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Modern humans have spent little over 10,000 years as non-hunter-gatherers, but nearly 190,000 years before that as hunter-gatherers. Even if we were to date the origin of language to 50,000 years ago, that still gives us 80 per cent of our time on earth as pure hunters, gatherers and fishers, and most of this time as imaginative, talking and communicating people. I believe it was rather longer ago than this. Human beings are linguistic, evolutionarily adaptive hunter-gatherers, usually not literate, but with the same minds as those possessed by, as the famous anthropologist Claude Lévi-Strauss (1968: 351) once put it, a Plato or an Einstein.

This book is about the origins of language and its evolution. The key difference between it and most other books on the subject is that it is written by an anthropologist rather than by a linguist. It therefore looks at the problem a little differently. The problem, however, is that there exists no direct evidence for the origin and evolution of language, so we have to infer it from the wealth of material we do have from archaeology, from studies of language acquisition by children, from comparative studies of language diversity and so on. My specialization happens to be hunter-gatherer studies, so I have tried also to bring some of my knowledge of such people to bear on language evolution. In my own fieldwork, as well as in my reading, I have tried to understand hunter-gatherers in their own terms. How do they, as non-literate people, see language? What do they use it for? Are they ignorant of grammar, or have they got so much grammatical sense that they delight in playing games with it? Indeed, are they more grammatically sophisticated than those in the West? Like a Plato or an Einstein, do they spend their time exploring the intricacies of philosophical or scientific problems? Or indeed grammatical ones? The answer to that, it may surprise some, is a qualified 'yes'.

In this book I make a number of assumptions. First, I know that hunter-gatherers are just as intellectually sophisticated as I am. I know that they are interested in grammar, and that the grammar of their languages is as complex as those of non-hunter-gatherers. Furthermore, possessing just one language is very unusual for them. Typically, individual hunter-gatherers can speak many languages. Mythology and other forms of narrative are of

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fundamental importance. Important too, on a global scale, is migration. However, hunter-gatherers are not (as is sometimes said) ‘nomadic’. They migrated across and through several parts of the globe long ago as *Homo georgicus* and *H. erectus* (1,800,000 BP), as *H. antecessor* (800,000 BP), as *H. heidelbergensis* (600,000 BP), as *H. neanderthalensis* (perhaps 250,000 BP) and as *H. sapiens* in the Middle East (125,000 BP), to India (perhaps by 70,000 BP) and to Australia (around 60,000 or 48,000 BP). Most hunter-gatherers, though, are not nomadic, *except* within territories they know. Specialists in the study of southern African hunter-gatherer populations tend to assume a great antiquity on the subcontinent: several tens of thousands of years at the very least. There is also some question about when we can reasonably talk of ‘hunter-gatherers’, as opposed to the vegetarian species that preceded them. Jennie Robinson (2014), for example, takes quite a strict view. She distinguishes *Homo sapiens* from early *Homo*, but notes that early *Homo* did have a shorter gut than australopithecines (allowing food that is more digestible) and an ever-expanding brain. She also points out that hunting-and-gathering behaviour is said to be unique to humans, though not hunting-and-gathering activities. One could distinguish here the arboreal activities of chimpanzees from the quite different savannah-based activities of early hominins. However, even here there remain problems of definition: chimps as well as humans have been recorded to swap sex for meat (see e.g., Gomes and Boesch 2009). Evidently, they do this without the necessity of words for the actions.

The beginnings of language

My own view is a bit more radical than some. In line with other recent writers, I am happy to grant, or at the very least to consider granting, some form of language to early humans: Neanderthals, Denisovans and *Homo heidelbergensis*. The Denisovans were the Palaeolithic inhabitants of Denisova Cave in southern Siberia, from about 175,000 years ago. We do not know whether they had either language or some sort of proto-language, or whether their language was spoken or signed. Yet such a scenario would allow several more tens of thousands of years for linguistic humanity than is generally assumed. Theories of the earliest stages of proto-language abound. For example, Tecumseh Fitch, Michael Arbib and Merlin Donald (2010: 141–2) cite four models for proto-language: Derek Bickerton’s lexical model, Charles Darwin’s musical hypothesis, Merlin Donald’s mimetic model and Michael Arbib’s gestural model. Each model posits one core feature that was supposed to have evolved first, and from which other features followed.

We cannot at this stage make much of a guess as to what these early branches of humanity may have signed or said, but whatever it was they were at least *thinking* along the same lines as much of modern humanity. They were

in modern terms ‘primitive’ hunter-gatherers. Yet they were not really primitive at all if we understand the nature of humanity itself as being linguistic and possessing some sort of grammar. Although we will never know the complete details of the evolution of language, we can infer a great deal from what is around us. Hunter-gatherers still inhabit much of the world, not in large numbers but in numbers that enable us to study the ways that they speak, the many languages they use and what they use their languages for. What is most important is to recognize that hunter-gatherers today are every bit as linguistically sophisticated as anyone else. Edward Sapir (1933: 155) put it wonderfully: ‘Of all aspects of culture, it is a fair guess that language was the first to receive a highly developed form and that its essential perfection is a prerequisite to the development of culture as a whole.’ As a specialist in North American languages, including several spoken by hunter-gatherers, he knew that these languages exhibited great grammatical complexity as well as rich and quite unusual ways to express even simple concepts.

Of course, I myself am not a hunter-gatherer. But as an anthropologist specializing in hunter-gatherers I have spent many years with people who are. This has been mainly in southern Africa, though I have visited hunter-gatherers elsewhere and have a lifetime’s experience in academic studies of these peoples. I mention this because I have received correspondence from linguists who assume that hunter-gatherer peoples do speak more primitive languages than non-hunting peoples. I have never had such correspondence from any that assume the reverse, though it would not surprise me if some among my fellow anthropologists might indeed make this assumption. Hunter-gatherers have, both collectively and individually, extraordinarily large vocabularies, and they speak highly evolved languages of great grammatical complexity. They do not have just a few words for trees and bushes, but vocabularies with hundreds of words for botanical categories. This might hint at one origin for early language: to gesture, sign or talk about the natural environment. Richard Lee (1979: 464–73) lists 220 species known to the Ju’hoansi (formerly known as the !Kung), of which they can name 11 that are unknown to botanical science. Likewise, though not quite so many, are their zoological categories, including 58 species of mammal (1979: 474–8). This book, in part, explores why hunter-gatherers should speak such rich languages.

Hunter-gatherers need complex language every bit as much as do computer programmers, nuclear physicists and philosophers. Perhaps Neanderthals and Denisovans did not need quite as much language, but our *Homo sapiens* linguistic abilities are not *that* far off. As the amateur American linguist Benjamin Lee Whorf implied, supposedly ‘primitive’ languages (that is, the languages of ‘primitive peoples’) are not primitive at all. They display cognitive functions that are at least as sophisticated as those of Western, university-educated scientists. Whether they are truly *more* sophisticated (as Whorf seemed to

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believe, see Carroll 1956) has long been a subject of debate. Whorf made this pronouncement in the 1930s, and debate on the matter still continues to this day. Nearly all professional linguists now hold to the view that the languages of hunter-gatherers are at least as complex as those of anyone else. Whatever the advantages of food production, that means of subsistence does not bring either greater understanding of the environment (which was already there in late hunter-gatherer times) or greater grammatical complexity. Late hunter-gatherers already had those abilities. Before that, it becomes more difficult to know or even to speculate about. Language, or rather proto-language, was evolving, and the process was slower than some linguists think, but it did take some time before humans became fully human in a linguistic sense. Why should a hunter-gatherer people need 24 verbal prefixes and at least 14 ways to make a plural? The answer is simple: they are not really a primitive people at all. They are ‘us’.

We do not know exactly when language began. However, the figure of 50,000 BP (see Klein 2009: 650–3) seems far too recent to me, especially given the possible settlement of Australia as early as 65,000 BP (Oppenheimer 2004: 82). A date of 60,000 is more commonly cited, but Australia was, of course, settled by technologically competent, language-using humans. They migrated to the continent by sea before being (mainly) cut off from the rest of humanity until the eighteenth century. Australian Aborigines were using complicated languages before Europeans, although not before Africans. The original ocean voyage of the first Australians was probably accidental. Yet their ability to master their environments, to develop ways of describing them and, importantly, to create mythological and spiritual explanations of everything they encountered suggests great cultural as well as linguistic sophistication. This is not to diminish Richard Klein’s argument for a world epicentre of cultural revolution and a point of migration from eastern Africa around 50,000 years ago. However, it does tell us that *something else* is needed in order to explain the existence of Aboriginal society and cultural complexity.

We do not really know exactly what constitutes ‘language’. Virtually all the 5,000 or 7,000 (the figures are in dispute) languages found in the world today are in some way complex and, certainly, constantly changing. It is entirely possible that some elements of language evolved before others, but the proposed date of 50,000 BP probably reflects material cultural development more than it does the development of language. Language was in place before humankind got to Australia, and languages continued to evolve. However much language may have changed, it did not do so differently or separately in Australia and the rest of the world.

Some scholars like to speak in terms of a Proto-World language, or at least to argue a common origin for all languages as well as for ‘language’ in the

abstract. American linguist Merritt Ruhlen (1994a, 1994b) is a prominent advocate of this view. My own view is rather different, for I tend to think in terms of a multiplicity of languages, at least from very early in human evolution. Linguist James Hurford puts it like this:

Current estimates put the number of living distinct languages at over 7,000. It is likely that in prehistory, even though the human population was much smaller, the number of languages was greater. The number of different languages that have ever existed is far greater than the number we can count now. To grasp this, we have to abandon the notion of global languages like English, Chinese, and Arabic, spoken by millions. (Hurford 2014: 16)

As a social anthropologist I have both a different background and a different way of viewing the problem from most linguists. I have seen and heard the multiplicity of languages in action among today's hunter-gatherers, especially in southern Africa where I do fieldwork. And although most social anthropologists today are not much interested in such evolutionary problems, I have to ask myself whether something quite similar may have been happening deep in prehistory. As population geneticist Louis Cavalli-Sforza (2001: viii) has suggested, history is not a science. However, he tells us, we can reach the truth, if not by experimental replication, then by coming at the problem through the understandings of a diversity of academic disciplines. For language, this can include either internal evidence, in other words, that from within linguistics, or external evidence, from social anthropology or any number of other disciplines (see Aitchison 1996: 11–12). In short, there are two main theories of language origins: a *common origin* for all groups of the earth's peoples, or *separate origins* for each. My own view, though, is rather different.

I believe that, almost from the beginning, a plurality of languages was present. As among hunter-gatherers today, in earlier times, hunter-gatherers in one location could speak several languages and could understand many more. As Hurford's comment implies, in the past, both language diversity and multilingualism were the norm, and languages have been lost at a phenomenal rate ever since people started to use language. According to Hurford's estimate, this was perhaps 100,000 years ago. And according to mine, which would include some kind of proto-language in use among Neanderthals, Denisovans and so on, even before this. McMahon and McMahon (2013: 232) also suppose proto-language developing through stages over a long period and possibly resembling what they refer to as 'living linguistic fossils', 'like pidgins, the language of young children, or the signs of language-trained apes'. Whether Neanderthals also used many languages, I hesitate to speculate. But why not?

Back in prehistory

If we do not know exactly when language began, or even how many languages there were in the beginning, at least we know what constitutes ‘prehistory’. This was the time before writing was invented, when people lived as hunter-gatherers, as pastoralists or as subsistence farmers. It is, in a real sense, humankind’s *natural* existence, as measured by the length of time humans have lived that way or in those ways.

We owe the concepts ‘prehistory’ and ‘prehistoric’ to several people. Among these were the Danish antiquarian Christian Jürgensen Thomsen (from around 1816, when he was appointed head of antiquarian collections at what became the National Museum of Denmark) and several of his Scandinavian students and colleagues. The latter include J. J. A. Worsaae, Bror Emil Hildebrand, Oscar Montelius and Sven Nilsson. Also important were the French archaeologist Paul Tournal (probably the first to use the word *anté-historique*, in the 1830s), the Scottish-Canadian archaeologist Sir Daniel Wilson and, perhaps above all, the English banker and amateur archaeologist Sir John Lubbock, in later life known as Lord Avebury (see e.g., Rowley-Conwy 2006; Renfrew 2008: 3–13). Wilson (1851) used the adjective ‘prehistoric’ in *The archaeology and prehistoric annals of Scotland*, as did Lubbock (1865), in his seminal work, *Pre-historic times*. Eventually, the nominal form, ‘prehistory’, came into use within archaeology and ultimately also into general use in the English language.

But what exactly do we mean by ‘language’? Writing in a supplement to the *American Journal of Physical Anthropology*, L. A. Schepartz tackles the question of whether or not (complex) ‘language’ is related to the emergence of *Homo sapiens* by around 200,000 years ago or instead to later events such as the appearance of this species in Western Europe. His definition specifies that language is ‘a system with external aspects relating to speech production and internal aspects involving cognition and symbolism’ (Schepartz 1993: 91). His findings are that there is no relation between palaeontological and archaeological evidence and the emergence of language in those times, but rather that the *capability* for language existed much earlier. Since 1993, when Schepartz published his paper, this has also been suggested more recently by the discovery of the FOXP2 mutation, that is, the so-called ‘gene for language’, among Neanderthals as well as among *H. sapiens* (Krause *et al.* 2007; see also Wade 2006: 47–50; Wells 2010: 98–106). FOXP2 is a gene found in other mammals too, but, for example, in rats and mice it simply regulates breathing. In these creatures, it of course has nothing to do with language or speech. Yet in humans, it does precisely this: it enables the use of grammar. The mutation was apparently highly advantageous, and it spread rapidly throughout humanity at some point in prehistory. We know

this because of a British family who have now been intensively studied and some of whose members, in fact, lack this mutation, or they have undergone another one, to reverse it, and therefore they seem to have difficulties both in grammatical construction and in speech.

More recently, Dan Dediu and Stephen Levinson (2013) have argued, quite against the prevailing understanding, that Neanderthals possessed a capacity for language too, and this capacity was not that different from our own. They look to an origin of language fully half a million years ago, before the divergence between *Homo sapiens sapiens* and *H. neanderthalensis*. Their view is that genetic and linguistic features of humanity co-evolved, and even that pre-*Homo sapiens sapiens* individuals may be responsible for the origins of linguistic features found in some languages today. This is not implausible, given that there is evidence of contact and cultural borrowing between Neanderthal and *H. sapiens sapiens* groups. It is also borne out biologically by the findings of D'Anastasio *et al.* (2013), who report on the analysis of a Neanderthal hyoid bone found in 1983 and first described a few years later, in 1989. The hyoid is a horseshoe-shaped bone under the chin and is important for speech. The implications of the analysis by D'Anastasio and his colleagues are that Neanderthals, or at least *this* Neanderthal dated at 60,000 BP, had the capability of speech. On the other hand, the position of the larynx has been the subject of debate on exactly how Neanderthals (with a presumably lower position of the larynx) might have produced the same sounds as modern humans. Early dates for language are possibly implied in archaeological evidence of symbolism, and therefore religion, dated to at least 75,000 BP and possibly earlier (e.g., Henshilwood 2009: 45). However, this suggestion remains controversial. Symbolism still requires some sort of linguistic expression, so presumably a kind of language preceded symbolic thought. Jean-Louis Dessalles (2007 [2000]: 76) suggests 100,000 BP for language itself, and this seems, if anything, a conservative estimate. Certainly, as I have argued (Barnard 2012: 138–40), there are indications of symbolic thinking much earlier than this.

Archaeology, anatomy and genetics, it seems, are conspiring against conservative forces in linguistics to push back the date of the earliest language, and even of the species that first possessed it. And these other disciplines have in their ranks people with reservations too. In an attack on Dediu and Levinson, the team of Berwick, Hauser and Tattersall conclude: 'At the archaeological level, our core linguistic competence does not fossilize. As for molecular evidence, we are nowhere near identifying the relevant "language genotype" and they provide no "language phenotype" to guide us. For the present, abstinence from speculation may be the best remedy' (Berwick *et al.* 2013).

Apart from what language may be, there is also the important question of language diversity. If Neanderthals could speak, could they converse with *H. sapiens sapiens*? This seems unlikely if their vocal apparatus differed

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substantially from ours and also since their mobility was, in our terms, so restricted (Féblot-Augustins 1993). As Ian Tattersall (1998: 166–73) noted in earlier work, language is a product of the brain, whereas speech is located in the vocal tract. None of this is preserved in the fossil record, although the roof of the vocal tract, in the base of the skull, is preserved. Nevertheless, he argues that it is unlikely that Neanderthals possessed either a form of speech that could be used for communication with *H. sapiens sapiens* or language. Neanderthals, he adds, presumably lacked the ‘sheer cleverness’ that we possess, along with the related cognitive skills such as the use of art and symbols. In a later book (2008: 76), he goes further, suggesting that *Homo heidelbergensis* (the common ancestor of both modern humans and Neanderthals) also had the mental capacity and the linguistic abilities of modern humanity. About 300,000 years ago, that species had acquired the ability to make stone tool cores and thereby to instigate a revolutionary advance in technology that required at least showing and teaching the young to do the same. Whether they truly thought in symbolic terms or invented forms of description for what they were doing and teaching we do not know.

Considering just *H. sapiens sapiens*, was language invented just once among us, or many times? The great comparative linguist Morris Swadesh died in 1967. Through much of his life he argued the one-origin view. In the book he was working on at the time of his untimely death, he put the date of the divergence of languages variously at ‘half a million or so years ago’ (Swadesh 2006: 215) or ‘somewhere above twenty thousand years’. He added that there is ‘little reason to suppose that the time depth of diversification for all known languages should be as much as 100,000 years’ (2006: 226). In brief, working out the time depth seemed to be an almost insurmountable problem, even for him, the inventor of glottochronology. However, even he seems to have conceded that an origin of language deep in humankind’s past, and in continuity with its present, is plausible.

The hardest problem in science?

The question of language origins has been around a few hundred years. It was of major concern among intellectuals, especially in France and in Scotland, in the eighteenth century. Charles de Brosses, president of the parliament of Dijon, was instrumental in establishing the topic as worthy of scientific discussion (Nicolai 2006). He also promoted it in archaeological work, in theoretical work on the origins of religion and in predicting the existence of an Australian continent. Rousseau, Herder, Adam Smith and many others devised theories of the origin and evolution of language. The Scottish judge Lord Monboddo wrote many volumes on the subject; several were attacks on his chief opponent, Lord Kames, who regarded even Native North Americans as a different

'species' from himself (see Barnard 1995). It must be said, though, that the Linnaean idea of a species was not at that time fully recognized. Monboddo thought the Orang Outang (again, a disputed concept) was 'a Man'. But for a start, the idea of Orang Outang undoubtedly included chimpanzees, who, along with the orang-utans of Southeast Asia, were regarded as tool-using and hut-dwelling but not quite linguistic human beings. My readings of both Linnaeus and Rousseau suggest that neither were that distant in their views. These apparent 'apes' were virtually human, but they did not (yet) have language. Therefore, like Peter the Wild Boy of Hanover and Memmie Le Blanc, Wild Girl of Champagne, they were considered fully human but pre-linguistic. The relation between language and humanity was, in other words, then a matter of debate and not something intellectuals all agreed upon.

In the nineteenth century, the tide eventually turned against the topic even as one worthy of discussion. The Société de Linguistique de Paris was founded in 1864, but two years later, so heated had become the discussion of language origins that all debate on it was banned! One cause, it seems, had been the publication of Darwin's (1859) *Origin of species*. Yet there remained no way of tackling what was at that point simply argument over theory. There was never any real evidence for language origins as we would understand the nature of evidence. A few years after the ban in Paris, the Philological Society of London, founded in 1842, issued a similar edict. So no one in Paris or London, it seems, could argue on the matter. Language evolution is quite possibly, in the words of Christiansen and Kirby (2003b: 1) 'the hardest problem in science', and it would take a long time before it was to become acceptable again as something that linguists, or indeed other scientists of any sort, would be happy to argue about. Through these times, it must be remembered, there were as yet no 'Neanderthals' as we understand the species. The fossil that became 'Neanderthal Man' was discovered in the Neander Valley of Germany in 1856, though we now know that similar if unnamed skulls had been unearthed in Belgium in 1829 and in Gibraltar in 1848. The relations among these creatures were completely unknown prior to Darwin's *Origin* (1859) or, more to the point, his *Descent of man* (1871).

The origin of language, or *of languages* has, however, met with a remarkable resurgence over the last 30 years or so. Long before the ban by the Société de Linguistique de Paris, protagonists had disagreed with one another, but as often as not their theories really focused on different aspects of language. Rousseau's (1986 [1781]) posthumous paper, for example, emphasized the place of music in the origins of language and argued that language began in the musical south of Europe before moving to northern Europe. Herder's (1986 [1772]) essay saw linguistic origins in nature itself, but his real concern was in rejecting the idea of language as divinely inspired. At various points through the centuries the topic returned in intellectual discussions, and

debates often seem to have taken such forms as this. Adam Smith's much more secular (1767: 437–78) 'Dissertation on the origin of languages', or, to give it its full title, 'Considerations concerning the first formation of Languages, or the different genius of original and compounded Languages', was first published as an appendix to the third edition of *The theory of moral sentiments*. It concerns the evolution of parts of speech. Oddly, in light of Benjamin Lee Whorf's twentieth-century relativism and indeed (presumed) primitivism, Smith (1767: 478) finds favour in Latin over the 'prolixness, constraint, and monotony of modern Languages'. Whorf's ideal language seems to have been Hopi: 'English compared to Hopi is like a bludgeon compared to a rapier' (Whorf 1956a: 85); time and matter in Standard American English are 'linguistically conditioned', whereas the Hopi sense of space is 'pure' and free from such extraneous notions (1956b: 158–9). Foucault, Derrida and others resurrected the problem in late-twentieth-century post-structuralist and postmodernist circles, but ultimately it returned in earnest in the 1990s. In that decade, the increase in general interest within linguistics, combined with advances in genetics, neuroscience and many other fields, enabled serious debate once again.

Christiansen and Kirby (2003c: 305) have raised a number of issues with regard to the origin and evolution of language. These include: developing an evolutionary approach, the place of natural selection and the potential convergence of archaeological and genetic evidence. There are also speech versus gesture theories, the question of how unique human language really is and comparisons to non-human communication. Related fields of enquiry include studies of apes with regard to the evolution of language, explaining universal properties of language through computer simulation and the relation of culture to biology in the evolutionary sciences. I believe that all these are relevant. However, still they miss one key point, which for me is crucial: what language does that we cannot do without. In other words, what is the point of having and using a language? Why do we need them?

In recent decades, there have been great changes in attitudes about language origins. These include the reduced interest in the theory of universal grammar (or Universal Grammar), and a greater interest in the gradual development of language. Noam Chomsky, the world's leading linguist, and indeed some would say the world's leading public intellectual, has been reluctant until very recently to discuss language origins at all (e.g., Chomsky 2012). He has preferred instead to concentrate on specialist and often highly technical interests within theoretical linguistics. These have included, since the 1950s, the Standard Theory, the Extended Standard Theory (X-bar theory), the Revised Extended Standard Theory (Move α), Principles and Parameters Theory, Government and Binding Theory and the Minimalist Program, including the idea of Merge. These theories within transformational grammar