) suggests, following Deacon (1997) that we look for evidence of extrasomatic storage of symbols. She sees artwork, jewelry, and other forms of personal adornment and the social use of space as such evidence. Establishing "the use of symbolism to organize behavior" with small samples of inevitably fragmentary data is methodologically extremely difficult (e.g. d'Errico et al. 2003, Zilhão 2007).

Watt's analysis of red ocher used in the Middle Stone Age of southern Africa illustrates these problems (Watt 2002). He examines some 4,000 possible pieces of pigment from MSA sites to test two hypotheses: that the pigments were used ritually or for hide preservation (Wadley 2001). Ultimately he suggests that pigment

use is an example of costly signaling, which as he notes, and as I have above, does not require symbolic capacity. However, he argues that symbolism is indicated if it can be shown the objects were used in collective ritual (he regards ritual as costly signaling so that individualized ritual, e.g. the performance of a single peacock, is not evidence for symboling); if there is also evidence for consistency of form; and if functional explanations can be eliminated.

Watt's discussion is salient to both beads as markers of symboling and as attractors of attention/costly signaling. He stresses that such objects have to have what he terms visual salience—people need to be drawn to them. He, therefore, is at pains to demonstrate that humans are optically wired to be visually drawn to the red color of ochre. In any case, costly-signaling theory and visual salience provide an explanation for the proximal mechanisms for why humans invest certain kinds of objects with meaning. Costly signaling also muddies the theoretical waters because it does not require symboling to work. Costly signaling may account for many of the objects put forward as evidence for symboling before the Upper Paleolithic. While Watt's concept of collective ritual may provide a route out of this difficulty, as might methods employed by Vanhearen and d'Errico (2005), Kuhn and Stiner's (2007) approach is more useful.

They argue that while actual meanings of beads or pigments is impossible to know, they can be analyzed as information technology (an approach rooted in Wobst 1977) using performance characteristics. They identify six performance characteristics for beads: durability, standardization and formal redundancy, expression of quantity, expression of investment differential, transferability, and cost. They suggest that beads score moderately to high along these dimensions, while pigments score low (e.g. pigments are not very durable, they can be standardized but not necessarily, they have limited capacity to express quantity or amount of investment, they are not transferable and are not as good as beads in indicating cost). They suggest pigments functioned best at carrying short-term information in face-to-face circumstances and use of pigments was intended to "increase an individual's visual impact . . . a way to stand out and express individual uniqueness." They further suggest

The widespread appearance of beads in the late (Middle Stone Age/Early Upper Paleolithic) implies that different kinds of information were being conveyed through body ornamentation and to a different scale of audience as well. The fact that beads and beaded objects are lasting and physically transferable frees communication from a complete dependence on direct interaction, allowing the same information to be transferred, or expressed over larger spatial and temporal domains (Kuhn and Stiner 2007: 51).

They hypothesize this change in the scale and complexity of social interactions could be a consequence of cognitive evolution or of demographic factors including population growth that increased the need to convey more messages to more people.

The current consensus based on African evidence seems to be that modernity evolved in a gradual, mosaic fashion rather than suddenly (e.g. Klein 1995, 2000). McBreaty and Brooks (2000) see evidence for some aspects of modern behavior in Africa as much as 280 kya including expanded territorial ranges (McBreaty and Brooks 2000). Marean et al. (2007) date it in southern Africa to as early as ca.

164 kya based on evidence for the use of littoral resources coupled with the use of pigment and the presence of small blades. Other crucial evidence includes over 8,000 pieces of ochre, of which two are engraved and some 39 perforated shell beads from Blombos Cave in South Africa. The engravings are dated to ca. 77 kya and the shell beads to 76 kya (Henshilwood et al. 2004, 2008). The possibility of shell beads dating as early as 100–135 kya in Israel and Algeria (Vanhaeren et al. 2006) remains unsettled (Zilhão 2007). There is also an interesting gap in the South African bead record between ca. 76,000 and 35,000 years ago (Zilhão 2007).

In a recent synthesis of the fossil, genetic and archaeological data, Mellars (2006) proposes a mosaic, multistep model of the evolution of modern humans in which anatomically modern humans appear between ca. 150 and 200 kya, with clear expression of symboling present by ca. 110–90 kya. He sees southern Africa subject to rapid climatic and environmental changes between 80 and 70 kya, which is accompanied by major technological, economic, and social changes that he sees as equivalent to the later more famous changes in Europe that mark the Upper Paleolithic. These changes are initially limited to southern and eastern Africa. This is followed by these populations expanding first in Africa between 60 and 70 kya and thence out of Africa by 60 kya.

This model will be highly controversial in how Mellars reads the African evidence (e.g. McBrearty 2007), the place of Neanderthals in the evolution of modern cognition (Clark 2002, Hayden 1993, Zilhão 2007) and so on. However, it provides a basis for discussion. If we assume egalitarianism evolved as part of a package of behavioral, mental, and morphological traits (Finlayson 2004, Richerson et al. 2005) associated with modern humans, then presumably it might have evolved in Africa sometime between 200 and 60 kya, a period marked by increasingly unstable global climate conditions with rapid climatic fluctuations at time scales of much less than a millennium (Alley 2000). Finlayson (2004) suggests that African hominids during that period responded to the rapid changes and the resulting increased risk by expanding the temporal and spatial scale of their activities with greater “dispersal capacity.” Interestingly, Leiberman (2008) speculates that changes in the human face marking anatomically modern *Homo sapiens* may, in part, be the result of selection for improved running as opposed to walking. As argued above, expanded home ranges and greater dispersal across the landscape would make it more difficult to maintain social dynamics and ties based on propinquity. These would include enduring attention-based rank orders, social ties as well as, perhaps, social transmission, at least in the absence of language. Dispersal here is not the same as mobility patterns, referring rather to the temporal and spatial scales at which organisms are distributed. Greater mobility would also create the kinds of conditions outlined by Kuhn and Stiner (2007) for the shift from pigments to beads as the likelihood of encountering and interacting with others would increase.

Egalitarianism could arise in this context in several ways. It might have been the simple consequence of an increased inability to maintain rank orders either because of rapid dispersal, frequent failure of prestige-seeking activities (e.g. Hawkes 2000) or the kind of Machiavellian competition and repression of dominants postulated by Erdal and Whiten (1994). This does not account for its ideological or “social

engineering" aspects nor does it require modern cognition. It could have been positively selected along with cooperation and other leveling mechanisms, either as a behavior or an instinct, under conditions in which group level extinction was frequent (Bowles 2006, Choi and Bowles 2007). Extinction could be due to rapid environmental shifts and high subsistence risk and/or intense inter-group competition and warfare. Bowles finds high levels of interpersonal violence among modern hunter-gatherers, which is at variance with Knauff's conclusions (Knauff 1991). Bowles' models (Bowles 2006, Choi and Bowles 2007) also positively link strong intra-group prosocial behaviors with "parochialism," i.e. ethnocentrism. A third alternative is Trigger's third constraint, the organizational one: small, highly mobile human groups do not persist for long without actively repressing status competition or minimizing its costs (e.g. competitive humbleness) regardless of what the natural or social environments are doing. These latter two possibilities are not exactly the same: the former stresses biocultural selection for affiliative, prosocial behaviors and the latter stresses functional limits on what small societies can tolerate and still persist. Either of these options account for the social engineering.

It is at least plausible that egalitarianism, especially formal egalitarianism, evolved multiple times in the Late Pleistocene and Holocene, a possibility not generally anticipated in anthropological and archaeological thinking given the assumption of default egalitarianism. Similar ideas are central to the so-called revisionist critique (e.g. Hallpike and Wilmsen 2002, Wilmsen 1989) of interpretations of San egalitarianism (Ames 2004, Cashdan 1980, Lee 1981). San foraging and social organization, including its egalitarianism, is seen as relatively recent and more generally modern hunter-gatherer social organization, which is argued to result from their encounter with colonialist expansion (Sassaman and Heckenberger 2004). The notion here is somewhat different. Formal egalitarianism, like permanent rank, could be the result of convergent evolution with different starting points and historical trajectories. In some places, Holocene social and cultural environments may have mirrored the Late Pleistocene structurally but not in content (e.g. rapid and extreme changes but not necessarily climatic ones). These might include but not be limited to the colonial expansion of the last 500 years. For example, there is a reason to think that Holocene hunter-gatherer demography may have been subject to bottlenecks and boom and bust cycles (Boone 2002, Excoffieri and Schneider 1999). Perhaps groups with formal egalitarianism might have been more likely to persist under these circumstances.

This argument could be extended to contemplate whether formal egalitarianism, at least of the kind described by Hayden (2001) and Wiessner (1996b) with institutionalized repression of competition, has never been particularly common. Perhaps over much of the last 100,000 years the majority of human societies were small, with prestige competition and fluid rank orders, with a minority of formally egalitarian societies and another minority with stable, sometimes materially visible rank orders or perhaps even formal ranking. Over the relatively short spans of centuries, societies shifted back and forth across these social forms; over millennia, they went extinct, giving the archaeological record of the last 100,000 years or so its flickering character.

Summary and Conclusions

This chapter explores the possibility that the "default human social organization" is not egalitarianism, but is marked by rank orders maintained by competition for prestige and dominance based to some degree on innate primate propensities. The rank orders have varying degrees of fluidity, permanence, and explicitness, but there will always be individuals of high prestige. Prestige competition via costly signaling may take visible forms, e.g. male hunting, or it may involve non-corporeal resources. Differential access to resources may not be visible but social and economic practices produce differential benefits that have cross-generational effects. Status is measured via attention structures, thus hominin rank orders in the absence of symboling require some degree of regular face-to-face interaction to maintain.

Such societies are "egalitarian" in that they lack formal institutions of rank and because the anthropological concept of egalitarianism lacks precision. Formal egalitarian societies are those that act on egalitarian mores to actively repress prestige competition, although competition is likely to continue *sub rosa*. The evolution and persistence of such societies requires archaeological explanation as much as does that of so-called complex societies: those with permanent systems of rank.

Archaeological methodology makes this task difficult since it assumes small scale societies are formally egalitarian unless permanent ranking can be demonstrated. Archaeologists lack methodologies for establishing whether an ancient society was egalitarian. I strongly suspect that to do so will require using modeling, including agent-based modeling, which assumes some degree of inequality to explore the pay offs for actively repressing competition and what the consequences of that might be.

Both egalitarianism and permanent inequality as usually understood by anthropologists require modern human cognitive capacities in the form of symboling. However, maintaining rank orders via attention structures and costly signaling does not. Thus the appearance of prestige technologies in the archaeological record does not necessarily indicate the evolution of prestige competition and rank orders. It may initially indicate the evolution of symboling and the materialization of persistent dynamics via material culture.

Increased mobility and expanded social networks, coupled with increasingly rapid, short-cycle climatic fluctuations during the past 200,000 years may have selected for formal egalitarian organization, or just made maintaining rank orders more difficult, hence prestige technologies. It is also possible that small-scale human societies work better and are more likely to persist if prestige competition is repressed, regardless of what is happening in the socio-natural environment.

This explains neither the development of permanent inequality nor political economies. It does suggest that many of the instances of the "origins of inequality" hailed by archaeologists are simply the visible crystallization of preexisting patterns. However, like the apparent appearance and disappearance of beads in Middle Stone Age Africa, these crystallizations seem to twinkle on and off across millennia suggesting there may be social, demographic, or economic thresholds, depending on

circumstances, where attention structures and rank orders materialize and dematerialize. It also suggests that permanent differentials in access to resources and material flows do not need to be invented out of whole cloth by conniving aggrandizers; the necessary raw material in the form of economic and social relations is always at hand.

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