

*Part I*

Preliminaries

Cambridge University Press  
978-1-108-49132-7 — Neanderthal Language  
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Excerpt  
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## 1 Pursuing an Intriguing but Murky Matter

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### 1.1 Questions and Concerns

‘Did Neanderthals have language?’ and ‘If they did, what was it like?’ These questions have intrigued people from the earliest discoveries of fossil remains of Neanderthals in the nineteenth century right up to the present. To many, laypersons and scholars alike, the fascination of these questions has lain not only in what credible answers may reveal about our extinct cousins but also in what they may teach us about ourselves; amongst other things, about whether we are unique in being the only species endowed with language. This makes it understandable why these two questions about Neanderthal language have been pursued over nearly a century-and-a-half by scholars in a range of fields, including anthropology, archaeology, biology, linguistics and palaeontology.

This book is about the pursuit of these two questions about Neanderthal language. Its discussion of this pursuit is guided by the following main concerns:

#### Main Concerns

- (a) What has the pursuit of the two questions about Neanderthal language yielded in the way of credible answers?
- (b) What is it that makes an answer to a question about Neanderthal language more credible or less credible?
- (c) What are the obstacles that have impeded this pursuit?
- (d) What is needed to overcome these obstacles?

Framed in terms of crude conceptions of ‘language’, the very earliest answers to the question of whether Neanderthals had language were less than kind to them. That is, not distinguishing between language and speech, these answers expressed claims such as the following:

#### Some Early Claims about Neanderthal Language

- (a) Neanderthals were incapable of ‘articulate speech’.
- (b) Neanderthals lacked intelligence and speech.
- (c) Neanderthals were ‘non-speaking individuals’.

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The French archaeologist Gabriel de Mortillet (1821–98) is considered the first scholar to have clearly expressed a negative view of Neanderthals' linguistic ability in his book *Le préhistorique antiquité de l'homme* (1883). More specifically, he claimed that the Neanderthal whose lower jawbone was excavated in 1866 at La Naulette in Belgium had been 'incapable of articulate speech'. De Mortillet inferred this from his observation that the Naulette jawbone lacks the two small pairs of bumps, so-called genial or mental tubercles, needed for articulate speech. The muscle that connects the tongue to the skull is inserted into these tubercles. De Mortillet reasoned as follows:

Speech, or articulate language, is produced by movements of the tongue in certain ways. These movements are effected mainly by the action of the muscle inserted in the genial tubercle. The existence of this tubercle is therefore essential to the possession of language. Animals which have not the power of speech do not possess the genial tubercle. If, then, this tubercle is lacking in the Naulette jawbone, it is because the man of Neanderthal, the 'Chellcan [sic] man,' was incapable of articulate speech.<sup>1</sup>

The view that Neanderthals lacked 'linguistic ability' was shared by other early scholars, including the French palaeontologist Marcellin Boule (1861–1942). He claimed that a male Neanderthal – called 'The Old Man' – whose bones were discovered in 1908 in a cave near the village of La Chapelle-aux-Saints in central France was a dull-witted, brutish, inarticulate individual. Boule inferred this from his reconstruction in 1911 of the skeleton of this Neanderthal. In terms of this reconstruction, The Old Man had a low-vaulted cranium and a large brow ridge reminiscent of that of large apes such as gorillas (See Image 1.1).<sup>2</sup> The view that Neanderthals lacked language/speech forms a cornerstone of the early position that Neanderthals were 'knuckle-dragging brutes', 'brutish cave-dwellers', 'primitive ape-men' who differed in fundamental ways from modern humans.

In a positive interpretation of recent research, Neanderthals differed much less in important ways – including the use of a form of language – from modern humans than believed earlier. Thus, in a readable overview of a considerable body of such work, Papagianni and Morse (2015) write that:

In recent years new research has pulled the Neanderthals much closer to us. Not only did they have brains as large as ours (though their skulls had a different, flatter shape), they also buried their dead, cared for the disabled, hunted animals in their prime, *used a form of spoken language* [emphasis added – R.B.] and even lived in some of the same places as the modern humans who were, broadly speaking, their contemporaries. They could not have survived, even in warmer times, had they not mastered fire and worn clothes. Though they relied heavily on meat, they consumed seeds and plants, including herbs, and could fish and harvest sea food. These are all behaviours that at some point were thought to be exclusive to ourselves. (Papagianni and Morse 2015: 13)<sup>3</sup>



Image 1.1 A cast of the skull of The Old Man of La Chapelle-aux-Saints as reconstructed by Bone Clones, Inc.

This positive interpretation of what recent research reveals about some similarities between Neanderthals and modern humans, however, is controversial. Thus, present-day scientists give conflicting answers to the question of whether Neanderthals had language and/or speech. The same goes for modern views about what Neanderthal language, if it existed, might have been like. Consider in this regard the recent claims about Neanderthal language in (a) and the counter-claims in (b), the latter having been made to controvert the former or to express disbelief about them.

#### **Some Recent Claims about Neanderthal Language**

- (a) Claim by Krause et al. (2007: 1911): Human language ability was present not only in modern humans but also in late Neanderthals.
- (b) Counter-claim by Benítez-Burraco et al. (2008: 225): Krause et al.'s analysis does not confirm either the antiquity of the faculty of human language or the linguistic capabilities of Neanderthals.
  
- (a) Claim by Frayer et al. (2010: 113): Neanderthals (and very likely their European ancestors) had linguistic capacities similar to living humans.
- (b) Counter-claim by Benítez-Burraco and Longa (2012: 189): Frayer et al.'s conclusion, according to which Neanderthals had complex language, is far from obvious.
  
- (a) Claim by Dediu and Levinson (2013: 1): Neanderthals shared with us something like modern speech and language.
- (b) Counter-claim by Berwick et al. (2013: 2): Dediu and Levinson's extraordinary claims are not supported by the evidence they present.

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- (a) Claim by Lieberman (2015: 2): Neanderthals must have possessed speech and language, though their vocal tracts precluded their mastering any human dialect.
- (b) Counter-claims by Bolhuis et al. (2015: 2): (i) Lieberman's speculation that Neanderthals had 'simple syntax' is not supported by any evidence from non-human primates. (ii) Palaeoanthropological evidence suggests that the faculty of language, including human syntax, emerged some 70,000–100,000 years ago.

Made by various kinds of linguists, biologists, geneticists and prehistorians, the claims and counter-claims about Neanderthal language presented here represent the proverbial tip of the iceberg. They constitute but a small sample of the conflicting claims about Neanderthal language to be found in a large, multidisciplinary body of literature. Particularly prominent among the disciplines involved are those concerned with unravelling our prehistory. Thus, archaeologists and palaeoanthropologists disagree strongly about the linguistic abilities and language of Neanderthals. Some attribute to them modern language or a communication system equivalent or similar to it (e.g., d'Errico and Vanhaeren 2009: 38; Frayer et al. 2010: 113; Papagianni and Morse 2015: 178). Others contend that Neanderthals had a restricted, non-modern form of language (e.g., Conard 2015: 13; Finlayson 2004: 129; Gamble et al. 2014: 142; Stringer 2011: 157–159; Wynn and Coolidge 2014: 128, 176). According to a third group, Neanderthals had only a non-symbolic form of communication that is qualitatively distinct from modern language (e.g., Mithen 2014: 12; Tattersall 2017: 65).

The debates about conflicting claims such as these have been complex and inconclusive. There simply are no answers to the questions 'Did Neanderthals have language?' and 'If they did, what was it like?' that seem to be immune to challenge. An answer that one scholar would consider highly credible would elicit disbelief from the next. This makes the matter of the existence and properties of Neanderthal language a murky one. By addressing the four main concerns stated at the beginning of this chapter, this book attempts to disperse the murk.

## 1.2 The Approach

The important issue here, clearly, is: 'What is it that makes an answer to a question about Neanderthal language more credible or less credible?' In the absence of a well-founded conception of 'credibility', it is impossible to engage with the other three main concerns. So, what does 'credible' mean here? In essence, the credibility of answers to the questions as to whether Neanderthals had language and, if they did, what it involved depends on the soundness of the inferences drawn about Neanderthal language. How is that? It is an uncontested fact that there is no direct evidence about whether

Neanderthals had language and, if they did, what it involved.<sup>4</sup> As a consequence, the claims that have been made about Neanderthal language represent conclusions inferred from indirect evidence – that is, from evidence about phenomena other than Neanderthal language. Departing from such indirect evidence, and often comprising multiple steps, such inferences are not obviously sound. But unless they are sound, their conclusions will be false, which causes what they claim about Neanderthal language to lack credibility.

This line of thinking about the credibility of claims about Neanderthal language is derived from the approach to the study of language evolution known as the ‘Windows Approach’.<sup>5</sup> This approach provides the conceptual means to overcome the obstacle posed by the lack of direct evidence to the empirical investigation of language evolution. At its core lies the assumption that the evolution of language can be studied by examining other phenomena about which there is direct evidence. These ‘other’ phenomena are said to offer windows on the evolution of language. Metaphorically, a window on language evolution is a phenomenon (at least some of) whose properties are believed to offer a ‘view on’ properties of some facet of language evolution. Modern work on language evolution uses a varied range of such window phenomena: (fragments of) fossil skulls; ancient artefacts such as stone tools; Middle Stone Age shell beads; the communicative, pedagogic and ritual behaviour of modern hunter-gatherers; restricted linguistic systems such as pidgins (i.e., languages highly restricted in both vocabulary and structure, limited in their functions and typically used in contact situations only); genes believed to be involved not only in human language and speech but also in birdsong; and the communicative behaviour and cognition of non-human primates and other animals, to mention only some. On a non-metaphorical construal, a window on language evolution is a conceptual construct used for making inferences about this phenomenon. To – metaphorically – ‘see’ a property of some facet of language evolution by – metaphorically – ‘looking at’ a property of some other phenomenon is – non-metaphorically – to infer the first property, or something about it, from data about the second property. Such inferences are called ‘window inferences’. De Mortillet’s inference from data about the Naulette jawbone – the ‘other’ or window phenomenon – that the Neanderthal concerned was incapable of articulate language/speech represents a typical instance of a window inference.<sup>6</sup>

The idea of a window inference can be made more concrete with the aid of some that have been drawn about the evolution of modern human language. So, consider the following three (Botha 2016: 4–5):

### Three Instances of Window Inferences

- (a) *The pidgin inference*: From data indicating that the words making up sentences in early-stage pidgin languages are strung together like beads

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on a string, it is inferred that the word-like elements uttered in protolanguage (which is believed to be a rudimentary form of language used by early hominins) were strung together like beads on a string too (Bickerton 2009: 187–88, 202–04).

- (b) *The motherese inference*: From data about the properties of modern motherese (i.e., the sing-song register that is used by caregivers when addressing babies), it is inferred that the infant-directed vocalisations of ancestral motherese used by early hominins formed the prelinguistic foundations of protolanguage (Falk 2004: 491, 2009: 58–60, 69, 99).
- (c) *The music inference*: From data about the similarities between modern language and music, it is inferred that these two phenomena evolved from a common precursor, called ‘musilanguage’ (Brown 2001: 272), ‘HmMMM’ (Mithen 2005: 26) or ‘musical protolanguage’ (Fitch 2010:474–75).

Window inferences are by their very nature not evidently sound. The Windows Approach, accordingly, provides for various soundness conditions that need to be met, as well as the conceptual means of meeting them. These conditions and means will be set out in a concrete way in Chapter 3.

### 1.3 Focus and Organisation

A wide range of putative windows have been used in work that draws inferences about Neanderthal language and/or speech.<sup>7</sup> This book does not offer a survey of the full gamut of these windows. In attempting to address the four main concerns stated in Section 1.1, I instead critically examine a range of window inferences about Neanderthal language that are considered in the literature to be especially important. I, moreover, restrict this examination in two general ways. First: proceeding from the fundamental distinction between language as something cognitive and speech as something behavioural, I confine my analysis to window inferences drawn about Neanderthal language as opposed to speech. For, within a principled linguistic ontology, speech presupposes language, being the use of language in the vocal-auditory modality. That is, if Neanderthals lacked language, they could not have spoken – not even if they had the physical attributes needed for speaking. Second: I focus on window inferences drawn from selected forms of behaviour attributed to some Neanderthals. The selected behaviours are those viewed in a massive literature as currently providing the best windows on what Neanderthals might have had in the way of language. The focus on behaviours is in line with an approach to the study of the evolution of cognition characterised by Iain Davidson as follows:



the primary evidence [for the evolution of cognition – R.B.] should come from archaeological evidence for behavior rather than from skeletal remains, genetic arguments, or any other form of inference that does not rely on evidence of behaviour. (Davidson 2010a: S179)

Appraising the inferences concerned is not only instructive in itself; it will be seen also to give a non-arbitrary indication of the heuristic power of the windows that have been used to draw these inferences.

The account provided in this book is organised in terms of four parts:

PART I contains, in addition to this introductory chapter, a second chapter in which I present the conceptual tools that are used in the analyses of subsequent chapters. It illustrates these concepts, distinctions, principles and conditions with the aid of a sample analysis of window inferences that have been drawn from the scratched teeth of some Neanderthals about their so-called linguistic capacities.

PART II critically analyses inferences drawn about Neanderthal language from four forms of symbolic behaviour in which they are claimed to have engaged: manufacturing and wearing personal ornaments (Chapter 3), producing cave art (Chapter 4), decorating their bodies (Chapter 5) and burying the dead (Chapter 6). Part II, moreover, includes an appraisal of the soundness of the inferential step from Neanderthals' alleged symbolic behaviours to the language attributed to them (Chapter 7). Since the alleged symbolic behaviours of Neanderthals have been widely taken to provide the best evidence for attributing language to these ancient humans, the findings made in PART II are particularly pertinent.

PART III assesses inferences drawn about Neanderthal language from a number of complex *non*-symbolic behaviours attributed to Neanderthals: making stone tools (Chapter 8), teaching/learning how to make such tools (Chapter 9) and cooperatively hunting big game (Chapter 10). The discussion of these inferences may also serve to counterbalance views that overestimate the heuristic power of symbolic behaviours as windows on Neanderthal language.

Part IV contains the final chapter (Chapter 11), in which I unpack some of the more important implications of the findings of preceding chapters. In doing this, I return to the view that inferences about Neanderthal language should be primarily drawn from behaviours of Neanderthals. After all, such inferences have frequently been drawn from non-behavioural attributes of Neanderthals. To get a measure of the soundness of such inferences, I analyse instances that have been drawn from genetic and neuroanatomical attributes of Neanderthals.

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#### 1.4 Preview

Which brings us to what this book offers in the way of main findings about the soundness of important inferences that have been drawn about Neanderthal language. The following four can serve as a foretaste:

##### Four Main Findings

- (a) There are strong doubts about the soundness of all the analysed inferences drawn about Neanderthal language from the allegedly symbolic behaviours, non-symbolic behaviours and non-behavioural attributes explored in this book.
- (b) From an inferential perspective, Neanderthals' cooperative ambush hunting is potentially a better window on Neanderthal language than their allegedly symbolic behaviours.
- (c) In terms of conservative inferences drawn from the behaviour of Neanderthal hunters, their communication system employed referential elements resembling Saussurean linguistic signs, but lacked grammatical complexity.
- (d) The main obstacle to overcome in work on Neanderthal language is not a paucity of evidence; it is rather a lack of warrants needed for licencing inferences drawn about Neanderthal language from data about phenomena distinct from Neanderthal language. See Chapter 2 for a discussion of warrants in some detail.<sup>8</sup>

It may not be superfluous to stress here what the book does not offer. Focusing on inferences about Neanderthal language, it does not offer an appraisal of inferences drawn from Neanderthals' biological attributes about their alleged speech capabilities. We can now turn to the conceptual tools used for the analyses carried out in PARTS II, III and IV of this book.