The Study of Language

THIRD EDITION

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Study questions

1 With which of the four types of 'sources' would you associate the quotation from MacNeilage at the beginning of the chapter?
2 What is the basic idea behind the 'bow-wow' theory of language origin?
3 Why are interjections such as *Ouch!* considered to be unlikely sources of human speech sounds?
4 What special features of human teeth make them useful in the production of speech sounds?
5 Where is the pharynx and how did it become an important part of human sound production?
6 Why do you think that young deaf children who become fluent in sign language would be cited in support of the innateness hypothesis?

Research tasks

A What is the connection between the Heimlich maneuver and the development of human speech?
B What exactly happened at Babel and why is it used in explanations of language origins?
C The idea that "ontogeny recapitulates phylogeny" was first proposed by Ernst Haeckel in 1866 and is still frequently used in discussions of language origins. Can you find a simpler or less technical way to express this idea?
D What is the connection between the innateness hypothesis, as described in this chapter, and the idea of a Universal Grammar?

Discussion topics/projects

I A connection is sometimes proposed between language, tool-using and right-handedness in the majority of humans. Is it possible that freedom to use the hands, after assuming an upright bipedal posture, resulted in certain skills that led to the development of language? Why did we assume an upright posture? What kind of changes must have taken place in our hands? (For background reading, see chapter 5 of Beaken, 1996.)

II In this chapter we didn't address the issue of whether language has developed as part of our general cognitive abilities or whether it has evolved as a separate component that can exist independently (and is unrelated to intelligence, for example). What kind of evidence do you think would be needed to resolve this question? (For background reading, see chapter 4 of Aitchison, 2000.)

Further reading

Two introductions to the study of language origins are Aitchison (2000) and Beaken (1996). The funny names (e.g. 'bow-wow' theory) for some of the

2 Animals and human language

One evening in the mid-1980s my wife and I were returning from an evening cruise around Boston Harbor and decided to take a waterfront stroll. We were passing in front of the Boston Aquarium when a gravelly voice yelled out, "Hey! Hey! Get outa there!" Thinking we had mistakenly wandered somewhere we were not allowed, we stopped and looked around for a security guard or some other official, but saw no one, and no warning signs. Again the voice boomed, "Hey! Hey you!" As we tracked the voice we found ourselves approaching a large, glass-fenced pool in front of the aquarium where four harbor seals were lounging on display. Incredulous, I traced the source of the command to a large seal reclining vertically in the water, with his head extended back and up, his mouth slightly open, rotating slowly. A seal was talking, not to me, but to the air, and incidentally to anyone within earshot who cared to listen.

Deacon (1997)

There are a lot of stories about creatures that can talk. We usually assume that they are fantasy or fiction or that they involve birds or animals simply imitating something they have heard humans say (as Deacon discovered was the case with the loud seal in Boston Aquarium). Yet we know that creatures are capable of communicating, certainly with other members of their own species. Is it possible that a creature could learn to communicate with humans using language? Or does human language have properties that make it so unique that it is quite unlike any other communication system and hence unlearnable by any other creature? To answer these questions, we will first consider some special properties of human language, then review a number of experiments in communication involving humans and animals.

Communicative and informative signals

We should first distinguish between specifically **communicative signals** and those which may be unintentionally **informative signals**. Someone listening to you may become informed about you through a number of signals that you have not intentionally sent. She may note that you have a cold (you sneezed), that you aren't at ease (you shifted around in your seat), that you are disorganized (non-matching socks) and that you are from some other part of the country (you

Vowels

While the consonant sounds are mostly articulated via closure or obstruction in the vocal tract, **vowel** sounds are produced with a relatively free flow of air. They are all typically voiced. To describe vowel sounds, we consider the way in which the tongue influences the 'shape' through which the airflow must pass. To talk about a place of articulation, we think of the space inside the mouth as having a front versus a back and a high versus a low area. Thus, in the pronunciation of *heat* and *hit*, we talk about 'high, front' vowels because the sound is made with the front part of the tongue in a raised position.

In contrast, the vowel sound in *hat* is produced with the tongue in a lower position and the sound in *hot* can be described as a 'low, back' vowel. The next time you're facing the bathroom mirror, try saying the words *heat*, *hit*, *hat*, *hot*. For the first two, your mouth will stay fairly closed, but for the last two, your tongue will move lower and cause your mouth to open wider. (You may also notice, the next time you're getting some, that the sounds of relaxation and pleasure typically contain lower vowels.)

The terminology for describing vowel sounds in English (e.g. 'high front') is usually based on their position in a chart, like the one shown here, which provides a means of classifying the most common vowel sounds. Following the chart is a list of the sounds with some examples of familiar words that, for a lot of American English speakers, most of the time, contain those sounds. The list of examples goes from a high front vowel through to a low back vowel and ends with three diphthongs.

	Front	Central	Back
	i		
High			u
	ɪ		ʊ
Mid	e	ə	o
	ɛ		ɔ
		ʌ	
Low	æ		a

[i] *eat, key, see*
[ɪ] *hit, myth, women*
[e] *great, tail, weight*
[ɛ] *dead, pet, said*
[æ] *ban, laugh, sat*
[ə] *above, sofa, support*
[ʌ] *blood, putt, tough*

[u] *move, two, too*
[ʊ] *could, foot, put*
[o] *no, road, toe*
[ɔ] *ball, caught, raw*
[a] *bomb, cot, swan*
[aj] *buy, eye, my*
[aw] *cow, doubt, loud*
[ɔɔ̯j] *boy, noise, void*

be corrected to *Mary runs faster than I*. And *Me and my family* would certainly have to be corrected to *My family and I*, as Ann Landers would recommend. And, in 'proper' English writing, one should never begin a sentence with *and*!

It may, in fact, be a valuable part of one's education to be made aware of this 'linguistic etiquette' for the 'proper' use of the language. If it is a social expectation that someone who writes well should obey these prescriptive rules, then social judgments such as 'poorly educated' may be made about someone who does not follow these rules. However, it is worth considering the origins of some of these rules and asking whether they are appropriately applied to the English language. Let's take one example: "You must not split an infinitive."

Captain Kirk's infinitive

The infinitive in English has the form *to* + the base form of the verb, as in *to go*, and can be used with an adverb such as *boldly*. At the beginning of each televised *Star Trek* episode, one of the main characters, Captain Kirk, always used the expression *To boldly go*. . . . This is an example of a split infinitive. Captain Kirk's teacher might have expected him to say *To go boldly* or *Boldly to go*, so that the adverb didn't split the infinitive. If Captain Kirk had been a Roman space traveler, speaking Latin, he would have used the expressions *ire* ('to go') and *audacter* ('boldly'). Now, in saying *Ire audacter* . . . in Latin, Capitaneus Kirkus would not even have the opportunity to split his infinitive (*ire*), because Latin infinitives are single words and just do not split.

It would be very appropriate in Latin grammar to say you cannot split an infinitive. But is it appropriate to carry this idea over into English where the infinitive form does not consist of a single word, but of two words, *to* and *go*? If it is a typical feature of the use of English that speakers and writers regularly produce forms such as *to boldly go*, *to solemnly swear* or *to never ever say goodbye*, then we may simply wish to note that there are structures in English that differ from those found in Latin, rather than think of the English forms as 'bad' because they are breaking a rule of Latin grammar.

The descriptive approach

It may be that using a well-established grammatical description of Latin is a useful guide for some European languages (e.g. Italian or Spanish), is less useful for others (e.g. English), and may be absolutely misleading if you are trying to describe some non-European languages. This last point became clear to those linguists who were trying to describe the structure of the native languages of North America toward the end of the nineteenth century. The categories and rules that were appropriate for Latin grammar just did not seem to fit these languages. As a consequence, for most of the twentieth century, a rather different approach was adopted. Analysts collected samples of the language they were interested

This other 'underlying' level, where the basic components (noun phrase + verb + noun phrase) shared by the two sentences can be represented, is called their **deep structure**. The deep structure is an abstract level of structural organization in which all the elements determining structural interpretation are represented. That same deep structure can be the source of many other surface structures such as *It was Charlie who broke the window* and *Was the window broken by Charlie?* In short, the grammar must be capable of showing how a single underlying abstract representation can become different surface structures.

Structural ambiguity

Let's say we had two distinct deep structures. One expresses the idea that 'Annie had an umbrella and she whacked a man with it.' The other expresses the idea that 'Annie whacked a man and the man happened to be carrying an umbrella.' Now, these two different versions of events can actually be expressed in the same surface structure form: *Annie whacked a man with an umbrella*. This sentence provides an example of **structural ambiguity**. It has two distinct underlying interpretations that have to be represented differently in deep structure.

The comedian Groucho Marx knew how to have fun with structural ambiguity. In the film *Animal Crackers*, he first says *I once shot an elephant in my pajamas*, then follows it with *How he got into my pajamas I'll never know*. In the non-funny interpretation, part of the underlying structure of the first sentence could be something like: 'I shot an elephant (while I was) in my pajamas.' In the other (ho, ho) interpretation, part of the underlying structure would be something like: 'I shot an elephant (which was) in my pajamas.' There are two different underlying structures with the same surface structure.

Phrases can also be structurally ambiguous, as in expressions like *small boys and girls*. The underlying interpretation can be either 'small boys and (small) girls' or 'small boys and (all) girls'. The grammar will have to be capable of showing the structural distinction between these underlying representations.

Recursion

The rules of the grammar will also need the crucial property of **recursion**. Recursive ('repeatable any number of times') rules have the capacity to be applied more than once in generating a structure. For example, we can have one prepositional phrase describing location (*on the table*) in the sentence *The gun was on the table*. We can also repeat this type of phrase, using different words (*near the window*), for as long as the sentence still makes sense (*in the bedroom*). So, in order to generate a sentence such as *The gun was on the table near the window in the bedroom*, we must be able to repeat the rule that creates a prepositional phrase over and over again.