

- Langacker, R. (1968). Observations on French possessives. *Language* 44, 51–75.
- Marchello-Nizia, C. (1995). *L'évolution du français: ordre des mots, démonstratifs, accent tonique*. Paris: Armand Colin.
- Pulgram, E. (1999). Review of Rebecca Posner, *Linguistic change in French*. *Language* 75, 373–375.
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Sue Savage-Rumbaugh, Stuart G. Shanker & Talbot J. Taylor, *Apes, language and the human mind*. Oxford: Oxford University Press, 1998. Pp. vii + 244.

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Perhaps the most serious problem for those interested in evolutionary linguistics is that, as Berwick (1998) has pointed out, human language appears to be an AUTAPOMORPHY. That is, language is a biological trait unique to humans. This makes understanding its origins (and indeed developing a truly explanatory theory of language) extremely difficult. Essentially, we lack a comparative method for Universal Grammar.

Ape language research (henceforth, ALR) promises so much for linguistics since it holds out the tantalising possibility that many of the 'interesting' aspects of human language may not be unique after all. For this reason all linguists should be excited by a book entitled 'Apes, language and the human mind'. Unfortunately for those interested in the structure of language, at least, this book will fail to live up to the interest it is sure to generate. This is not because the work that Sue Savage-Rumbaugh and her colleagues have carried out is not impressive – it is – but because the focus of the book is misdirected onto rather sterile debates about 'understanding' in apes, and often reads like an embattled attack on ALR critics (and indeed the last 200 years of Western psychology). A calmer assessment of the similarities and differences between the language behaviour of human and non-human primates would surely have won more devotees to their cause. (My words here are chosen carefully; ALR to the authors is a CAUSE. An outsider reading this book is likely to find the fervour, frustration and proselytizing apparent on both sides of the ALR debate breathtaking.)

The book is divided into four chapters primarily authored by Sue Savage-Rumbaugh, Shanker, and Taylor respectively, with the authorship returning to Savage-Rumbaugh for the concluding chapter. The rest of this review will treat each chapter in turn.

The first chapter reads like a personal introduction to Kanzi, the most

REVIEWS

famous bonobo that lives in Georgia State University Language Research Center in Atlanta, and perhaps the most famous non-human primate in history. What makes Kanzi special is the way he was brought up. He was brought to Atlanta when he was six months old with his adopted mother, Matata. It was Matata, rather than Kanzi, who was the focus of Savage-Rumbaugh's initial research into ape language; Kanzi was considered to be too young to undergo training to use the LEXIGRAMS that had been used to allow common chimpanzees in the research center to communicate. These lexigrams are arbitrary symbols arranged on a board that apes can point to that stand in for words such as *banana*, *look*, *goodbye* and so on. Whilst Matata's performance was disappointing, the research team were surprised to discover that after being separated from his mother at age 2 and a half, Kanzi seemed to be adept at using the lexigrams WITHOUT HAVING BEEN EXPLICITLY TAUGHT. Furthermore, and more importantly, Kanzi seems to be able to understand an impressively broad subset of spoken English.

Savage-Rumbaugh's explanation for the unique abilities of Kanzi relates to the way in which his exposure to language use was both early (presumably before some hypothetical critical period for acquisition) and, perhaps more importantly, the fact that his language learning was socially embedded. It seems fair to say that, with Kanzi, we have the first case in which an ape has been reared in a linguistic environment in a similar way to a human child. The importance of the naturalness of this rearing to ALR should not be understated, and is conveyed very effectively in this chapter through many anecdotes about living with Kanzi. Although she is likely to be criticised for the style of this part of the book, this narrative approach is important, I think, for conveying the way these apes are treated.

On the other hand, this chapter will frustrate many linguistically oriented readers for its extremely shallow treatment of the language that Kanzi understands. For example, the sentences:

- (1) (a) If you don't want the juice put it back in the backpack.
- (b) Get some water, put it in your mouth.
- (c) Get the hot dogs and put them in the hot water.

are treated as evidence for understanding of the use of anaphoric pronouns, because, for example, Kanzi didn't put anything other than hot dogs in the hot water on hearing (1c). In fact, from these and other examples, a skeptical conclusion might be that only contentive elements plus basic word order are required to achieve the behaviour noted. Sentences like:

- (2) Get the ball that's in the cereal.

are taken as evidence that Kanzi understands embedded sentences, but if he

doesn't have access to functional categories, then this would reduce to the same (non recursive) structure as:

(3) Get the ball from the cereal.

Some of the explanations of the cases where Kanzi failed also seem a bit dubious. For example, Kanzi has difficulty with conjoined NPs, such as:

(4) Give me the milk and the doggie.

Savage-Rumbaugh interprets this as a memory failure, rather than a grammatical problem, since she claims that the grammatical structure of these is simpler in some way than those like (2). However, it is more plausible, that if functional elements are being ignored, these problems may be due to difficulties assigning thematic roles to the NPs in the sentence. It would have been interesting to see Kanzi's performance on sentences that involve dative alternations, for example, to understand what role if any that functional elements play in his language comprehension.

In chapter 2, the style and direction of the discussion shifts radically to a densely argued philosophical attack on Cartesianism. Here, the tone of the book changes to become overly defensive, arguing that the vocal criticism of Savage-Rumbaugh's work arises not from peculiarities of her research methodology, but from the Cartesian perspectives of western psychology. The chapter starts with a history of philosophical approaches to animal language and cognition from the 17th century forward. There is some interesting discussion of the ambiguity of Descartes' original (negative) responses to animal mentalism revolving around whether they were logical or empirical. In other words, was Descartes suggesting that we should be skeptical of animal thought as a matter of scientific prudence, or because it is correct to be? For modern bifurcationists (including nativist linguists) Shanker claims it is more like a logical claim that is being made that it is simply not possible for Kanzi to acquire the ability to be a linguistic individual. Here Shanker is reacting to critics of ALR who suggest Kanzi's communication is *EFFECTIVE* rather than *MEANINGFUL*. Unfortunately, I feel that the discussion here will be of little interest to the majority of linguists, who do not wish to be told that Kanzi should be 'the spark that is needed to ignite the paradigm revolution that will lead us beyond Cartesianism' (138), but would rather learn about the structure of Kanzi's behaviour.

Many of Shanker's criticisms of the typical ALR-skeptic's response to Kanzi are well made (especially those that use terms like 'scientific rigour'), but the book as a whole misses the mark. Language can be analysed as a system in its own right, and this neither necessarily relies on nor is exclusive of, an analysis of language users. A similar two-leveled approach would have been informative in the case of Kanzi, and would have allowed us to see past so many of the problems (like worrying about criteria for 'understanding') that Shanker highlights.

REVIEWS

Chapter 3 continues in a similar vein. It starts with suggesting (wrongly, I believe) that the question everyone wants to know the answer to is ‘does he *really* understand what we say?’ (139). Just as the previous chapter is a plea to kill off Cartesianism, this chapter is a plea to eradicate an epistemological conception of this question. That is, Taylor argues that much of the rhetorical structure of the ALR debate is founded on the assumption that the questions such as the one quoted above are ‘matters of knowledge about hypothetical states of affairs’ (154). Although, as an analysis of rhetoric, this chapter raises many interesting points, it is again likely to leave anyone who is actually interested in Kanzi’s linguistic abilities deeply frustrated. This is unlikely to be helped by the mistaken connection that Taylor makes between parsing, principles & parameters theory, and understanding on page 170. (Essentially, he suggests that the generative view holds: to understand a sentence it must be parsed; to parse a sentence, one needs a principles & parameters-type grammar; therefore understanding relies on principles & parameters.)

Taylor points out that skepticism of animal understanding is virtually a requirement for a scientifically sound stance in ALR. However, if we were to hold the same view about other humans’ understanding we would be deemed ludicrously over-skeptical. He claims that this asymmetry arises from our need to uphold our stance on the ethics of animal exploitation. To put it very crudely, we would find it hard to eat animals if we believed them capable of understanding. Rather than change the way we exploit animals we therefore find it easier to maintain skepticism about their mental states. This seems highly unlikely – there exists a parallel skepticism of Artificial Intelligence, for example. It seems implausible that I believe my computer to be incapable of understanding because I need to be able to turn it off at the end of the day without ethical qualms. Rather, my LACK of skepticism about the mental processes of other humans arises from my belief that they are like me (they look like me, act like me, we have a shared history, and so on). As we learn more about the commonalities between species of primates, we may learn to reevaluate our skeptical responses, but surely we do not NEED to become vegetarian in order to do so.¹

Authorship returns to Savage-Rumbaugh for the final chapter of the book. Here, many interesting points are raised; in particular there is some (rather brief) discussion of the evolutionary implications of research into Kanzi’s abilities. For example, Savage-Rumbaugh highlights the remarkable flexibility of the primate brain and suggests that all major anatomical modifications in the primate line must have been preceded by behavioural

[1] Of course, I am not making an argument here about any particular stance on animal rights, just about the likelihood that any such stance informs our skeptical approach to ALR. For example, as we understand more about these remarkable primates, it clearly throws into stark focus the plight that their small number are currently facing in the wild.

changes. Here she is essentially invoking genetic assimilation (also known as the Baldwin Effect) as an evolutionary mechanism, but ironically does not seem to be aware that the same suggestions have been made by Pinker in his integration of generative linguistics and evolutionary biology (Pinker & Bloom 1990). That said, Savage-Rumbaugh is right here to point out that the behaviour of stone age man really is surprisingly similar to that of other primates. She suggests that we see language as a hugely important adaptation only because for us it has led to culture and with this, technology. However, this is a relatively recent and not necessarily inevitable outcome of having language. Here she makes the thought-provoking comparison between the methodology of an anthropologist studying some forgotten stone-age tribe, and a primatologist studying a group of apes. How much of the way we think about these groups is due to these wildly different approaches?

However, once again, this chapter is let down by some uninformed discussion about modern linguistic theory. Savage-Rumbaugh, in an attack on the poverty of linguistic inquiry, basically sets up a 'straw linguist' which few engaged in serious study of language would recognize. This 'linguist' believes that:

1. language can be studied as a system in its own right (OK so far);
2. syntax is therefore **NECESSARILY** autonomous (this term is not used in the chapter, but I take it that this is what is meant);
3. an autonomous approach to language **NECESSARILY** places no importance on language use;
4. the autonomous representational mechanisms **MUST** be inherent in the human brain;
5. self-reflexive thought uses these same mechanisms;
6. these mechanisms are species specific.

We are left with the conclusion that the study of language in its own terms leads inevitably to the belief that animals are not capable of self-reflexive thought. Later in the chapter Savage-Rumbaugh continues in a similar vein, stating that 'linguists have almost managed to do away with the issue of intentionality' (195). She gives a simple example of conversational implicature to show what modern linguistics cannot handle. This kind of caricature of an extreme nativist, formalist, autonomous position really will not help the cause of ALR. The authors' are either not aware of functionalism, pragmatic theory, discourse analysis, or the recent attempts to integrate syntactic autonomy with language use (Newmeyer 1998, Kirby 1999), or do not tar these fields with the term linguistics.

Ape language research is very important to linguistics, and the abilities of Kanzi (and more recently, his sister, Panbanisha) far surpass what our theoretical perspective might have lead us to expect. A book like this is the response to a sustained skeptical attack from ALR critics. However, it is the worst response possible, as it is more likely to turn away those who could

REVIEWS

have the most to gain from a reasoned analysis of the language of non-human primates.

REFERENCES

- Berwick, R. (1998). Language evolution and the Minimalist Program: the origins of syntax. In Hurford, J. Studdert-Kennedy, M. & Knight, C. (eds.), *Approaches to the evolution of language*. Cambridge: Cambridge University Press. 320–340.
- Kirby, S. (1999). *Function, selection and innateness: the emergence of language universals*. Oxford: Oxford University Press.
- Newmeyer, F. J. (1998). *Language form and language function*. Cambridge, MA: MIT Press.
- Pinker, S. & Bloom, P. (1990). Natural language and natural selection. *Behavioral and brain Sciences* 13, 707–784.
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Esther Torrego, *The dependencies of objects*. Cambridge, MA: MIT Press, 1998. Pp. xii + 197.

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The dependencies of objects is an attempt to provide a theory of those accusative objects that receive extra morphological marking in many languages in the form of a prepositional element. The core data are cases like (1) and (2), from Spanish:

- (1) Ana levantó a un niño.
Ana lifted to a child
'Ana lifted a child.'
- (2) Conocieron un linguista.
pro met a linguist
'They met a linguist.'

In (1) the prepositional element *a* surfaces to further mark the accusative object, but this preposition does not always occur, as can be seen from (2). Torrego refers to the object in (1) as a 'marked accusative'.

Torrego focuses mainly on various varieties of Spanish, but also adduces evidence from Hindi, Greek and Albanian. Part of the theoretical interest of this endeavour is that Torrego's theory involves a deeper articulation of the properties of the lower functional structure of the clause (especially 'little' *v*), and how its syntax interacts with lexical and utterance-level semantics.