

PRIMEVAL KINSHIP AND THE ORIGINS OF HUMAN LANGUAGE

by Roger B. Myerson, September 2017

Abstract: We consider how the primeval development of basic human kinship structures could have depended on an early primitive form of human linguistic ability. Simple forms of linguistic communication could have helped comrades to negotiate the tensions created by exclusive pair bonding, and could have helped mates to evoke awareness of their siblings who live elsewhere.

We humans love to talk. Our ability to learn and use language starkly separates us from all other animals. When our hominid ancestors first started to speak, what did they talk about? This question goes to the heart of what makes us human, and what is most fundamental in the development of human society. I have long speculated about this question from my perspective as a game theorist. But in this note, I offer some thoughts on this question that are based on ideas developed in Bernhard Chapais's magnificent book *Primeval Kinship: How Pair-Bonding Gave Birth to Human Society* (2008).

Chapais's ideas are developed largely in response to Claude Levi-Strauss's (1969) theories of the elementary structures of kinship, in which linguistically structured moral imperatives are seen as driving the basic formation of human society. While accepting the fundamental nature of these kinship structures, Chapais observes that virtually all of their functional elements can be found in other primate species which lack our linguistic abilities. Thus, by combining the perspectives of social anthropology and primate biology, Chapais has provided new and compelling insights into the evolutionary origins of human society. But to show how the fundamental elements of human society can be constructed from the social behavior of other primates, Chapais had to keep our uniquely human linguistic abilities out of his argument as much as possible. In this note, my goal is to relax this constraint and try to suggest how the earliest roots of human language may fit into Chapais's story.

Among social mammals, it is very common for herds to consist of closely related females, while males commonly leave the local group in which they were born to search for opportunities to mate with females in other (matrilocal) groups. But the reverse (patrilocal) pattern prevails among the great apes who are our closest relatives: gorillas, chimpanzees, and bonobos. Gorilla communities are centered around one dominant male with a harem of females; grown sons may hover nearby hoping for an opportunity to inherit the harem after the dominant male, but daughters depart to join the harem of another male. Among chimpanzees and bonobos,

closely related males breed promiscuously with the females of their group, but females generally move to a new group at puberty. We can understand how the chimpanzee-type social structure could evolve from the gorilla's one-male harem, as a cooperating band of brothers or male cousins could together overpower any one large male and take his harem. Cooperation among males also enables chimpanzees to enrich their diets by hunting animals that one individual could not hope to catch alone.

Chapais sees human kinship structures as having evolved from a chimpanzee-type social structure in two major transitions. The first transition was the development of exclusive pair-bonding between males and females, so that fathers and mothers can both recognize their natural interest in raising the children who will carry their genes into the next generation. The second transition began with the crucial discovery of the in-laws. There are other animals that recognize their siblings, and there are other animals that form exclusive long-term bonds with a mate, but the ability to recognize valuable affine relationships with a mate's siblings seems to be uniquely human. (The significance of the discovery of in-laws as a major transitional event in the development of humanity was pointed out by Robin Fox, 1980, p. 147.)

Among intelligent social animals who can identify not only their mother and father but also their siblings who share the same parents, an individual may recognize that he also has a natural connection with his sister's children, who share 25% of his genes. When females disperse from the local group of their birth to mate with a male from another local group, a child's father and maternal uncle will generally belong to different groups, but they can share a recognized interest in helping the same child. When early humans began to recognize their in-laws, it became possible to develop such cooperative relationships across individuals living in different communities. Thus, although there is no cooperation among the males of different chimpanzee groups, local groups of humans can be bound together by kinship networks to form much larger cooperative social structures, which Chapais calls tribes.

Now let us begin to consider where language may fit into this story. The fact that our love of talking feels so deeply rooted in our human nature seems to be evidence for at least some part of the human linguistic ability being relatively ancient in evolutionary terms. But it cannot be older than our last common ancestor with the nonlinguistic chimpanzees, which suggests that we should consider the possibility that some rudimentary form of human linguistic ability may have originated close to the time when the ancestors of humans separated from those of

chimpanzees (a time which has been estimated to be about 6 million years ago). Of course this suggestion is not inconsistent with other theories that human linguistic abilities may have had other major advances much more recently in evolutionary time.

Certainly the earliest linguistic ability that distinguished our human ancestors from chimpanzees would have been very different from what human babies are born with today. Our innate ability to learn the complex grammar of a modern human language could not have evolved before any human language existed. With difficulty, a few chimpanzees and bonobos in captivity have been taught to use some nonverbal forms of language; but it is hard to imagine such individuals spontaneously passing their language on to subsequent generations, given that their species lacks the inclination that human children have to absorb their parents' language.

This point offers a key insight: The earliest proto-human linguistic ability must have been as much to create language as to use it, because languages would not necessarily be passed on from generation to generation when our ancestors had not yet developed the modern human instinct for learning languages. At such an early stage of development, the more reliable instinct would be for siblings and youthful companions to create simple codes of gestures and utterances, which might be limited to a small vocabulary that could be idiosyncratic to each generation in each community. Individuals who grew up together could naturally develop such codes as a part of their childhood play, especially when they played at adult activities in which coordination can be valuable, such as hunting and fighting. Indeed, an instinct to create such codes with one's childhood peers may still be evident today in schoolyard slang and twins' idiosyncrasy.

There would be some evolutionary advantage to groups whose members could coordinate better in hunting and collective defense as a result of their ability to communicate with even simple codes. But we should now examine how such proto-languages could provide essential support for the development of basic human kinship structures from chimpanzee-type structures, in each of the two major transitions that has been described by Chapais. Let us consider these transitions in reverse order, beginning with the second transition, where the role for language is particularly straightforward (and indeed has been noted by Chapais, 2008, p. 125).

The second transitional step toward human kinship, the human discovery of in-laws (affine kin), may have depended on the symbolic power of words to evoke things which are not immediately present (linguistic displacement). Communication is part of mating in any species that forms long-term pair bonds. So in the pair-bond mating between a female from one

community and a male from another community, they would naturally teach each other some of the words that they used in growing up. Prominent among these words would be the female's names for the siblings and parents whom she left behind when she migrated to join the community of her mate. In this way, a simple propensity to assign symbolic names could provide the essential mechanism for making hominids aware of their mate's parents and siblings, even when these in-laws resided in different local groups. Without language, no other animal has developed such an awareness of its in-laws, which is the vital foundation of the unique breadth of human social networks among geographically dispersed kin.

The first transitional step toward human kinship, the move from chimpanzee-type promiscuity toward long-term pair bonding, may also have depended on basic linguistic communication. To see why, we should first recognize that the formation of exclusive pair bonds in mating would increase tensions among the males who form the cooperative core of a chimpanzee community. Whenever animals live together, there can be a natural competitive tension among males, as any one male could potentially sire children for all the females in their group. The loose promiscuity among groups of chimpanzees ensures that even a low-rank male can get some opportunities to breed with females in the group, so that he has a stake worth defending in the group. But if stronger dominant males began to claim exclusive breeding rights with females of their group, the result could be that weaker males would see no prospect of reproductive success within the group, and then they would lose any incentive to cooperate for the group's defense. Thus, for a chimpanzee-type social structure that is based on cooperation among a team of related males, any move toward exclusive pair-bonding could increase tensions among males, and some reduction of these tensions must be negotiated if the group is to stay together.

The natural way to reduce such tensions would be by a norm for monogamy when females are in short supply, so that an unmated male could hope that his more fortunate comrades would help him to find a mate before enlarging their own harems. Even the weakest males within a group could have some hope of gaining from the group's success if males who have mates could promise to let their unmated comrades take priority as suitors for any new females who might join the group. But this commitment would be essentially abstract, referring to potential breeding mates who are not yet available. To negotiate this compact, the stronger males would need some way to communicate their sympathy for the lonely plight of their weaker

peers in the group, which brings us back to the role of language in human society. Even among modern humans, youthful schoolyard slang is regularly used as a medium for commiserating about sexual frustrations. The earliest human proto-language may have also served this essential function in the first development of human pair-bonding from a chimpanzee-like society.

The organization and power of our human societies today is obviously completely dependent on language. As a game theorist, I am particularly aware of the importance of language for broadening the scope and power of reputation in human society. We can use language to offer detailed promises of future behavior, and language is also essential for the gossip that can spread information about any breach of promises or social norms (and so can help to deter such unreliable behavior). The advance and dissemination of human science and technology also clearly depends on language, especially in its written forms (which include, among myriad examples, Bernard Chapais's book and this response). And once a basic linguistic capability has been introduced into human life, the further evolutionary development of this capability can also be driven by aesthetics in sexual selection, as people may come to prefer mates who can communicate more eloquently or poetically.

But the main point here is that some rudimentary form of language may have been essential for the two basic transitions that Bernard Chapais describes as fundamental for the development of human kinship structures from a chimpanzee-type society, namely the formation of exclusive breeding bonds between parents, and the recognition of affine relatives in other communities. Thus, the development of some basic capability for symbolic communication, whether by vocalizations or gestures, seems likely to have been among the earliest driving factors from the start in our ancestors' long evolutionary differentiation from their chimpanzee-like relatives.

References:

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Current version: Sept 27, 2017.