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978-0-521-78571-6 - The Seeds of Speech Language Origin and Evolution

Jean Aitchison

Excerpt

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## Part 1

# Puzzles

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# 1 A natural curiosity: How did language begin?

'Actually,' says Liz, 'what I *do* suffer from is curiosity. I want to know *what really happened*.'

'When?'

'At the beginning. When human nature began. At the beginning of human time. And I know I'll never know. But I can't stop looking. It's very frustrating. When occasionally it comes over me that I'll never know, I can't quite believe it. Surely, one day, I will find out?'

Margaret Drabble, *A natural curiosity*

We humans have evolved into quite strange beings. Whatever happens in the future is unlikely to be any odder than what has already happened in the past. We differ from other animals in that we cook our food and wear clothes. Other unusual characteristics are a tendency to kill each other, and a mild preference for making love face to face. But perhaps the most important distinguishing feature is human language. This extraordinary system allows us to communicate about anything whatsoever, whether it is present, absent, or even non-existent:

In the Land of the Bumbley Boo  
You can buy Lemon pie at the Zoo;  
They give away Foxes  
In little Pink Boxes  
And Bottles of Dandylicon Stew.<sup>1</sup>

Nobody has ever encountered the bizarre delights of this fictional land. Yet we have no difficulty in understanding these lines written by the comic writer Spike Milligan. This is quite strange, compared with the communication systems of other animals, which are mostly confined to messages about everyday events, such as food, danger, mating and territorial rights.

Humans are the odd ones out. We are a zoological curiosity, as

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bizarre in our own way as the hoatzin, a South American bird with a bright blue face, big red eyes and orange crest, which inhabits the Amazon rain forest. Alone among birds, the hoatzin has developed a digestive system similar to that of a cow.<sup>2</sup> We humans are equally strange, because language with its fast and precise sounds has more in common with birdsong than with the vocal signals of our ape relatives.

#### Lunatic lovers

So how did it all begin, this powerful, weird communication system of ours? Frustratingly, we do not know. The origin of language is criss-crossed with controversy and befogged in mystery. Our earliest written records are around 5,000 years old, though most are more recent. By comparing different early languages, we can reconstruct what some languages may have been like up to 10,000 years ago, according to the standard view.<sup>3</sup> Yet language must have evolved at least 50,000 years ago, and most researchers propose a date around 100,000 years ago. Until recently, how it all began was an unfashionable question, a playground for cranks.

Curious theories abounded. Take the Noah's Ark view, that Chinese was possibly the primitive language of humankind. It was spoken by Noah and his family in the Ark, and so survived the flood. At least, this was the opinion of the seventeenth-century writer, John Webb, in 'An historical essay endeavouring the probability that the language of the Empire of China is the Primitive Language'.<sup>4</sup> He is a typical 'lunatic lover of language', a name given to the crazy fringe who promote private and peculiar ideas about speech and its origins.<sup>5</sup>

Or consider the views of James Burnett Lord Monboddo, a Scottish lawyer, who in 1773 published a book in six volumes on *The origin and progress of language*. He maintained that humans learned how to spin and weave from spiders, how to construct dams from beavers, and how to sing and speak from birds. The cuckoo, the raven and the parrot, he noted, produced almost alphabetical sounds. Therefore in his view human articulation was the result of imitating such birds. 'Lord Monboddo gives the impression of being an English gentleman accustomed to having

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even his most eccentric and fanciful ideas listened to with deference', an Italian researcher aptly commented.<sup>6</sup>

Or take the Abbé O'Donnely, a Frenchman who claimed in the mid nineteenth century to have deciphered the hieroglyphs on an obelisk brought to Paris from Luxor in Egypt. He boasted of his 'new and prodigious discovery of the original universal language', asserting that he had shed light on the 'form of words at the birth of speech'. His translation 'was sufficient to open the eyes of a mole', he noted – though he lamented that his discoveries had not yet been acknowledged, with his 'words and results being blown away by the wind'.<sup>7</sup>

As absurd claims sprouted like puffballs, the question of language origin was shunned by serious scholars. 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.'<sup>8</sup>

Inquiry into language origin was considered a waste of time. The American linguist William Dwight Whitney noted in 1893:

No theme in linguistic science is more often and more voluminously treated than this . . . nor any . . . with less profitable result in proportion to the labour expended; the greater part of what is said and written upon it is mere windy talk, the assertion of subjective views which commend themselves to no mind save the one that produces them, and which are apt to be offered with a confidence, and defended with a tenacity, that is in inverse ratio to their acceptableness. This has given the whole question a bad repute among sober-minded philologists.<sup>9</sup>

Yet scholarly disapproval did not stop speculation. In 1977, one researcher counted twenty-three 'principal theories' of language origin.<sup>10</sup> Another acidly 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.'<sup>11</sup>

It's like a juicy fruit dangling just out of reach. Humans have a natural curiosity about it seemingly built into their minds: 'Few questions in the study of human language have attracted so much attention, provoked as much controversy, or resisted so resolutely

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their answers as that of the origin of language', noted a recent writer.<sup>12</sup>

So what has changed now? The origin and evolution of language has suddenly become a respectable topic. In the past few years, there has been an explosion of papers in reputable journals, as well as several books. A cynical view is that academic areas of interest swing in and out of fashion like clothes. But there is a more realistic, twofold explanation.

First, religious dogmatism has declined. At one time, respectable scholars were often unwilling to contradict the view found at the beginning of the Bible, that God formed all living things, and then assigned the naming of them to Adam, the first man: 'And out of the ground the Lord God formed every beast of the field, and every fowl of the air; and brought them unto Adam to see what he would call them: and whatsoever Adam called every living creature, that was the name thereof. And Adam gave names to all cattle, and to the fowl of the air, and to every beast of the field.'<sup>13</sup> The eighteenth-century philosopher Jean Jacques Rousseau had to argue for the double invention of language to counter this problem: 'Adam spoke, Noah spoke; but it is known that Adam was taught by God himself. In scattering, the children of Noah abandoned agriculture, and the first common tongue perished with the first society.'<sup>14</sup>

Second, and more importantly, sufficient progress has been made in the study of humans and their place in the animal world to be able to approach the topic in a useful way. All primates, the animal 'order' to which humans belong, have some overlap in their sound-producing and hearing abilities. But the vocal output of our primate relatives is less illuminating than was once hoped: 'Quite simply, the normal state of affairs is not to find unequivocal correlations between the sound and its behavioral context. Instead, the same sound often occurs in apparently different situations, and a variety of sounds can be found to occur in a given situation.'<sup>15</sup> In addition, classification of the sounds is difficult: 'Boundaries are blurred by intermediate or transitional acoustic forms'.<sup>16</sup> In the circumstances, a straight comparison between, say, chimp and human vocalizations is limited in what it can reveal.

More informative, perhaps, is a comparison with the animal

communication system which has most in common with human language. As mentioned earlier (p. 4), this may be birdsong. Let us consider the matter further.

### **A bird-like skill**

'I happen to be acquainted with an anti-social African gray parrot in England named Toto, whose owner brings him out now and then in the evening to show him off to guests', wrote a *New Yorker* journalist. 'After a few minutes of bad-tempered staring at the company, the bird usually says, "Toto go bye-byes now," and his owner carries him back to the proper room and puts him in his cage, safe and private under a tea towel. Is Toto really talking?'<sup>17</sup>

Toto is talking, but he does not have 'language' as humans understand it. Yet Toto, like humans, has an ability to make distinctive sounds that is rare in the animal world – even though the method Toto uses to produce them is rather different from that used by humans.<sup>18</sup> But this is not the only similarity between birds and humans. There are several others.<sup>19</sup>

Many birds emit two types of sounds: calls, such as a danger call or a congregation call, which are mostly innate, and songs, which often involve learning. Humans also have inbuilt 'calls', the cries uttered by babies, at least two of which are distinguishable worldwide: a pain cry and a hunger cry.<sup>20</sup> But language itself requires learning, and it exists alongside this old 'call' system. Birds and humans therefore share a double-barrelled system, with one part in place at birth, and the other acquired later.

In birdsong, each individual note is meaningless: the sequence of notes is all-important. Similarly, in humans, a single segment of sound such as *b* or *l* does not normally have a meaning. The output makes sense only when sounds are strung together. So this double-layering – known as duality or double articulation – provides a further parallel. And in both birds and humans, sound segments are fitted into an overall rhythm and intonation pattern.

As with humans, the song of a single species of bird may have different but related 'dialects'. The white-crowned sparrow, a Californian resident, has dialects so different, even within the San

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Francisco area, that 'someone with a cultivated ear would be able to tell where he or she was in California, blindfolded, simply by listening to their songs'.<sup>21</sup> And both birdsong and human language are normally controlled by the left side of the brain, even though the mechanisms by which this control is exercised are quite different.

Young birds have a period of sub-song, a type of twittering which emerges before the development of full song. This is like the 'babbling' of human infants who experimentally produce repetitive *bababa*, *mamama* type sequences when they are a few months old. Many birds have to acquire their song during a shortish 'critical period' when they are young, otherwise they never learn to sing normally. Similarly, humans acquire language best during a 'sensitive period' in the first few years of life.<sup>22</sup>

In short, both birds and humans produce fluent complex sounds, they both have a double-barrelled, double-layered system involving tunes and dialects, which is controlled by the left half of the brain. Youngsters have a type of sub-language en route to the full thing, and are especially good at acquiring the system in the early years of their lives.

But some very real differences also exist. Mostly, only male birds sing. Females remain songless, unless they are injected with the male hormone testosterone.<sup>23</sup> And considerable variation is found between the songs of different birds, more than between different languages.<sup>24</sup> In addition, bird communication is a fairly long-distance affair, compared with the intimacy of human language. Sometimes, the effect can travel over several kilometres, as with the New Zealand kakapo, a flightless parrot which makes spectacular sonic booms, somewhat like the note produced by blowing across the top of a bottle, in its efforts to procure a mate.<sup>25</sup> These kakapo booms can go on all night, and leave the kakapo in such a state of arousal that it has attempted to copulate even with the feet of the ornithologists studying it.

As the kakapo's behaviour suggests, the purposes for which birds vocalize are somewhat narrower than those of humans. Birds sing in order to attract a mate, or to repel trespassers.<sup>26</sup>

A link between language origin and mating, and between language and song has sometimes been proposed: 'Language was born in the courting days of mankind – the first utterances of speech I

fancy to myself like something between the nightly love-lyrics of puss upon the tiles and the melodious love-songs of the nightingale', suggested the Danish linguist Otto Jespersen,<sup>27</sup> though this theory has been damned by others: 'If our hominid ancestors used song in sexual advertisement and courtship, more recent selective forces have made such a habit much rarer', was one response to Jespersen's ideas.<sup>28</sup> Or as another noted: 'As for courtship, if we are to judge from the habits of the bulk of mankind, it has always been a singularly silent occupation.'<sup>29</sup> At the most, perhaps, language was an additional aid: courtship was not its primary role.

In short, humans use language for many more purposes than birds use song. Birds do not, for example, serenade the beauties of nature, as poets such as Christopher Marlowe sometimes assumed:

By shallow Rivers, to whose falls,  
Melodious byrds sing Madrigalls.<sup>30</sup>

The similarities between birdsong and human language show that parallel systems can emerge independently in quite different species. Certain features have apparently proved useful for sophisticated sound systems. Yet this observation raises as many problems as it solves. Let us now consider how we might explore the origins of our extraordinary communication system.

### The pieces of the puzzle

The origin of language is like a vast prehistoric jigsaw puzzle, in which numerous fragments of evidence must be painstakingly assembled, somewhat in the manner of Agatha Christie's fictional detective Hercule Poirot:

Mrs. Gardener was wrestling with a jigsaw ... 'But about detecting, I would so like to know your methods ...'

Hercule Poirot said 'It is a little like your puzzle, Madame. One assembles the pieces. It is like a mosaic – many colours and patterns – and every strange-shaped little piece must be fitted into its own place.'

Poirot went on: 'And sometimes it is like that piece of your puzzle just now. One arranges very methodically the pieces of the puzzle – one sorts the colours – and then perhaps a piece of one colour that should fit in with – say, the fur rug, fits in instead in a black cat's tail.'<sup>31</sup>



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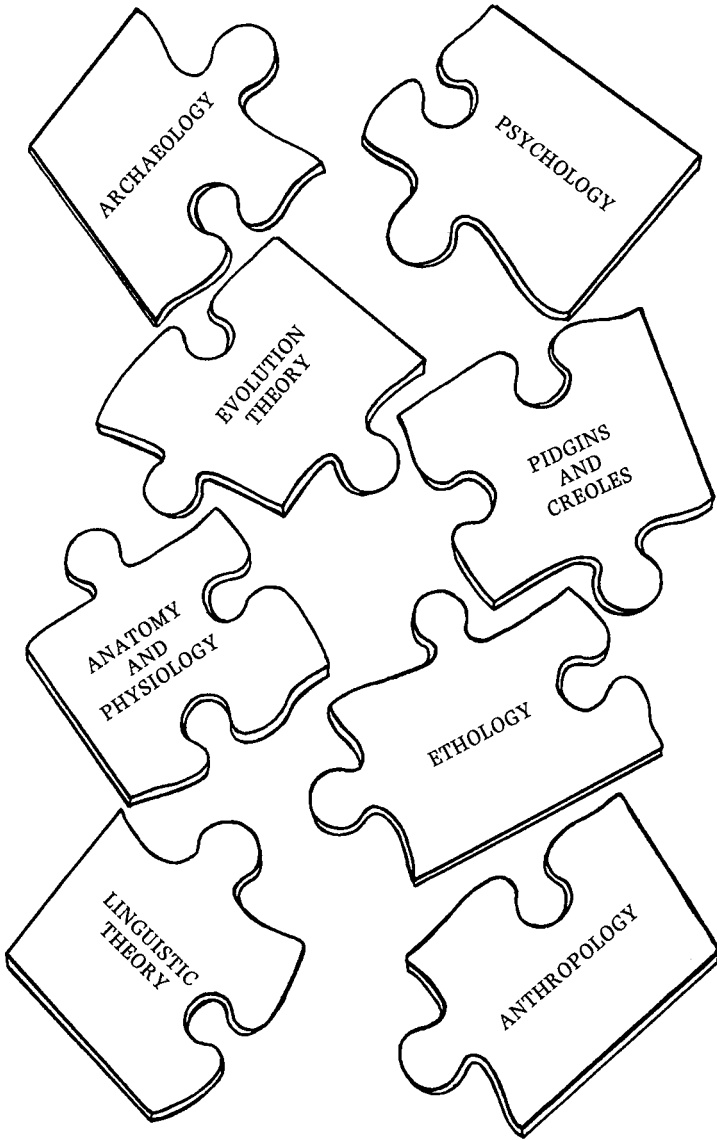


Figure 1.1 The pieces of the puzzle

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The pieces of the language puzzle are of two main types, external (non-linguistic), and internal (linguistic), that is clues from outside human language on the one hand, and information gleaned from languages on the other (see Fig 1.1).

External evidence comes from at least half a dozen different areas of knowledge: origin of species (evolution theory), digging up remains (archaeology), how bodies work (anatomy and physiology), animal behaviour (ethology), human minds (psychology) and human societies (anthropology).

Linguistics, the study of language, provides the internal evidence. Among its multiple branches, pidgins and creoles are particularly valuable sources of information.

Pidgins are subsidiary language systems, spoken by people with no common language. They have a small vocabulary: a few basic words are stretched to cover a wide range. For example, in Tok Pisin, spoken in Papua New Guinea, *pik man* 'pig man' is a male pig, *pik meri* 'pig woman' is a sow, and *pikinini pik* 'child pig' is a piglet. *Pul bilong kanu* 'pull of canoe' is a canoe paddle, *pul bilong pisin* 'pull of bird' is a bird's wing, and *pul bilong pis* 'pull of fish' is a fin. The grammar is simple: word endings are few, so the order of words is important. *Yu mas pul strong* 'you must pull strong' means 'You must paddle (your canoe) energetically', *Mi go painim pis* 'I go find fish' means 'I'm going fishing'.

Creoles are pidgins which have become someone's first language – usually when speakers of different languages have married, and communicated via a pidgin, which has been learned by their children as a first language. At this point, the creole expands dramatically, and is eventually indistinguishable from any other language.

Pidgins and creoles are in one way unlike early language in humans, as they are based on one or more existing languages. But they are in other ways illuminating, because they are similar the world over. They may show how humans 'naturally' devise and elaborate a simple system.

The Greek historian Thucydides, writing in the fifth century BC, hoped that his words 'would be judged useful by those who want to understand clearly the events which happened in the past, and which, human nature being what it is, will at some time or other be