

# THE EVOLUTION OF LANGUAGE AS A PRECURSOR TO THE EVOLUTION OF MORALITY

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This paper argues that the evolution of human language is a prerequisite to the evolution of human morality. Human moral systems are not possible without fully complex language. Though protolanguage can extend moral systems, the design features of human language greatly extend human moral ability. Specifically, this paper focuses on how recursion, linguistic creativity, naming ability, displacement, and compositionality extend moral systems. The argument descriptively defines altruism as self-sacrificial behavior for others and morality as how a group classifies right and wrong behavior. No comment is made on how altruism squares with the replicatory selfishness of genes, or on the controversy of group selection. However, along with Dawkins (Dawkins, 1976), the author concurs that humans can use linguistically based concepts to help constrain genetic selfishness and promote degrees of altruism and morality. Though drawing on previous research, the ideas presented here are novel to the extent that they demonstrate how the design features of language support and extend human altruism and morality.

## 1. Recursive Linguistic Creativity Enhances Morality

Recursion refers to the "computational mechanisms [that provide] the capacity to generate an infinite range of expressions from a finite set of elements" (Hauser et al., 2002: 1571). According to these authors, recursion may be the only characteristic that distinguishes human language from non-human communication systems; thus, it clearly is at least one important distinguishing feature of human language. Other species may use recursion in other domains, such as, navigation and social relations. Nevertheless, for humans, recursion may enable us to express our moral ideas about an infinite number of situations, objects, and relations. If this is the case, creative recursive language makes human morality creatively recursive.

For instance, we can moralize about the usage of cellular phones in public places, about humane or inhuman treatment of animals, about issues pertaining to sexuality and personhood, about the responsibility of wealthy nations to poorer nations, about dress codes, about the amount of money wasted globally each year on necktie purchases, which could be used to instead for charity, about the inappropriateness or appropriateness of different kinds of humor, about use

and abuse of natural resources, and we can meta-moralize about morality itself, including why we think it immoral for people to moralize about our actions.

Besides being able to moralize about an infinite number of things, we can also moralize recursively about one thing. For example, we can use the following "if/then" and "not only/but also" recursive construction. If you do not return the money you found on the street, then the police may find out about it, and if the police find out about it, you could be charged with stealing (since this is a crime in this country), and if you are charged with a crime, then you will go to jail, and if you go to jail, then you will not be able to take care of your family, and if you cannot take care of your family, then you will not only be a criminal, but you will also be an irresponsible nincompoop of no count for putting your family into poverty, and if all these things could happen for not returning the money, then it would be better to simply return it, but if you do return it, then...

In addition, if this were not enough, we can meta-moralize about whether real morality exists or not. Nevertheless, the point here pertains not to whether recursion leads us to moral realism or anti-realism, but rather that (1) linguistic recursion helps us moralize about an infinite number of things, and (2) it also helps us moralize infinitely about any one thing. If this is the case, then linguistic recursion perpetually enables, extends, and enhances the range and number real and even imaginary scenarios we can moralize about.

Besides the fact that the creative and recursive nature of language makes human morality recursive, a recursive moral code also stands as a uniquely distinguishing feature of human morality compared to the proto-morality or altruism of non-human species. That is, degrees of recursive ability between species will differentiate the degrees of moral ability between species. Hauser, Chomsky, and Fitch (2002) say examples of animal recursive ability (navigation, number, and social calculus) stand as potential precursors to recursive language, and they suggest that domain-specific aspects of recursion became domain-general in humans. Along these lines, humans can combine recursive abilities; thus, recursive social calculus relates to how recursive language helps humans possess a recursive theory of mind. With language one can think: "I think that Henry thinks that Kenny borrowed Jim's book and should return it lest he fall out of favor with Jim and the rest of us." This stands as a linguistic form of social calculus that demonstrates moral differences between species. For example, how might apes express a recursive theory of mind? If Chimp A thinks that Chimp B and Chimp C are in conflict with each other, and if Chimp A attempts to help B and C reconcile, this behavior might stem from a recursive theory of mind. However, the important point here concerns how recursive language extends other recursive abilities in the moral realm--for example in how we think about and attempt reconciliation.

Regarding chimpanzee reconciliation (de Waal, 1982; Arnold and Whiten, 2001), recursion, and theory of mind, we cannot easily substantiate the claim that apes can read mental states (Povinelli and Vonk, 2004; Premack, 2004), which they could employ when reconciling. Moreover, though there may be some cases where chimpanzees can know what conspecifics know and do not know (Hare et al., 2001), whether they have the ability to attribute states of mind remains a controversial, complex, and debated point (Arnold and Whiten, 2001). This is because, "there is no easy way of making an a priori transition from behavioral similarity to psychological similarity" (Povinelli et al., 2000: 27). Interestingly, Povinelli, Bering, and Giambrone propose...

... that the majority of the most tantalizing social behaviors shared by humans and other primates (deception, grudging, reconciliation) evolved and were in full operation long before humans invented the means for representing the causes of these behaviors in terms of second-order intentional states (Povinelli et al., 2000: 25).

If this hypothesis obtains, then higher order representational abilities such as recursive language would add a whole new array of behavioral repertoire to the organism on top of these already existing behaviors.

More importantly for this discussion, language stands as a primary means to access the mental states of others, for though I may be able to deceive another about my intentions, I can also make my real intentions known. Moreover, I can tell you what I think you think, and you can tell me whether I am correct or not, or I can tell you what I think you think Frank is thinking, and you can tell me whether you think I am right or not. Therefore, if language does not make possible recursive theory of mind, at least language greatly extends it. Thus, no matter what ultimately causes apes to reconcile, linguistic recursion and recursive theory of mind greatly extend this behavior in human beings.

For example, you may be a noisy neighbor, and you may not know that your noise bothers your neighbor, but your bothered neighbor could solve this problem directly by talking to you, or she could recursively communicate with you through another neighbor. She may tell another neighbor of the problem, and ask him to approach you with a request to be quieter. When she does this, you can apologize to her through the mediator without even seeing or speaking to her. Something similar to this happened when the US President George Bush apologized for Iraqi prisoner abuse through King Abdullah of Jordan. To describe his conversation with the King, Mr. Bush said that he told the King he was sorry for the humiliation suffered by the Iraqi prisoners and the humiliation suffered by their families. This may not represent a valid admission of guilt, but it does demonstrate a socially and linguistically recursive apology.

The above exemplifies how humans use recursive language with a theory of mind to extend the range and variety of human moral behavior. Language

gives us recursive access to other minds and our moral relations to them, enabling us to recursively socialize and moralize. Regarding recursion, Aitchison (1999: 79) says, "we can never make a complete list of all the possible sentences in any language," and this suggests an infinite number of things, events, and people we can moralize about. Thus, recursion stands as a defining feature of human language and social calculus with its linguistic access to other minds, which strongly affects human sociality and morality.

## **2. Creativity, Naming, and Morality**

In addition, a building block of recursion, "the naming insight" also extends and expands the human ability to moralize. Speaking of the origin of human language, Aitchison (1999: 19) asserts that besides being able to produce a range of sounds, humans "must have attained the 'naming insight,' the realization that sounds sequences can be symbols which 'stand for' people and objects." Non-human species such as some primates have the cognitive abilities to name things (Savage-Rumbaugh et al., 2001), and other animals, such as dogs, have the ability to recognize names for things (Kaminski et al., 2004). Nevertheless, except for the type of alarm calls we see in vervet monkeys, these naming abilities appear to emerge only after intensive training under the tutelage of language-enabled humans.

Hence, though whales and dolphins have signature calls that indicate their presence to the group, and vervet monkeys have a number of calls for predators, we generally see extensive name-production and name-recognition in non-human species because we use human language first to teach "names" to these species. Moreover, for animals that do possess minimal naming insight, they do not appear to use it to attribute moral values to named items, but the possibility raises some questions. Do animals that possess a naming insight on their own without human instruction, such as vervets, attribute moral-like qualities to the objects they name? Do language-trained animals name objects with a moral sense of good, bad, right, and wrong? This may be unlikely, but for our discussion here, human use of the naming insight stands as a distinguishing feature of human morality. Not only can we name objects, people, events, and concepts, but we can also coin new names for anything, and most importantly, we can attribute the values of good, bad, right, and wrong to the things we name.

Hence, because we can name stuff, we can moralize about what we name in a very simple and protolinguistic fashion. For example, "monogamy is good; "polygamy is bad;" or for those opposing the legalization of marijuana: "weed is bad;" or for those in favor of trickle down economics "greed is good." Such moralizings are relatively simple because they do not require recursion, syntax, and argument structure; that is, changing syntax does not change the meaning: "bad is weed" and "good is greed." Moreover, argument structure "who does

what to whom" does not function in these phrases. Thus, we can moralize protolinguistically, with simple labels and without argument structure.

Regarding how naming ability and language enhance morality, the skeptical reader might wonder how we might use language for selfish and immoral purposes. Thus, before moving on, a small caveat is needed. For example, a large literature exists on the human ability to deceive with language (Renshaw, 1993; Stiff and Miller, 1993; Wortham and Locher, 1999; Galasinski, 2000; Meltzer, 2003; Newman et al., 2003). Hence, though language has the power to extend moral behavior, it also holds the opposite power to deceive others, negate morality, and advance malevolence. Thus, language may give us the ability to create an alternative morality, such as in George Orwell's novel 1984, in which "Newspeak" is used to teach, "War is peace. Freedom is slavery. Ignorance is strength" (Orwell, 1950: 7). The topic of how language can facilitate anti-altruism and immorality transcends the focus of this paper. However, though we must acknowledge the negative power of language to deceive and serve selfishness, this does not negate the positive power of language to enable, extend, and maintain human altruism and morality.

### **3. Displacement Enhancing Morality**

In addition to how naming ability helps us assign moral values to what we name, language also helps us make abstractions, and this highlights the unique feature of human language called displacement. Crystal (1992: 26) defines displacement as the ability "whereby language can be used to refer to contexts removed from the immediate situation of the speaker (as in the cases of tenses which refer to past or future time)." Animal calls, on the other hand, only refer to "specific situations, such as danger and hunger, and have nothing comparable to displaced speech" (26). Hence, displacement enables humans to refer to things removed in space, time, and even reality from the speaker, referencing the hypothetical or unreal. Though some species exhibit limited displacement ability, as in bee dancing, this still refers to the specific physical location of displaced nectar. Thus, displacement exhibits unique features in human language that transcend concrete situations.

How could linguistic displacement uniquely enhance and extend human morality? For one thing, as previously mentioned, it enables us to moralize about the past and the future, and though some animals might feel regret about past events, such as an elephant or gorilla mourning the loss of kin, this is still quite different from moralizing about past events. Is it possible that two bonobo chimps could be made to regret their secretive copulation through a verbal rebuke even if the dominant male who might physically oppose such behavior never found out about it? Would it be possible through verbal or any other means to make a male elephant mourn the death of conspecifics he has not actually physically seen? However, even a human child in the first grade of

elementary school can reflect on a parent's scolding: "it was not good that you lied to your teacher, telling her your dog ate your homework, instead of the truth that you simply forgot to do it."

Besides past-event-moralizing, with language we can turn our attention to the future and instruct a child in the following way. "Tomorrow you will apologize to your teacher, and tonight (future-displacement) you will write your ancestors (abstract-displacement) an apology, reflecting on how you can remember your homework and reasons why (hypothetical-displacement) you should not lie again (future-displacement)." Besides moralizing about the past and future, displacement enables us to moralize about the hypothetical and unreal. For example, "if your boss pressured you to lie about your company's financial accounting, would you follow your boss or blow the whistle on him?" Moreover, in an ethics course, participants can discuss ways to carefully deal with ethical issues before they ever encounter them. Additionally, we can think about fictional or futuristic moral dilemmas. If you suddenly found yourself with the ability to foresee the future with 80% accuracy, and the government asked you to predict terrorist activity and arrest "pre-crime" terrorists before they can act, what would you do about it? In short these examples show that displacement, as a defining feature of human language also distinguishes human moralizing from proto-moralities because it enables us to think morally about that which is removed from us in space, time, and even reality.

Moreover, it is interesting to note how displacement relates to recursion. First, displacement does not require recursive embedding, for we can refer to the future, the past, places, and non-realities in proto-linguistic ways (with 1-word utterances): tomorrow, yesterday, Venus, Mars, Hercules, and Zeus. Incidentally, though we can name these concepts in 1-word utterances, we may need recursive ability to understand at least some of them. For example, even if we see statues or images of the god Zeus (upholder of justice and morals), we still cannot understand what the name means without a recursive explanation. Nevertheless, though displacement does not require recursion, with recursion, displacement becomes unlimited--enabling us to moralize without end about anything removed from us in space, time, and reality.

#### **4. Compositionality, Recursion, and Morality**

Besides displacement and stimulus freedom, how do the design features of recursion and compositionality affect human morality? Smith says:

Recursiveness allows the creation of an infinite number of utterances. Compositionality makes the interpretation of previously unencountered utterances possible--in a recursive compositional system, if you know the meaning of the basic elements and the effects associated with combining

elements, you can deduce the meaning of any utterance in the system (2003: 4)

Hence, while recursion allows humans to create an infinite number of novel moral utterances, compositionality refers to our ability to comprehend them. Regarding compositionality the nuance here does not concern our ability to endlessly moralize about everything or any one thing, but rather our ability to comprehend all this moralizing. Humans can compositionally comprehend recursive moralizing through hearing speech, reading texts, and viewing sign language. In sum, human beings can linguistically produce an infinite and novel moral output (recursion) as well as comprehend an infinite and novel moral input (compositionality).

Regarding actual behavior, infinite and novel moralizing does not necessarily create altruism in people; that concerns a rather different question. However, as recursion and compositionality enable us to incessantly send and receive moral messages, this ability may dramatically affect our general moral nature as humans, whether we behave altruistically nor not. Hence, language not only remarkably defines human uniqueness, but these linguistic abilities also significantly determine our moral nature through what they enable us to moralize about. We can recursively and compositionally moralize about not just everything or any one thing, but everything and any one thing embedded in and in combination with everything else. Thus, in principle nothing is necessarily morally neutral, and no meaning can escape the reach of moralizing language.

## **5. Conclusion**

For lack of space, the discussion has ignored many topics, such as cultural transmission, stimulus freedom, UG, and categorical ability enhanced by language. Neither has it touched the topic of genetic selfishness or the problem of group selection. However, the argument implies that language-based moral concepts may give humans a lever that sometimes can help us overcome genetic constraints on altruism. Moreover, the argument briefly outlines how the evolution of human morality requires a pre-existing linguistic system. Moral systems could evolve along with linguistic systems, but when we look at our moral abilities, this paper makes clear that human morality requires language. Moreover, it also raises many other important questions. For example, did early human groups experience a conflict between their social needs and genetic interests? If so, could this conflict of interest have pressured them into developing their moral systems? If these moral systems require language, could these pressures and conflicts have forced an evolution in the complexity of human language? These are interesting questions worthy of further inquiry, and that further inquiry should take place as much as this paper has demonstrated the strong relationship between human language and morality.

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