

Beyond the fire of Prometheus: The capacity for human speech: Empirical evidence of the Image of God

James Bohn

Quodlibet Journal: Volume 4 Number 2-3, Summer 2002

"Then God said, 'Let us make man in our image,' So God created man in his own image, In the image of God he created him..." Genesis 1:26-27

Abstract:

The theological concept of the *Imago Dei* should delineate a radical difference between human beings and all other creatures on earth. The purpose of this paper is to explore whether some aspect of the Image of God is empirically observable. Specifically, is the capacity for speech evidence of the Image of God in human beings?

This paper is a return to the rubric of "Empirical Theology," that is; the notion that evidence of what God has created should be observable in both the social and physical sciences. It was formerly known as British Natural theology, which assumes an intelligent designer. This methodology honors Scripture by assuming its inerrancy, and seeks to find evidence in the social and physical sciences to persuade skeptics of the claims of Scripture.

The word "man" is used throughout this paper as reference to a species. Both men and women are subsumed by the word.

The Image and the Evidence

Where is there a more powerful statement of Biblical anthropology than the words, "*So God created man in his own image, In the Image of God he created him?*" Since it alludes to some concurrence between God's nature and man's being, it cannot be a mere religious abstraction. There must be some way to observe the Image in the world of the senses. And since the phrase *Imago Dei* is used for no other creature, it denotes something specific about human beings which proves them to be dramatically different, superior to all other creatures. This paper is a quest for an empirical insight or clue given to us by God to grasp the meaning of this phrase.

Many gallons of theological ink have been penned trying to explain this phrase, and most authors tend to describe the Image as something spiritual. Augustine, however, located the image in the mind (De Trinitate 14.8.11). Although the term is Biblically based and theologically defined, it seems reasonable that it should also be scientifically observable. As a proponent of Intelligent Design, the author believes that God's spiritual truth about man must be somewhat observable; else it would be mere words. This is consistent with Dembski's thinking. "Intelligent Design holds that intelligent causation is an irreducible feature of the bio-physical universe, and furthermore that intelligent causation is empirically detectable."

This is also not an unreasonable proposition from a Biblical perspective. Many of the

spiritual or unseen things Scripture speaks about exhibit some empirical evidence. For example, sin is observable (Ephesians 5:3-4); human depravity is observable (although not in its entirety, Matthew 7:20); human selfishness is observable; obedience to God is observable. All of these are New Testament postulates concerning the spiritual condition of humanity. Even allusions to God's own nature, Who is Spirit, (John 4:24) are observable through nature (Romans 1:20).

We should not find it strange then that the "Image of God" should be something observable. One of the strongest arguments to support this position is that Christ Himself is called, "the image of the invisible God," meaning He showed physically what was true spiritually. Finally, we find no less a voice than G.C. Berkouwer declaring:

"Scripture's emphasis on the *whole man* as the Image of God has triumphed time and time again over all objections and opposing principles. Scripture never makes a distinction between man's spiritual and bodily attributes in order to limit the image of God to the spiritual, as furnishing the only possible analogy between man and God." (italics mine)

The purpose of this paper, then, is to seek some observable aspect of the physical nature of humans that distinguishes us from other creatures and to argue that this difference is evidence of the Image of God. This is consistent with Dembski's thinking: "Intelligent design is a scientific theory with theological implications. The relation between science and theology is therefore relevant to intelligent design."

What major difference do we observe between humans and other creatures?

Any casual observer of animals will find physical commonalities with human beings. Physical distinctions between animals and human beings are difficult to make, since most creatures, especially mammals, share the same general anatomical makeup; eyes, ears, paws/hands, fingers/digits, feet. There are, however, two aspects of humanity that scientists who are atheist and believers alike recognize as a wide chasm between man and beast. Those two characteristics are speech, and its result, language. Lieberman asks, "Why are we so different from other animals, although we are at the same time so similar?" He then answers his own question, "Part of the answer seems to be that we are able to think because we can talk." It is speech and language that separate us from the other creatures of the earth.

Speech and language are powerful tools with broad implications for the development of culture and virtually every human invention. The capabilities of speech and language bridge race, gender, ethnic groups and time. Anthropologists write that the capacity for speech is the hallmark of human nature. "The language of the most primitive Stone Age culture in Africa is no more closely related to the chattering of baboons than is modern English." "Humans can speak, but no other primate can. Humans are also the only primates able to vary the pitch of sound in melodious sequences, and thus to sing." Yet, it is not as if humans have not tried to teach the apes to converse.

Lieberman (1998) wrote that, "...though experimenters and animal trainers have assiduously attempted to teach chimpanzees to talk since the seventeenth century, no chimpanzee has ever been able to speak." Theologian Henry Morris wrote, "This faculty

of human speech and language is one of the most truly amazing attributes of mankind. The evolutionist is utterly unable to explain the unbridgeable gulf between the chattering of animals and human language."

Speech and its cousin, language, represent a dramatic gap between even the highest of the primates and human beings.

"No other living species has the anatomy and the brain mechanisms humans use to produce speech. Although chimpanzees are the closest living relatives of modern human beings, they cannot even produce simple words."

So then the capacity for speech is something that sets us apart from all the other creatures of the Earth, even those theoretically closest to us on the evolutionary scale. Those who study primates, and chimpanzees in particular, will come to the conclusion that humans share many characteristics with these beasts and deduce therefore that we are their ancestors. Indeed, it is an evolutionist's deduction that since 98% of the DNA in chimps is similar to humans, we must be related. As promising as that sounds, "No chimpanzee has talked or even attempted to mimic human speech."

A recent college textbook argues this point:

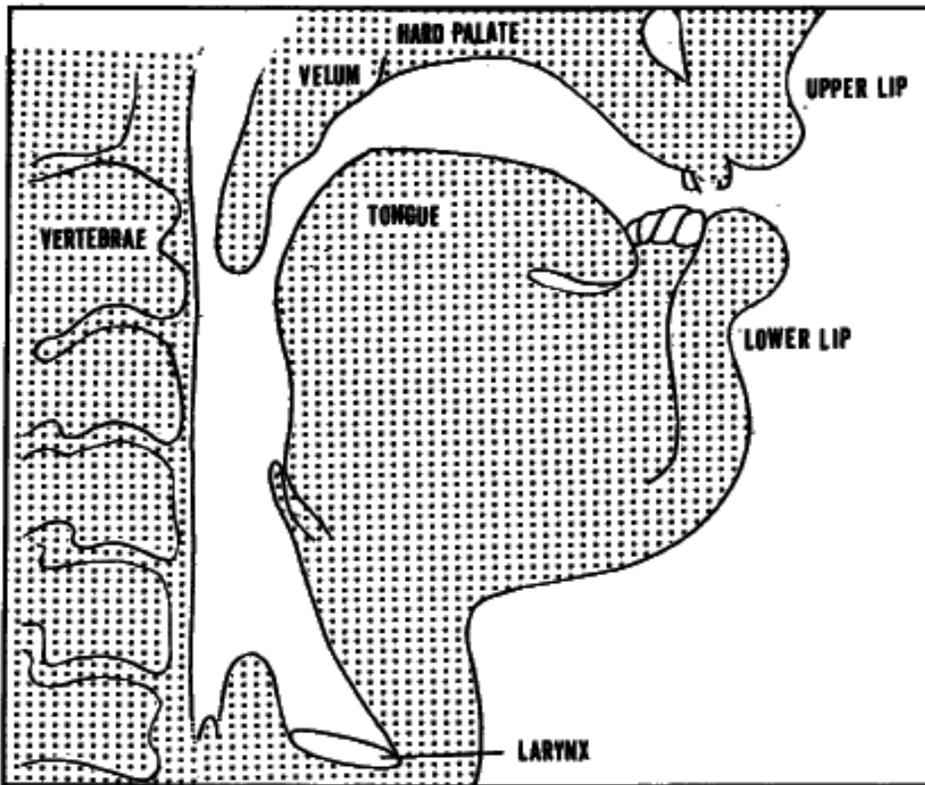
Communication and brain complexity took a monumental leap from the most intelligent of the non-human primates to humans, for whom communication includes language. Speech and language, uniquely human, mark a dramatic shift between monkey brains and human brains...this chapter introduces a cognitive neuroscience perspective on the human language system, arguably the most complex of the human brain's feats of wonder"

How are we able to speak?

Although this is not a scientific paper regarding the physiology of speech, it is important to briefly discuss this important aspect of human anatomy. What we learn is that speech is an extremely complex thing to produce. It requires two very complex pieces of equipment, the Supralaryngeal Vocal Tract (SVT) and a large cerebral cortex, interlinking neural and cognitive functions to speech capacities.

Supralaryngeal Vocal Tract

The anatomy of this mechanism is highly specialized in human beings (See Liebermans' chart below). Phillip Lieberman and his colleagues spent five years searching for other creatures which could approximate the range of sounds produced by human beings, yet he was unsuccessful in his efforts. He explains, "The anatomical difference does not mean apes could not produce an approximation to human speech. They could produce distinct, nasalized speech if their brains were capable of controlling the muscular nerves that underlie speech. But they cannot."



3-5— Adult Human Supralaryngeal Airway

Sue Savage-Rumbaugh, who works diligently with the apes to teach them forms of language also acknowledged this important distinction,

"The human and ape vocal tracts differ in a number of important dimensions. The human vocal tract curves downward at a 90-degree right angle, just at the point where the oral cavity merges with the pharyngeal cavity. In contrast, the ape vocal tract slopes gently downward. The right angle of the human vocal tract is a necessary extrapolation of our upright posture and the consequent vertical positioning of the head over the spinal column. If our head were tilted forward, as is that of a chimpanzee, we would not be able to maintain our balance easily while walking upon two limbs."

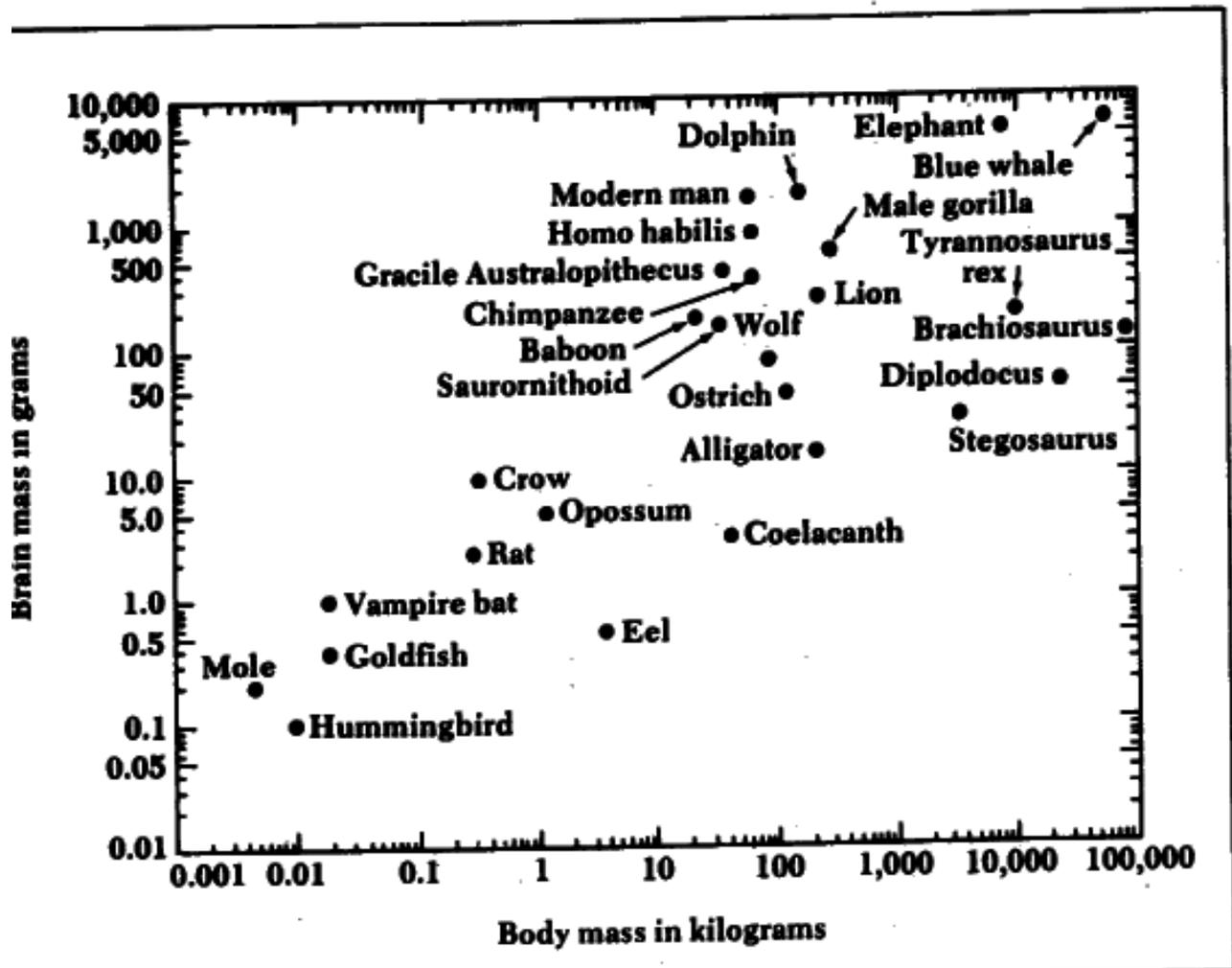
Apes therefore lack the Supralaryngeal anatomy necessary for speech, yet humans have it. This is evidence of intelligent, purposeful design. Animals also lack the brain capacities necessary for human speech, the second way in which humans dramatically differ from animals. No less a voice than Jane Goodall, who has spent decades working with chimps, said this about words and speech: "Chimps have complex emotions, but they don't have the benefit of words and sophisticated language to develop their emotions" (Nature, PBS, 1/11/2000).

Brain Size

It is well documented that specific components of the brain contribute to speech. In other words, our brain has the "wiring" which allows us to speak. Isaac Asimov wrote: "We conclude then, that there are two aspects of the human body that are far, far out of line of the general mammalian pattern. One is his giant brain, and the other is his long life." The giant brain he refers to is the cerebral cortex area. This discovery is not a new phenomenon: "Anatomists as far back as Da Vinci noted that the frontal lobes in human beings were dramatically 'overdeveloped' in human beings in comparison to the same region in animals, corresponding to about one third of the cerebral hemispheres." What is the purpose for such massive cerebral hemispheres? One of the primary capabilities of the cerebral cortex is to provide speech horsepower. Carl Sagan pointed out quite succinctly that the brains mass to body ratio for human beings is greater than any creature on earth. See Sagan's chart below.

)

THE DRAGONS OF EDEN



This giant brain has a massive cerebral cortex, in which Wernicke's Area and Broca's

Brain conduct profound operations to bring about the wonder of speech . Again, we see evidence of the Image of God.

Speech and Language

Languages, the symbols that we carry mentally and vocally, are the corollary to speech as a component of the Image of God. "Language is the hallmark of man since his earliest beginnings" (Crump, p. 102). Consider the following:

In this book, I have presented a somewhat controversial thesis: that the emergence of language is the direct and root cause of all those mental characteristics that distinguish us from the other creatures, particularly our special kind of intelligence and our special kind of consciousness, which between them generates modes of behavior not merely unknown among other species but utterly remote from anything we can find in other species.

In other words, Lieberman's thesis is that language and speech are what created our brains and the consciousness that arises from them. While we may not agree with his thesis, his conclusion is useful to the argument. As one who supports the postulate of Intelligent Design, the equipment for speech speaks volumes. It is one of the most complicated mechanisms in the body, and it is tightly linked neurologically with the brain cortices.

The late Carl Sagan, in his book *The Dragons of Eden*, describes the importance of human speech, but speculated that men killed the missing links who could talk:

"Perhaps the most striking aspect of this entire subject is that there are nonhuman primates so close to the edge of language, so willing to learn, so entirely competent in its use and inventive once the language is taught. But this raises a curious question: why are they all on the edge? Why are there no nonhuman primates with an existing complex gestural language? One possible answer, it seems to me, is that humans have systematically exterminated those other primates who displayed signs of intelligence."

One wishes to take him seriously, but this speculation borders on defensiveness at best, and jousting at windmills at worst.

Why should speech and language be a component of the Image?

Recall that we are seeking empirical evidence for the Image of God. Proponents of Intelligent Design should be expected to provide a rational explanation for this capacity of speech. What is its purpose? Speech and language allow humans to do things similar to their God: communicate across space and time, transmit ideas from one mind to another, and even communicate with the "dead" (through historical writings). Here we integrate Biblical theology with our scientific observations. First of all, God is a communicator.

God as communicator

While God communicates through words and speech, the most striking use of the

concept of Word is the phrase "In the beginning was the WORD - λογος." "The WORD became flesh and dwelt among us" (John 1:14) The Second person of the Trinity is the communicating Person. The Son of God, the Logos, "has made the Father known" (John 1:18)

Speech as the power of God's creative acts

Words and speech are inextricably a part of God's nature. The entire Old Testament is filled with prophetic utterances beginning with "and the Lord God spoke." Even before the creation of the world, the Godhead communed. Psalm 2:7ff. God acts through words. For example, "In the beginning, God created the heavens and the earth," "then God said, 'Let there be light'." Throughout the first chapter of Genesis we read again and again: "And God said" - the creative act is essentially the act of speaking. God says something and it becomes real. The whole universe came into existence through the spoken word of God and the living Word of God." "All things were made by Him, and without Him nothing was made." In addition, the universe is held together by the word of God: "The Son is the radiance of God's glory and the exact representation of his being, *sustaining all things by his powerful word*" (Hebrews 1:3, NIV).

The capability to speak and make ideas a reality is analogous to a creative power, though obviously nowhere near the magnitude of God's creative capability. Yet it is through speech that we bring new things into being; things which were once mere thoughts. Look at any major architectural wonder and see what once started as thought, then words, then drawings, then action, and then reality.

In addition, speech allows us to share ideas from mind to mind and cause changes in behavior. Humankind is often persuaded through words (along with deeds). Political speeches, impassioned calls for revolution, and even commercials are all examples of humankind using speech to connect with other humans to influence and change things. Who has not been moved by a speech – which is "mere words"? Words and speech then are a concurrent aspect of God and man, a sliver of insight into the Image of God.

God speaks to man

Hundreds of times throughout the Old Testament, we read the words "God spoke." God communicates directly with man and no other creature throughout the entire Bible. Obviously the highest form of His communicative nature is the expression of Himself through His Son, but the act of speaking to men distinguishes them from all other creatures. Now the spiritual benefit of this ability is that the creature is free to communicate with the Creator, sing His praise, worship Him with statements of glorification, and pray to him in time of need. Each of these communications requires words and language (with the exception being the groaning of the Spirit in Romans 8).

The Image responds

What does language and speech allow us to do that other creatures cannot do? "It is as a communicating species that man is essentially different from all other living creatures."

Language is extremely efficient as opposed to grunts and wails of other creatures. Language and speech show a dignity of man versus the other creatures, in that we

share an attribute of God, delineating a vast chasm between humans and all the other creatures of the Earth. It also poses a serious question as to why other species DO NOT have this capability. The New Testament provides an ancient insight. In Second Peter 2:12, we read "these, like unreasoning animals, creatures of instinct to be captured and killed..." The phrase, "unreasoning animals" in this passage is *alogos* (αλογα) meaning "without words." The Scripture is very clear that animals do not have this capacity. The Scripture and the anthropologists and other scientists cited in this paper are in strong agreement.

Man used speech to identify the other creatures

While the animal rights groups would probably reel from what I am about to say, it is essential to the overall argument; Man named the animals using speech and language. That means he had the capability to categorize, organize and identify creatures lower than himself. This was a charter from God, and it was the first major act of speech in the Bible (though it is hardly likely that Latin was the language of choice!) as an act of dominion.

What then is the significance of this aspect of human nature?

While evolutionists will no doubt insist that speech is the result of millions of years of change and adaptation, the Biblical Christian challenges the prevailing thinking by elucidating this small glimpse into the magnificence of the phrase "Image of God".

It is the belief of the author that man has been made in the Image of God, and He has left us with startling evidence of this fact, in the capacity for speech. We collect a huge vocabulary almost by accident, learn syntax and grammar in our own dialects and languages, then transform our worlds as a result of the creative power of speech. While modern evolutionary minds point out that even though chimpanzees act like humans (make rudimentary "tools", have culture, and conduct warfare), they are still missing this essential capacity of speech.

When we marvel at all the knowledge that is stored in the trillions of synapses in human brains, and that we can share and learn and retain and extract this knowledge is unimaginable. But it is all done through speech, and ultimately released through language. Our words and our speech give us the power to create, to build, and to communicate across the centuries, not unlike the God who created us in His Image.

Ultimately, we are still creatures, and the very similarities we share with other creatures should cause us to remember our true estate. More profoundly, we should be astonished that God has deigned to rescue us from our sin, by *becoming* one of us and speaking to us through Him!

APPENDIX - POTENTIAL OBJECTIONS:

Some will say, "Then if a person cannot speak, he or she is not made in the Image of God."

To which I would answer, "Humanity at large has this capacity. It was the intention of

the Creator to gift humanity in this way. If, as a result of the Fall, an individual is unable to speak, it does not negate the argument."

According to Ursula Bellugi, Director of the Laboratory of Language and Cognitive Studies at the Salk Institute in La Jolla CA, American Sign Language, for example "has developed an alternative to human speech, with the transmission system in the hands, rather than the vocal tract, and the perception in the eyes, rather than the ears." The point for this paper is that speech is compensated for by the brain capacities inherent in the human being.

Some might say: "This borders on blasphemy, since what is physical should not be commingled with what is spiritual."

To which I would answer, "Human beings are made in the image of God in more than one way. Their very complexity is a testament to their Creator, and part of that complexity is the physical capability for speech and language."

Some might say, "What about animals and sign language, doesn't that negate your thesis?"

I must acknowledge that many studies have been done on chimpanzees and apes to get them to perform sign language. I do this to preempt the reaction I would get from the scientific community were I not to acknowledge this work. Interested readers are directed to the work of Herbert Terrace at Columbia University and others (Gardners) who have spent years on this matter. The conclusion remains the same: Children learn words at an alarming rate, while extensive effort taking years fails to produce speech in chimpanzees. Even though chimpanzees can acquire sign language, they never pass the vocabulary of a two and one half-year-old child, and it requires great effort to get them to learn the words that a child grasps without any effort. If that argument is not satisfactory, consider that even someone as focused on developing chimp communication acknowledged that sign language is difficult for apes because "...gestures, like sounds, proved difficult for apes because the anatomy and motor control of the human hand is much superior to that of the ape hand."

Bibliography

Asimov, I. (1963). *The human body: Its structure and operation*. The Riverdale Press: Houghton Mifflin.

Berkouwer, G.C. (1962). *Man: the image of God, in Studies in Dogmatics*, G. C Berkouwer. Grand Rapids: Wm. B. Eerdmanns.

Bickerton, D. (1995). *Language and human behavior*. University of Washington Press.

Brown, C. ed. (1971). *The international dictionary of New Testament Theology*. Grand Rapids: Zondervan.

Crump, T. (1973). *Man and his kind*. New York: Praeger.

Damasio, A. (1994). *Descarte's Error: Emotion, Reason, and the human brain*. New York: Avon.

Dembski, W. (1999). *Intelligent design. The bridge between science and theology*. Downers-Grove: IVP.

Dembski, W. (1996). *The explanatory filter: A three part filter for understanding how to separate and identify cause from Intelligent Design*.

www.leaderu.com/real/ri9602/dembski.html

Farb, P. (1978). *Humankind*. Boston: Houghton-Mifflin.

Gazzaniga, Irvy, & Mangun. (1998). *Cognitive neuroscience: the biology of the mind*. New York: W.W. Norton.

Goodall, J. 1/1/2000. PBS. Nature.

Lieberman, P. (1998). *Eve Spoke: Human Language and Human evolution*. New York: W.W. Norton and company.

Marshall, L, and Magoun, H. (1998). *Discoveries in the Human Brain*. New Jersey: Humana Press.

Meagher, R. E. (1978). *Augustine: An introduction*. New York: Harper-Colophon.

Morris, H. (1976). *The Genesis record*. Grand Rapids: Baker.

Restak, R. (1988). *The mind*. Toronto: Bantam.

Sagan, C. (1977). *The dragons of Eden: Speculations on the evolution of human intelligence*. New York: Ballantine.

Savage-Rumbaugh, S., Shanker, S., & Taylor, T. (1998). *Apes, Language and the human mind*. New York: Oxford.