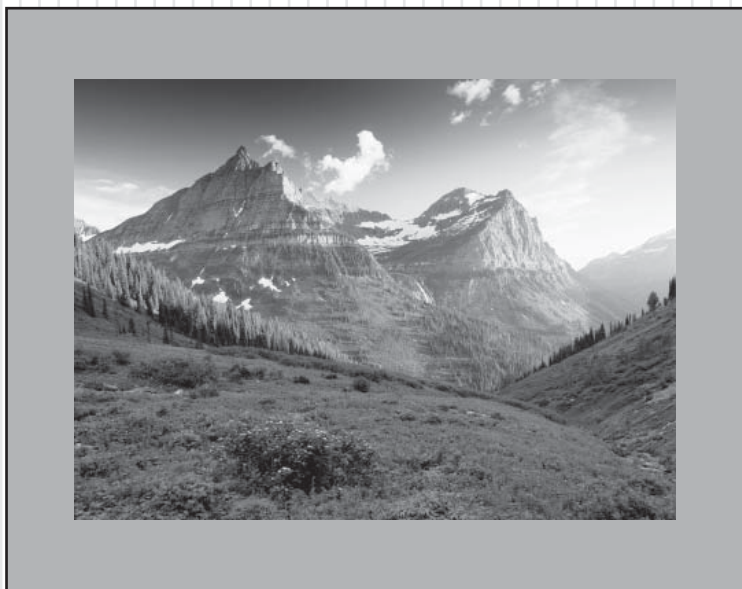


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Reading Session 3

Read this article about a researcher's work with Kanzi, a bonobo ape who seems capable of communicating with humans. Then answer the questions that follow.

Speaking Bonobo

Paul Raffaele

Bonobos have an impressive vocabulary, especially when it comes to snacks.

To better understand bonobo intelligence, I traveled to Des Moines, Iowa, to meet Kanzi, a 26-year-old male bonobo reputedly able to converse with humans. When Kanzi was an infant, American psychologist Sue Savage-Rumbaugh tried to teach his mother, Matata, to communicate using a keyboard labeled with geometric symbols. Matata never really got the hang of it, but Kanzi—who usually played in the background, seemingly oblivious, during his mother's teaching sessions—picked up the language.

Savage-Rumbaugh and her colleagues kept adding symbols to Kanzi's keyboard and laminated sheets of paper. First Kanzi used 6 symbols, then 18, finally 348. The symbols refer to familiar objects (yogurt, key, tummy, bowl), favored activities (chase, tickle), and even some concepts considered fairly abstract (now, bad).

Kanzi learned to combine these symbols in regular ways, or in what linguists call "proto-grammar." Once, Savage-Rumbaugh says, on an outing in a forest by the Georgia State University laboratory where he was raised, Kanzi touched the symbols for "marshmallow" and "fire." Given matches and marshmallows, Kanzi snapped twigs for a fire, lit them with the matches, and toasted the marshmallows on a stick.

Savage-Rumbaugh claims that in addition to the symbols Kanzi uses, he knows the meaning of up to 3,000 spoken English words. She tests his comprehension in part by having someone in another room pronounce words that Kanzi hears through a set of headphones. Kanzi then points to the appropriate symbol on his keyboard. But Savage-Rumbaugh says Kanzi also understands words that aren't a part of his keyboard vocabulary;

she says he can respond appropriately to commands such as "put the soap in the water" or "carry the TV outdoors."

About a year ago, Kanzi and his sister, mother, nephew, and four other bonobos moved into a \$10 million, 18-room house and laboratory complex at the Great Ape Trust, North America's largest great ape sanctuary, five miles from downtown Des Moines. The bonobo compound boasts a 13,000-square-foot lab, drinking fountains, outdoor playgrounds, rooms linked by hydraulic doors that the animals operate themselves by pushing buttons, and a kitchen where they can use a microwave oven and get snacks from a vending machine (pressing the symbols for desired foods).

Kanzi and the other bonobos spend evenings sprawled on the floor, snacking on M&M's, blueberries, onions, and celery, as they watch DVDs they select by pressing buttons on a computer screen. Their favorites star apes and other creatures friendly with humans such as *Quest for Fire*, *Every Which Way But Loose*, *Greystoke: The Legend of Tarzan*, and *Babe*.

Through a glass panel, Savage-Rumbaugh asks Kanzi if it's OK for me to enter his enclosure. "The bonobos control who comes into their quarters," she explains. Kanzi, still the alpha male of this group in his middle age, has the mien of an aging patriarch—he's balding and paunchy with serious, deep-set eyes. Squealing apparent agreement, he pushes a button, and I walk inside. A wire barrier still separates us. "Kanzi can cause you serious damage if he wants," Savage-Rumbaugh adds.

Kanzi shows me his electronic lexigram touch pad, which is connected to a computer that displays—while a male voice speaks—the words

he selects. But Kanzi's finger slips off the keys. "We're trying to solve this problem," says Savage-Rumbaugh.

She and her colleagues have been testing the bonobos' ability to express their thoughts vocally, rather than by pushing buttons. In one experiment she described to me, she placed Kanzi and Panbanisha, his sister, in separate rooms where they could hear but not see each other. Through lexigrams, Savage-Rumbaugh explained to Kanzi that he would be given yogurt. He was then asked to communicate this information to Panbanisha. "Kanzi vocalized, then Panbanisha vocalized in return and selected 'yogurt' on the keyboard in front of her," Savage-Rumbaugh tells me.

With these and other ape-language experiments, says Savage-Rumbaugh, "The mythology of human uniqueness is coming under challenge. If apes can learn language, which we once thought unique to humans, then it suggests that ability is not innate in just us."

But many linguists argue that these bonobos are simply very skilled at getting what they want, and that their abilities do not constitute language. "I do not believe that there has ever been an example anywhere of a nonhuman expressing an opinion, or asking a question. Not ever," says Geoffrey Pullum, a linguist at the University of California at Santa

Cruz. "It would be wonderful if animals could say things about the world, as opposed to just signaling a direct emotional state or need. But they just don't."

Whatever the dimension of Kanzi's abilities, he and I did manage to communicate. I'd told Savage-Rumbaugh about some of my adventures, and she invited me to perform a Maori war dance. I beat my chest, slapped my thighs, and hollered. The bonobos sat quiet and motionless for a few seconds, then all but Kanzi snapped into a frenzy, the noise deafening as they screamed, bared their teeth, and pounded on the walls and floor of their enclosure. Still calm, Kanzi waved an arm at Savage-Rumbaugh, as if asking her to come closer, then let loose with a stream of squeaks and squeals. "Kanzi says he knows you're not threatening them," Savage-Rumbaugh said to me, "and he'd like you to do it again just for him, in a room out back, so the others won't get upset."

I'm skeptical, but I follow the researcher through the complex, out of Kanzi's sight. I find him, all alone, standing behind protective bars. Seeing me, he slapped his chest and thighs, mimicking my war dance, as if inviting me to perform an encore. I obliged, of course, and Kanzi joined in with gusto.

[Visit Smithsonian.com](http://www.Smithsonian.com) to see video of Kanzi.

81. Explain the author's attitude toward the belief that bonobos can use language to communicate with humans. Use details from the article to support your answer.

Scoring Guide

Score	Description
4	Response provides a thorough explanation of the author's attitude toward the belief that bonobos can use language to communicate with humans. Explanation includes specific, relevant information from the article.
3	Response provides an explanation of the author's attitude toward the belief that bonobos can use language to communicate with humans. Explanation includes supporting information from the article, but lacks specificity, relevance, and/or development.
2	Response provides a partial explanation of the author's attitude toward the belief that bonobos can use language to communicate with humans. Explanation includes limited information from the article and/or is partially correct.
1	Response makes a vague or minimal statement of the author's attitude toward the belief that bonobos can use language to communicate with humans.
0	Response is totally incorrect or irrelevant.
Blank	No response.

Scoring Notes

The author's attitude on the subject of bonobos communicating with humans begins as undecided and becomes more accepting by the end of the article.

Evidence that the author is undecided and then more believing may include, but is not limited to:

- The author deliberately uses specific words in order to sound doubtful:
 - In the first paragraph, "reputedly"
 - In paragraph 4, "claims"
- The author deliberately uses qualifiers to deflate/reduce importance in order to sound doubtful:
 - In the subtitle, "Bonobos have an impressive vocabulary" becomes tempered by the observation "especially when it comes to snacks."
- In paragraph 11, the author includes an opposing point of view from other linguists.
- The author states that he felt Kanzi communicated with him:
 - In paragraph 12, he says, "he and I did manage to communicate."

Other relevant details from the article may be cited.

The author's attitude towards the belief that bonobos can use language to communicate with humans starts out skeptical and leads to be accepting. Her beginning paragraph already questions the truth of the research by saying that the bonobos' ability is reputed. Later in the fourth paragraph, she says that Savage-Rumbaugh merely "claims that... he knows the meaning to up to 3,000 spoken English words." Also, the author gives quite a bit of detail as to how elaborate the bonobos' house is. This makes the apes seem quite spoiled and lazy, which evokes a pessimistic opinion from the reader. Just as well, she explains their human diet to make them sound like they are overly presented with luxuries. However, after seeing the bonobos, author's mood seems to change. The author tells that she had communicated with a bonobo. After that, she tells that she witnessed Kanzi verbally communicating with Savage-Rumbaugh. By the final paragraph, the author's attitude has changed completely as she dances with Kanzi, whom she was skeptical about at first.

Score Point 3

Paul Rafaele, the author, believes the apes are able to communicate with people. At first he is a little skeptical, but as he learns more about them and spends some time with them he agrees with Savage-Rumbaugh's research. At the end of the passage, I think he is totally convinced. Kanzi seems to understand the dance and when they are alone eagerly repeats the steps and joins in with Rafaele. The author is also impressed with their proto-grammar the apes use. Often it is used for signaling for snacks, but they understand what the symbols are. Rafaele is pretty much convinced.

Score Point 2

Sample 1

The author's attitude suggest he does believe bonobos can use language to communicate with humans. The bonobos used symbols to communicate what they wanted. They used microwaves and vending machines. The bonobos picked up on learning the symbols very quickly. when they were teaching Matata.

Score Point 2

Sample 2

The author doesn't know if apes use language or not. He does believe that The bonobos can communicate with humans. He believes this because The way the apes knew what food they other wanted and also how Kongie communicated how he wanted to see the author's dance alone.

Score Point 1

The author's attitude towards the bonobos was exciting because she was able to communicate with a monkey.

Score Point 0

The bonobos in the story all don't
usually communicate with other
but like them.

Acknowledgments

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