

THE ORIGIN OF LANGUAGE AND COMMUNICATION

Dave Miller, Ph.D., Brad Harrub, Ph.D., and Bert Thompson, Ph.D.

[EDITOR'S NOTE: This is the first article by our newest staff member, Dr. Dave Miller, who joins us this month as the chairman of our recently established Department of New Testament Studies. Dave's doctorate is in speech communications, which makes him especially qualified to write on the topic of the origin of language and communication. See my "Note from the Editor" on the back page for an introduction to this talented addition to our staff.]

In 1994, an article appeared in *Time* magazine titled "How Man Began." Within that article was the following bold assertion: "No single, essential difference separates human beings from other animals" (Lemonick, 143[11]:81). Yet, in what is obviously a contradiction to such a statement, all evolutionists admit that communication via speech is uniquely human—so much so that it often is used as the singular, and most important, dividing line between humans and animals. In his book titled *Eve Spoke*, evolutionist Philip Lieberman admitted:

Speech is so essential to our concept of intelligence that its possession is virtually equated with being human. Animals who talk are human, because what sets us apart from other animals is the "gift" of speech (1998, p. 5, emp. in orig.).

In *The Cambridge Encyclopedia of Human Evolution*, editors Jones, Martin, and Pilbeam conceded that "[t]here are no non-human languages," and then went on to observe that "language is an adaptation unique to humans, and yet the nature of its uniqueness and its biological basis are notoriously difficult to define" (1992, p. 128, emp. added). In his book, *The Symbolic Species: The Co-Evolution of Language and the Brain*, Terrance Deacon noted:

In this context, then, consider the case of human language. It is one of the most distinctive behavioral adaptations on the planet. Languages evolved in only one species, in only one way, without precedent, except in the most general sense. And the differences between languages and all other natural modes of communicating are vast (1997, p. 25).

What events transpired that have allowed humans to speak, while animals remain silent? If we are to believe the evolutionary teaching currently taking place in colleges and universities around the world, speech evolved as a natural process over time. Yet no one is quite sure how, and there are no known animals that are in a transition phase from non-speaking to speaking. In fact, in the *Atlas of Languages*, this remarkable admission can be found: "No languageless community has ever been found" (Matthews, et al., 1996, p. 7). This represents no small problem for evolution.

In fact, the origin of speech and language (along with the development of sex and reproduction) remains one of the most significant hurdles in evolutionary theory, even in the twenty-first century. In fact, many evolutionists simply have stopped discussing the matter completely. Jean Aitchison noted:

In 1866, a ban on the topic was incorporated into the founding statutes of the Linguistic Society of Paris, perhaps the foremost academic linguistic institution of the time: "The Society does not accept papers on either the origin of language or the invention of a universal language" (2000, p. 5).

That is an amazing (albeit inadvertent) admission of defeat, especially coming from a group of such eminent scientists, researchers, and scholars.

The truth of the matter is, however, that the origin of human languages can be discerned—but not via the theory of evolution. We invite your attention to the discussion that follows, which demonstrates conclusively that humans were created by God with the unique ability to employ speech for communication.

EVOLUTIONARY THEORIES ON THE ORIGIN OF SPEECH

Many animals are capable of using sounds to communicate. However, there is a colossal difference between the hoot of an owl or the grunt of a pig, and a human standing before an audience reciting Robert Frost's "The Road Not Taken." This enormous chasm between humans and animals has led to a multiplicity of theories on exactly how man came upon this unequalled capability. But there is a single, common theme that stands out amidst all the theories: "The world's languages evolved spontaneously. They were not designed" (Deacon, p. 110, emp. added).

Design implies a Designer; thus, evolutionists have conjured up theories that consider language nothing more than a fortuitous chain of events. Most of these theories involve humans growing bigger brains, which then made it physiologically possible for people to develop speech and language. For instance, in the foreword of her book, *The Seeds of Speech*, Jean Aitchison hypothesized:

Physically, a deprived physical environment led to more meat-eating and, as a result, a bigger brain. The enlarged brain led to the premature birth of humans, and in consequence a protracted childhood, during which mothers cooed and

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crooned to their offspring. An upright stance altered the shape of the mouth and vocal tract, allowing a range of coherent sounds to be uttered (2000, p. x).

Thus, according to Aitchison, we can thank “a deprived physical environment” for our ability to talk and communicate. Another evolutionist, John McCrone, put it this way:

It all started with an ape that learned to speak. Man’s hominid ancestors were doing well enough, even though the world had slipped into the cold grip of the ice ages. They had solved a few key problems that had held back the other branches of the ape family, such as how to find enough food to feed their rather oversized brains. Then man’s ancestors happened on the trick of language. Suddenly, a whole new mental landscape opened up. Man became self-aware and self-possessed (1991, p. 9).

Question: How (and why) did that first ape learn to speak? It is easy to assert that “it all started with an ape that learned to speak.” But it is much more difficult to describe **how** this took place, especially in light of our failure to teach apes to speak today. In his book, *From Hand to Mouth: The Origins of Language*, Michael Corballis stated:

My own view is that language developed much more gradually, starting with the gestures of apes, then gathering momentum as the bipedal hominins evolved. The appearance of the larger-brained genus *Homo* some 2 million years ago may have signaled the emergence and later development of syntax, with vocalizations providing a mounting refrain. What may have distinguished *Homo sapiens* was the final switch from a mixture of gestural and vocal communication to an autonomous vocal language, embellished by gesture but not dependent on it (2002, p. 183).

The truth however, is that evolutionists can only speculate as to the origin of language. Evolutionist Carl Zimmer summed it up well when he wrote:

No one knows the exact chronology of this evolution, because language leaves precious few traces on the human skeleton. The voice box is a flimsy piece of cartilage that rots away. It is suspended from a slender C-shaped bone called a hyoid, but the ravages of time usually destroy the hyoid too (2001, p. 291).

Thus, theories are plentiful—while the evidence to support those theories remains mysteriously unavailable. Add to this the fact that humans acquire the ability to communicate (and even learn some of the basic rules of syntax) by the age of two, and you begin to see why Aitchison admitted:

Of course, holes still remain in our knowledge: in particular, at what stage did language leap from being something new which humans discovered to being something which every newborn human is scheduled to acquire? This is still a puzzle (p. ix).

A “puzzle” indeed!

ADAM—THE FIRST HUMAN TO TALK AND COMMUNICATE

In a chapter he titled “What, When, and Where did Eve Speak to Adam and He to Her?” Philip Lieberman commented:

In the five-million-year-long lineage that connects us to the common ancestors of apes and human beings, there have been many Adams and many Eves. In the beginning was the word, but the vocal communications of our most distant hominid ancestors five million years or so ago probably didn’t really differ from those of the ape-hominid ancestor (1998, p. 133).

Using biblical terminology, Lieberman had written a year earlier: “For with speech came a capacity for thought that had never existed before, and that has transformed the world. In the beginning was the word” (1997, p. 27).

When God created the first human beings—Adam and Eve—He created them in His own image (Genesis 1:26-27). This likeness unquestionably included the ability to engage in intelligible speech via human language. In fact, God spoke to them from the very beginning of their existence as humans (Genesis 1:28-30). Hence, they possessed the ability to understand verbal communication —**and to speak themselves!**

God gave very specific instructions to the man **before** the woman was even created (Genesis 2:15-17). Adam gave names to the animals **before** the creation of Eve (Genesis 2:19-20). Since both the man and the woman were created on the sixth day, the creation of the man preceded the creation of the woman by only hours. So, **Adam had the ability to speak on the very day that he was brought into existence!**

That same day, God put Adam to sleep and performed history’s first human surgery. He fashioned the female of the species from a portion of the male’s body. God then presented the woman to the man (no doubt in what we would refer to as the first marriage ceremony). Observe Adam’s response: “And Adam said, ‘This is now bone of my bones and flesh of my flesh; she shall be called Woman, because she was taken out of man’” (Genesis 2:23). Here is Adam—less than twenty-four hours old—articulating intelligible speech with a well-developed vocabulary and advanced powers of expression. Note also that Eve engaged in intelligent conversation with Satan (Genesis 3:1-5). An unbiased ob-

server is forced to conclude that Adam and Eve were **created by God** with oral communication capability. Little wonder, then, that God said to Moses: “Who had made man’s mouth?... Have not I, the Lord? Now therefore, go, and I will be with your mouth and teach you what you shall say” (Exodus 4:11-12).

This circumstance should not surprise us, since the rest of the created order also was brought into existence fully formed and operational. Adam’s body was that of a man—not a child. His body possessed reproductive capability (Genesis 1:28). His mind was mentally and psychologically functional on the level of an adult. Likewise, trees and plants were completely operational in their photosynthetic, reproductive, and fruit-bearing capability (Genesis 1:11-12). Animals, too, were created fully functional (Genesis 1:20-25). And, the Sun, Moon, planets, and stars were created instantaneously to provide the services they were intended to provide (Genesis 1:14-18). Once again, the biblical explanation of the beginning of the human race and linguistic functionality is logical, reasonable, and scientifically feasible. The evolutionary model is not.

THE TOWER OF BABEL— AND UNIVERSAL LANGUAGE

Nobody knows exactly how many languages there are in the world, partly because of the difficulty of distinguishing between a language and a sub-language (or dialects within it). But those who have tried to count usually end up around the 5,000 mark (Aitchison, 2000, p. 26).



The Bible’s explanation of the origin of multiple human languages is provided in the Tower of Babel incident recorded in Genesis 11:1-9. Scripture simply and confidently asserts: “Now the whole earth had one language and one speech” (11:1). When Noah and his family stepped off the ark, they spoke a single language that was passed on to their offspring. As the population increased, it apparently remained localized in a single geographical region. Consequently, little or no linguistic variation ensued. But when a generation

defiantly rejected God’s instructions to scatter over the planet, God miraculously intervened and initiated the major language groupings of the human race. This action forced the population to proceed with God’s original intention to inhabit the Earth (cf. Isaiah 45:18) by clustering according to shared languages.

This depiction of the origin of languages coincides with the present status of these languages. The available linguistic evidence does not support the model postulated by evolutionary sources for the origin of languages. Evolutionary linguists believe that all human languages have descended from a single, primitive language, which itself evolved from the grunts and noises of the lower animals. The single most influential “hopeful monster” theory of the evolution of human language was proposed by the famous linguist from MIT, Noam Chomsky, and has since been echoed by numerous linguists, philosophers, anthropologists, and psychologists. Chomsky argued that the innate ability of children to acquire the grammar necessary for a language can be explained only if one assumes that all grammars are variations of a single, generic “universal grammar,” and that all human brains come “with a built-in language organ that contains this language blueprint” (Deacon, 1997, p. 35).

Explaining this “innate ability,” a “universal grammar,” and the “built-in language organ” of humans has proven to be, well, impossible! Steven Pinker, the eminent psychologist also of MIT, candidly lamented this very fact in his best-selling book, *How the Mind Works*. In addressing the failure of “our species’” scientists to solve these types of plaguing, perennial problems, he wrote:

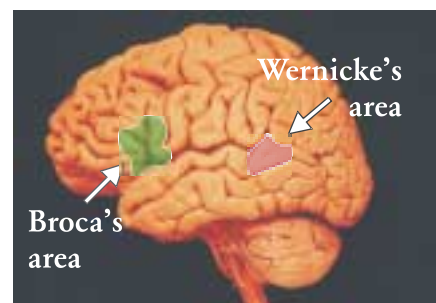
[T]he species’ best minds have flung themselves at the puzzles for millennia but have made no progress in solving them. Another is that they have a different character from even the most challenging problems of science. **Problems such as how a child learns language or how a fertilized egg becomes an organism are horrendous in practice and may never be solved completely** (1997a, p. 562, emp. added).

However, the existing state of human language nevertheless suggests that the variety of dialects and sub-languages has developed from a relatively few (perhaps even less than twenty) languages. These original “proto-languages”—from which all others allegedly have developed—were distinct within themselves, with no previous ancestral language. Creationist Carl Wieland rightly remarked: “The evidence is wonderfully consistent with the notion that a small number of languages, separately created at Babel, has diversified into the huge variety of languages we have today” (1999, p. 22).

THE BRAIN’S LANGUAGE CENTERS— CREATED BY GOD

In contemplating how language arose, evolutionists frequently link the development of the brain to the appearance of languages. But when one considers that more than 5,000 languages exist, it is incomprehensible to suggest that the invention of language could be viewed as some sort of simple, clear-cut addition to human physiology made possible by an enlarged brain unique to *Homo sapiens*. Terrance Deacon commented on the intricacy of evolving a language when he said:

For a language feature to have such an impact on brain evolution that all members of the species come to share it, it must remain invariable across **even the most drastic language change possible** (p. 329, emp. in orig.).



Left hemisphere of human brain with language centers—Broca’s area and Wernicke’s area—highlighted

The complexity underlying speech first revealed itself in patients who were suffering various communication problems. Researchers began noticing analogous responses among patients with similar injuries. The ancient Greeks noticed that brain damage could cause the loss of the ability to speak (a condition known as aphasia). Centuries later, in 1836, Marc Dax described a group of patients that could not speak normally. Dax reported that all of these patients experienced damage to the left hemisphere of their brain. In 1861, Paul Broca described a patient who could utter only a single word—“tan.” When this patient died, Broca examined his brain and observed significant damage to the left frontal cortex, which has since become known an atomically as “Broca’s area.” **While patients with damage to Broca’s area can understand language, they generally are unable to produce speech** because words are not formed properly, thus slurring their speech.

In 1876, Carl Wernicke discovered that language problems also could result from damage to another section of the brain. This area, later termed “Wernicke’s area,” is located in the posterior part of the temporal lobe. **Damage to Wernicke’s area results in a loss of the ability to understand language.** Thus,

patients can continue to speak, but the words are put together in such a way that they make no sense. Interestingly, in most people (approximately 97%) both Broca's area and Wernicke's area are found only in the left hemisphere, which explains the language deficits observed in patients with brain damage to the left side of the brain. Evolutionists freely acknowledge that

[t]he relationship between brain size and language is unclear. Possibly, increased social interaction combined with tactical deception gave the brain an initial impetus. Better nourishment due to meat-eating may also have played a part. Then brain size and language possibly increased together (Aitchison, 2000, p. 85).

However, the human brain is not simply larger. The connections are vastly different as well. As Deacon admitted: "Looking more closely, we will discover that a radical re-engineering of the whole brain has taken place, and on a scale that is unprecedented" (p. 45). In order to speak a word that has been read, information is obtained from the eyes and travels to the visual cortex. From the primary visual cortex, information is transmitted to the posterior speech area (which includes Wernicke's area). From there, information travels to Broca's area, and then to the primary motor cortex to provide the necessary muscle contractions to produce the sound. To speak a word that has been heard, we must invoke the primary **auditory** cortex, not the **visual** cortex. Deacon commented on this complex neuronal network—which does not occur in animals—when he wrote:

There is, without doubt, something special about human brains that enables us to do with ease what no other species can do even minimally without intense effort and remarkably insightful training. We not only have the ability to create and easily learn simple symbol systems such as the chimps Sherman and Austin struggled to learn, but in learning languages we acquire an immensely complex rule system and a rich vocabulary at a time in our lives when it is otherwise very difficult to learn even elementary arithmetic. Many a treatise on grammatical theory has failed to provide an adequate accounting of the implicit knowledge that even a four-year-old appears to possess about her newly acquired language (p. 103).

ANATOMY OF SPEECH

The specific mechanics involved in speaking have anatomical requirements that are found **only in humans**. There is no animal living presently, nor has one been observed in the fossil record, that possesses anything close to the "voice box" (as we com-

monly call it) present in humans. As information scientist Werner Gitt observed in his fascinating book, *The Wonder of Man*:

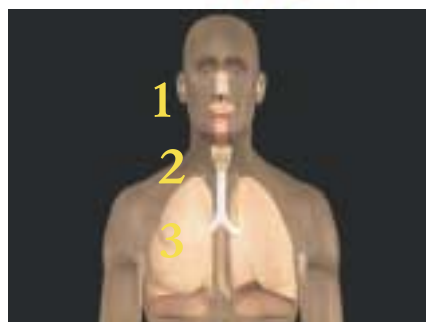
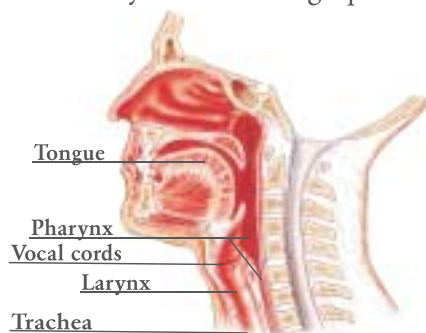
Only man has the gift of speech, a characteristic otherwise only possessed by God. This separates us clearly from the animal kingdom.... In addition to the necessary "software" for speech, we have also been provided with the required "hardware" (1999, p. 101).

Furthermore, the complete lack of any "transitional" animal form (with the requisite speech hardware) in the fossil record poses a significant continuity problem for evolutionists. As Deacon noted:

This lack of precedent makes language a problem for biologists. Evolutionary explanations are about biological continuity, so a lack of continuity limits the use of the comparative method in several important ways. We can't ask, "What ecological variable correlates with increasing language use in a sample species?" Nor can we investigate the "neurological correlates of increased language complexity." There is no range of species to include in our analysis (p. 34).

To simplify the anatomy required for human speech by using an analogy, think of a small tube resting inside a larger tube. The inner tube consists of the trachea going down to the lungs, and the larynx (which houses the voice box). At the larynx, the inner tube opens out to the larger tube, which is known as the pharynx. It carries only sound **up** to the mouth, but it also carries food and water from the mouth **down** to the stomach. A rather simplistic description of how humans utter sounds in speech can be characterized by the control of air generated by the lungs,

Anatomy Used During Speech



flowing through the vocal tract, vibrating over the vocal cord, filtered by facial muscle activity, and released out of the mouth and nose. Just as sound is generated from blowing air across the narrow mouth of a bottle, air is passed over the vocal cords, which can be tightened or relaxed to produce various resonances.

The physiological components necessary can be divided into: (1) supralaryngeal vocal tract; (2) larynx; and (3) subglottal system (see illustration at left). In 1848, Johannes Muller demonstrated that human speech involved the modulation of acoustic energy by the airway above the larynx (referred to as the supralaryngeal tract). Sound energy for speech is generated in the larynx at the vocal folds. The subglottal system—which consists of the lungs, trachea, and their associated muscles—provides the necessary power for speech production. The lungs produce the initial air pressure that is essential for the speech signal; the pharyngeal cavity, oral cavity, and nasal cavity shape the final output sound that is perceived as speech.

BIRDS OF A FEATHER—OR NAKED APE?

Imagine the conundrum in which evolutionists find themselves when it comes to speech and language. The animal that comes closest to producing anything that even vaguely resembles human speech is not another primate, but rather a bird. Deacon observed:

In fact, most birds easily outshine any mammal in vocal skills, and though dogs, cats, horses, and monkeys are remarkably capable learners in many domains, vocalization is not one of them. Our remarkable vocal abilities are not part of a trend, but an exception (pp. 30-31).

For instance, a famous African gray parrot in England named Toto can pronounce words so clearly that he sounds rather human. Like humans, birds can produce fluent, complex sounds. We both share a double-barreled, double-layered system involving tunes and dialects—a system controlled by the left side of our brains. And just like young children, juvenile birds experience a period termed "sub-song" where they twitter in what resembles the babbling of a young child learning to speak. Yet Toto does not have a "language" as humans understand it. Humans use language for many more purposes than birds use song. Consider, too, that it is mostly male birds that sing. Females remain songless unless they are injected with the male hormone testosterone (see Nottebohm, 1980). Also consider that humans frequently communicate intimately between two or three people, while bird communication is a fairly long-distance affair.

One of the big “success” stories in looking at the human-like qualities of non-human primates is a male bonobo chimpanzee known as Kanzi (see Savage-Rumbaugh and Lewin, 1994; Skoyles and Sagan, 2002, pp. 217-220). Kanzi was born October 28, 1990, and began his long journey to learn to “speak” as a result of the training provided for his mother, Matata, via a “talking” keyboard. Matata never did master the keyboard, but Kanzi did. Through many years of intense training and close social contact with humans, this remarkable animal attained the language abilities of an average two-year-old human. By age ten, he had a “spoken” vocabulary (via the keyboard) of some two hundred words. In fact, Kanzi was able to go beyond the mere parroting or “aping” of humans; he actually could communicate his wants and needs, express feelings, and use tools. Inasmuch as Kanzi could accomplish such things, does this prove that chimps are merely hairy, child-like versions of humans?

Hardly. To use the words of the famous American news commentator, Paul Harvey, someone needs to tell “the rest of the story.” For example, in their 2002 volume, *Up from Dragons*, John Skoyles and Dorion Sagan discussed Kanzi at great length. Among other things, they wrote:

Kanzi shows that while chimps may have the potential to learn language, they require a “gifted” environment to do so. Kanzi was surrounded by intelligent apes with PhDs [i.e., humans—DM/BH/BT] who spoke to him and gave him a stream of rich interactions. They gave Kanzi’s brain a world in which it could play at developing its

ability to communicate.... Therefore, as much as in his brain, **Kanzi’s skill lies in the environment that helped shape it** (pp. 215,216, emp. added).

Kanzi does not possess the anatomical equipment required for speech. Truth be told, no animal does. As Skoyles and Sagan went on to note: “Chimps lack the vocal abilities needed for making speech sounds—speech requires a skilled coordination between breathing and making movements with the larynx that chimps lack” (p. 214). Humans, however, **do** possess the anatomical equipment required for speech.

But there is more. Regardless of how much instruction such animals receive, there appear to be built-in limits on their progress. On February 15, 1994, the public television program NOVA aired the show titled “Can Chimps Talk?” (for a full transcript of the show go to www.primate.wisc.edu/pin/nova/html). The show began with a “conversation” with Kanzi, who was required to use a talking keyboard to respond to queries from his human counterpart. As the television program demonstrated quite effectively, Kanzi frequently responded incorrectly when asked a question. For instance, one of the humans asked, “Is there any other food you’d like me to bring in the backpack?” Kanzi’s talking keyboard response was: “ball.”

The program then focused on Washoe, a chimpanzee that, in the 1970s, was taught a portion of American Sign Language by Allen and Beatrice Gardner at the University of Nevada. By the time Washoe was five, the trainers reported that she could use 133 signs. Headlines were quick to report that a **non-human** primate was using **human** language.

This spurred other scientists, such as Herb Terrace, to begin experimenting with animal language. Terrace set out to replicate some of the Gardners’ study by using his own ape, Nim Chimsky (sarcastically named after MIT scientist Noam Chomsky, who believes language is confined strictly to humans). The main goal of the project was to determine if a chimpanzee could create a sentence. In the documentary, Terrace stated: “I have concluded that, unfortunately, the answer to that question is no.” Nim’s sign usage could best be interpreted as a series of “conditioned discriminations” similar to behaviors seen in many less-intelligent animals. This work suggested that Nim, like circus animals, was using words only to obtain food rewards. Terrace realized that while Nim seemed to be using a combination of signs, he actually was imitating the trainer. This prompted Terrace to examine some of the Gardners’ films. He decided that Washoe, too, was being led by his teacher and was merely imitating.

As Skoyles and Sagan candidly admitted, Kanzi’s skill was “in the environment that helped shape it.” That is precisely what Terrace discovered. Such an assessment always will be true of “talking animals.” **But it is not always true of humans!** Consider the following case in point.

As we mentioned earlier, the eminent linguist Noam Chomsky has championed the idea that humans are born with a built-in “universal grammar”—a series of biological switches for complex language that is set in place in the early years of childhood. This, he believes, is why children can grasp elaborate language rules, even at an early age—**without adults to teach them.** Powerful support for Chomsky’s theory emerged from a decade-long study of 500 deaf children in Managua, Nicaragua, which was reported in the December 1995 issue of *Scientific American* (Horgan, 1995, 273[6]:18-19). These children started attending special schools in 1979, but none used or was taught a formal sign language. Within a few years, and under no direction from teachers or other adults, they began to develop a basic “pidgin” sign language. This quickly was modified by younger children entering school, with the current version taking on a complex and consistent grammar. If Chomsky is correct, where, then, did humans get their innate ability for language? Chomsky himself will not even hazard a guess. In his opinion, “very few people are concerned with the origin of language because most consider it a hopeless question” (as quoted in Ross, 1991, 264[4]:146). The development of language, he admits, is a “mystery.” The fundamental failing of naturalistic theories is that they are inadequate to explain the origins of something so complex



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and information-rich as human language, which itself is a gift of God and part of man's having been created "in His image" (see Lyons and Thompson, 2002).

The fact is, no animal is capable of speaking in the manner in which people can speak. Speech is a peculiarly human trait. Steven Pinker, director of MIT's Center of Cognitive Neuroscience, stated in *The Language Instinct: The New Science of Language and Mind*:

As you are reading these words, you are taking part in one of the wonders of the natural world. For you and I belong to a species with a remarkable ability: we can shape events in each other's brains with remarkable precision. I am not referring to telepathy or mind control or the other obsessions of fringe science; even in the depictions of believers, these are blunt instruments compared to an ability that is uncontroversially present in every one of us. **That ability is language.** Simply by making noises with our mouths, we can reliably cause precise new combinations of ideas to arise in each other's minds. The ability comes so naturally that we are apt to forget what a miracle it is.... **[H]uman language is based on a very different design....** Even the seat of human language in the brain is special... (1997b, pp. 1,365, emp. added).

Without detracting anything from primates like Kanzi and Washoe, fundamental differences between animals and humans nevertheless remain. Unlike human children, animals: (1) do not have a special region in the brain devoted to language; (2) possess a much smaller brain overall; and (3) lack the anatomy to speak the words they may think. In summary, humans have an innate, built-in, hard-wired ability to acquire and communicate complex language from the moment of their birth. Animals do not. Admittedly, animals **do** possess a measure of understanding. They can learn to respond to commands and signs, and in some instances even can be trained to use minimal portions of human sign language. But even though apes, dogs, and birds can be trained to do certain things, they cannot reason and communicate ideas with others so as to have true mental communion. Why? The intelligence of animals is, quite bluntly, unlike that of humankind. As biologist John N. Moore observed:

Animals can think in several ways... though only on the perceptual, not on the conceptual level. The key difference here is one between conceptual and perceptual thinking. The latter, which is typical of animal thinking, requires the actual or nearly immediate presence of the pertinent objects. Man's thinking, on the other hand, is independent of the presence of pertinent objects. It is, in fact, independent of objects alto-

gether, as is the case with logical or mathematical exercises. Secondly, the difference between human and animal thinking resides in the fact that, whether or not the object of the mental operation is present, animals cannot make judgments or engage in reasoning. For example, animals are unable to conclude that such and such **is** or **is not** the case in a given situation or that **if** such and such is the case, **then** so and so is not (1983, p. 344, emp. and ellipses in orig.). The issue is not "can animals think?" but rather "can they think the way humans do?" The answer, obviously, is a resounding "No!" Although animal trainers and investigators since the seventeenth century have tried to teach chimpanzees to talk, no chimpanzee has ever managed it. A chimpanzee's sound-producing anatomy is simply too different from that of humans. Chimpanzees might be able to produce a muffled approximation of human speech—if their brains could plan and execute the necessary articulate maneuvers. But to do this, they would have to have our brains, which they obviously do not (see Lieberman, 1997, p. 27).

COMPLEXITY OF LANGUAGE— UNIQUELY HUMAN

No known language in the whole of human history can be considered "primitive" in any sense of the word. In her book, *What is Linguistics?*, Suzette Elgin wrote:

The most ancient languages for which we have written texts—Sanskrit for example—are often far more intricate and complicated in their grammatical forms than many other contemporary languages (1973, p. 44).

Jesus wept
 Иисус прослезился
 Gesù scoppio in pianto
 耶穌也禁不住地哭了
 Jésus pleura
 イエスの目に涙があふれました
 Jesús lloró
 Jezus huilde
 عَيْدِيْزِيْ بَكِيْ يَسُوْعُ
 Alle sahen, daß Jesus weinte

Lewis Thomas, a distinguished physician, scientist, and longtime director and chancellor of the Sloan Kettering Cancer Center in Manhattan, acknowledged: "...[L]anguage is so incomprehensible a problem that the language we use for discussing the matter is itself becoming incomprehensible" (1980, p. 59). It appears that, from the beginning, human communication was **designed** with a tremendous amount of complexity and

forethought, and has allowed us to communicate not only with one another, but also with the **Designer** of language.

In a paper titled "Evolution of Universal Grammar" that appeared in the January 2001 issue of *Science*, M.A. Nowak and his colleagues attempted to discount the gulf that separates human and animals (Nowak, et al., 2001). This paper, which was a continuation of a 1999 paper titled "The Evolution of Language" (Nowak and Krakauer, 1999), used mathematical calculations in an effort to predict the evolution of grammar and the rules surrounding it. While Nowak and his team inferred that the evolution of universal grammar can occur via natural selection, they freely admitted that "**the question concerning why only humans evolved language is hard to answer**" (1999, 96:8031, emp. added). Hard to answer indeed! The mathematical models presented in these papers do not tell us anything about the origination of the multitude of languages used in the world today. If man truly did evolve from an ape-like ancestor, how did the phonologic [the branch of linguistics that deals with the sounds of speech and their production] component of our languages become so diverse and variegated? Nowak's paper also did not clarify the origination of written languages, or describe how the language process was initiated in the first humans, considering we know today that parents teach languages to their offspring.

Nowak and his collaborators believe that the "first step" in the evolution of language was "signal-object associations." They speculate that common objects, frequently utilized, were given a representative signal or sign (in a manner similar to modern sign language). These researchers also believe that early in evolution, these signals were "likely to have been noisy" and therefore "mistaken for each other." Nowak suggests that these errors necessitated the formation of words, and describes this step in the evolution of language as going "from an analogue to a digital system." However, there is no evidence that demonstrates how these "prehistoric" people made the quantum leap from signals to words. The last step Nowak describes is the evolution of basic grammatical rules in an effort to convey even more information than just simple words. While these speculations make a nice, neat, progressive path toward human language, they do little to explain adequately the anatomical differences found in animals and humans. The human supralaryngeal airway differs from that of any other adult mammal, and is essential for speech. While it is true that chimpanzees have been taught to communicate by means of sign language, they cannot speak, and do not appear to use any complex syntax in communication.

CONCLUSION

Nowak and his colleagues began with the assumption that language “evolved as a means of communicating information between individuals” (1999, 96:8030), and then went on to speculate that natural selection favors the emergence of a universal, rule-based language system. But if it is true that natural selection “favors” a complex language, how do we account for the non-vocal communication observed in animals, and why hasn’t this communication “emerged” into a formal language in those animals? In an effort to explain this embarrassing lack of understanding, Nowak, et al. offered several speculations as to why animals have not evolved a better form of communication. In their explanation, they listed the following:

- Signal-object associations form only when information transfer is beneficial to both speaker and listener.
- In the presence of errors, only a very limited communication system describing a small number of objects can evolve by natural selection.
- Although grammar can be an advantage for small systems, it may be necessary only if the language refers to many events.
- Thus, animals may not possess the need to describe “many” events.

But such speculations leave gaping holes in regard to potential explanations as to why animals cannot use speech. As Deacon noted:

How could anyone doubt that language complexity is the problem? Languages are indeed complicated things. They are probably orders of magnitude more complicated than the next-most-complicated communication system outside of the human sphere. And they are indeed almost impossibly difficult for other species to acquire (1997, p. 40).

Also, consider that when language first appears on the scene, it already is fully developed and very complex. The late Harvard paleontologist George Gaylord Simpson described it this way:

Even the peoples with least complex cultures have highly sophisticated languages, with complex grammar and large vocabularies, capable of naming and discussing anything that occurs in the sphere occupied by their speakers. The oldest language that can be reconstructed is already modern, sophisticated, complete from an evolutionary point of view (1966, p. 477).

Chomsky summed it up well when he stated:

Human language appears to be a unique phenomenon, without significant analogue in the animal world.... There is no reason to suppose that the “gaps” are bridgeable. There is no more of a basis for assuming an evolutionary development from breathing to walking (1972, pp. 67-68).

The fact of the matter is that language is quintessentially a human trait. All attempts to shed light on the evolution of human language have failed—due to the lack of knowledge regarding the origin of **any** language, and due to the lack of an animal that possesses any “transitional” form of communication. This leaves evolutionists with a huge gulf to bridge between humans with their innate communication abilities, and the grunts, barks, or chatterings of animals. Deacon lamented:

So this is the real mystery. Even under these loosened criteria, there are no simple languages used among other species, though there are many other equally or more complicated modes of communication. Why not? And the problem is even more counterintuitive when we consider the almost insurmountable difficulties of teaching language to other species. This is surprising, because there are many clever species. Though researchers report that language-like communication has been taught to nonhuman species, even the best results are not above legitimate challenges, and the fact that it is difficult to prove whether or not some of these efforts have succeeded attests to the rather limited scope of the resulting behaviors, as well as to deep disagreements about what exactly constitutes language-like behavior (p. 41).

Another scholar who recognized this chasm between humans and animals commented:

The very fact...that human animals are ready to engage in a great “garrulity” over the merits and demerits of essentially unprovable hypotheses, is an exciting testimony to the gap between humans and other animals (Holloway, 1976, 280:330).

Gap indeed! Humans are capable of communicating in human language because God created them with the ability to do so! The Bible still offers the only plausible explanation for the origin of human language when it records: “Then God said, ‘Let Us make man in Our image, according to Our likeness;’ ...So God created man in His own image; in the image of God He created him; male and female He created them” (Genesis 1:26-27).

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ADDRESS SERVICE REQUESTED



ANNOUNCING: OUR NEW CHAIRMAN OF THE DEPARTMENT OF N.T. STUDIES

In 2004, Apologetics Press will celebrate its twenty-fifth anniversary—as difficult as that is for me to believe. And for almost every one of those twenty-five years, it has been a constant dream of mine to be able to establish a variety of “departments”—each chaired by a sound biblical or scientific scholar—that could serve to assist both Christians and non-Christians alike in finding answers to their questions, responding to their problems, and building or strengthening their faith. I now am pleased to be able to announce that my dream finally is beginning to come true.

As most of our readers know, I already have in place three extremely talented young men who serve as directors of various aspects of our work, and under whom each of the new departments will function. Kyle Butt, who holds B.A. and M.A. degrees in Bible from Freed-Hardeman University, is our Director of Biblical Research. Eric Lyons, who holds B.S. and M.Min. degrees from Freed-Hardeman University, is our Director of Research. And Brad Harrub, who holds a Ph.D. in neurobiology from the University of Tennessee Medical School, is our Director of Scientific Information.

As of August 1, we are adding our first department, the Department of New Testament Studies. And it is with much pleasure that I announce to you the man who will chair that department, Dr. Dave Miller.

It is quite likely that Dave needs no introduction to many of you since he is widely known throughout the churches of Christ for both his scholarship and his unwavering-yet-balanced stand for Truth. Dave holds earned M.A., M. Th., M.A.R., and Ph.D. degrees from various accredited universities, and has served for the past decade as the director of the Brown Trail School of Preaching in Bedford, Texas (near Fort Worth). In addition, he also is a much-sought-after speaker, he serves as host of “The Truth in Love” television program produced by the Brown Trail Church of Christ, and he is the author of the critically acclaimed book, *Piloting the Strait*, which forcefully addresses the “change agent” movement that has been troubling the church worldwide for the past several years.



Dave’s duties will be many and varied. First and foremost, he will be responsible for answering the many inquiries we receive that have to do specifically with New Testament apologetics-related issues. Because of his past academic experience with a well-known, highly respected school of preaching, Dave is uniquely qualified to handle this particular assignment—which is one of the many reasons we sought him out. He will be writing for both *Reason & Revelation* and *Discovery*, and has agreed to serve as the associate editor of our new *Explorer Series* for children. He also will be authoring books, tracts, research monographs, etc. And he will be traveling widely on speaking assignments (currently, he lectures between twenty and thirty weekends a year).

At some point in the distant future (as we are able to secure salary funds), we plan to bring on board other men of the same biblical or scientific soundness (and who possess the same type of academic qualifications) to serve as chairmen of additional departments (Old Testament studies, biblical languages, biblical archaeology, physics, biochemistry, etc.). I suspect you have noticed—as a result of reading their articles in *Reason & Revelation*—that for the past several years we have been in the process of training several talented young men whom we have in mind to fill such positions. For example, Alden Bass, who currently is enrolled at Yale University, hopes to join us after completing his graduate training in zoology. Joe Deweese, who is a student at Freed-Hardeman University, will be working toward graduate degrees in biochemistry. We are hoping that our new 2002 summer interns—Branyon May (a physics major at Angelo State University in Texas) and Zach Smith (a Bible major from Freed-Hardeman with a special interest in biblical languages)—likewise will be interested in joining us after their graduate training is complete.

I’m sure it is obvious that I have been blessed with an incredibly talented staff. Kyle, Eric, and Brad are diligent, dedicated, and determined. Dave Miller is such a man as well. Stay tuned. There are more exciting announcements to come.

Bert Thompson