

## Buchbesprechungen

### Ralf W. Schmitz (ed.), *Neanderthal 1856–2006*.

Rheinische Ausgrabungen 58. Mainz: Verlag Philipp von Zabern, 2006. Clothbound, 380 pages, numerous illustrations (some color). ISBN 978-3-8053-3667-3, 92,50 €.

Neandertal, also known as Neanderthal<sup>1</sup>: It is the best known of the extinct human biological groups. A casual search on Google, using both spellings, produces more than three-million hits. By contrast, Cro-Magnon and *Homo erectus* produce only about 1.1 million each, and *Australopithecus* (a whole genus) has only about 600,000. Why are the Neandertals so well known, and so often misrepresented in both the popular and academic literatures? As this book pulls together, they have now been in our consciousness for a century-and-a-half. Although Neandertal fossils still with us were unearthed earlier in the nineteenth century, those from Engis and Forbes' Quarry, it was the recovery of bones from the Kleine Feldhofer Grotte in 1856 and their subsequent announcement to the scientific world by Johann Carl Fuhlrott and Hermann Schaaffhausen that ushered in the field of human paleontology and introduced concrete evidence that human evolution did not consist merely of shifting racial variation in time and space.

It is therefore appropriate that the sesquicentennial of the Neandertal discovery should result in the publication of a volume on the remains, human, faunal, archeological, and geological, from the Kleine Feldhofer Grotte. This volume, edited by Ralf Schmitz and appropriately published so as to resemble the 1958 publication of the Neandertal Centenary conference, is the culmination of a decade of work by Schmitz and colleagues on the Neander Valley, the site and the remains. However, unlike its predecessor of a half-century before, it is not simply a series of position statements on the Neandertals or summaries of national or regional fossil records pertaining to them. It is a serious monograph on the setting, the site, and its contents. It is a volume that, in large part, will remain a solid contribution to the field, and not just an historical document of the state of the field in 2006. This is refreshing, since the past two decades have seen an interminable supply of conference volumes on the Neandertals (or on modern human origins), most of which contain minimal updates of the contributors' previous views and only rarely new data and/or analyses. However, in order to understand this volume, one needs a little perspective on the Neandertals and current approaches to them.

The primary focus on the Neandertals has been, and remains, phylogenetic – who was having sex with whom in the Pleistocene. This issue has been addressed from both paleontological and biomolecular data. Phylogenetic issues concern both the emergence of the Neandertals from earlier, Middle Pleistocene humans, and particularly, what

<sup>1</sup> The name of the valley was spelled „Neanderthal“ in the nineteenth century, but with the phonetic regularization of German in the early twentieth century, „thal“ became „tal“ and for some „Neanderthal“ became „Neandertal.“ The nineteenth century spelling has persisted principally among the British and among Americans born before World War II, but the two spellings occur variably in all languages across Europe (including the German literature). Interestingly, in his English and German summary chapters, Schmitz uses „Neanderthal“ for the English version and „Neandertal“ for the German version. The book's title, presumably since the book is almost entirely in English, follows the earlier spelling. Given Schmitz's preference for an h-less Neandertal in German, I will follow that usage here.

happened to the Neandertals when modern humans dispersed out of eastern Africa in the Late Pleistocene. Much of the discussion depends upon whether one views this as a species-level cladistic process, in which one is dealing with distinct lineages through substantial periods of geological time, or whether one views it as a populational process, in which the Neandertals and their immediate ancestors represent a regional variant of a larger pool of humanity spread across the Old World during the later Middle and earlier Late Pleistocene. The former approach emphasizes differences, largely ignores processes, and is implicit in most of the algorithms used to analyze molecular data. The latter approach provides less clear-cut answers, mixes similarities and differences with other human groups, and places the Neandertals more in a dynamic paleobiogeographic framework.

The first issue, the emergence of the Neandertals through the Middle Pleistocene, is largely resolved, with at least the European fossil record providing clear evidence of a gradual emergence of their morphological pattern through the Middle Pleistocene, coalescing into what most scholars would call “Neandertal” by the end of that time period. The second issue, the fate of the Neandertals when modern humans dispersed from their homeland, remains contentious, even though a consensus is emerging that the two groups intermixed to some degree. The focus of the debate has increasingly become the degree of that assimilation, and where and when it occurred. Out-of-Africa for modern humans is no longer an issue, but the phylogenetic framework has become increasingly confused with debates on whether there is archeological evidence for a behavioral superiority (i.e., “modernity”) among those morphologically modern humans.

At the same time as the incessant debates on sex in the Pleistocene, there has been a growing literature on the paleobiology of the Neandertals, including aspects of their functional morphology, paleopathology, paleodemography, and developmental biology. Much of this work interdigitates with the contemporaneous archaeological record, and to a lesser extent with the phylogenetic discussions. A substantial portion of this work began by noting contrasts between the Neandertals and recent (Holocene) humans, but a growing consideration of Late Pleistocene early modern human paleobiology has placed much of this Neandertal pattern in a more appropriate framework. These shifts in focus have been joined by attempts to sort out which aspects of functional anatomy reflect the behavior of these individuals, as opposed to merely reflecting phylogenetic baggage from earlier humans.

Both of these human biological approaches to the Neandertals exist within, and are heavily influenced by, the contexts provided by their associated archaeology, their geological and paleoenvironmental frameworks, and especially the evolving geochronological framework of the Late Pleistocene. After a lull in the 1970s and 1980s, the archaeology of the Middle and earlier Upper Paleolithic (or archeological equivalents elsewhere in the Old World), have taken on new life, not all of it generated by attempts to establish the behavioral modernity of modern humans and/or the Neandertals. An ongoing revolution in later Pleistocene paleoenvironmental work is providing an increasingly sophisticated setting for human evolutionary changes, although attempts to make direct connections between global or regional ecological changes and human population dispersals or changeovers are often only approximate given issues of chronological correlation between the different realms of data. At the same time, increasing refinements in radiometric dating, especially in radiocarbon dating, uranium-series, and some forms of

luminescence dating, are permitting both a cleansing of the record of intrusive remains and more precise (and sometimes more accurate) ages for critical samples.

In the context of this dynamic and ongoing process of work focused on the Neandertals and their neighbors (both geographical and chronological), this volume on the remains from the Kleine Feldhofer Grotte takes on special importance. The book consists of four sections, not so designated but apparent from the sequence of contributions.

The first section includes a series of chapters on the Neander Valley and the history of work there. Much of it pulls together nicely, and updates, the nineteenth century events and views that led to the discovery there becoming a hallmark for human origins. These chapters are concluded with a detailed account of the relocation and excavations of the remaining deposits of the fossiliferous cave between 1997 and 2000 by Ralf Schmitz and Jürgen Thissen. In many ways, it was their rediscovery of these deposits and the series of paleontological and archeological finds within them that has led to the reassessment of the human remains from the site.

The second section briefly summarizes the redeposited sediments from the cave, the Holocene intrusive materials and malacological remains from the deposits. This is followed by a long series of chapters on the Upper and Middle Paleolithic artifacts from the deposits, by Susanne Feine and colleagues. The assemblage separates on technological and typological grounds into a smaller late Gravettian assemblage and a larger Middle Paleolithic assemblage. The abundant lithic assemblages are joined by a smaller set of humanly modified organic remains. While the relatively abundant Middle Paleolithic material can be ascribed to the Kleine Feldhofer Grotte where the Neandertal remains from 1856 came from, the less abundant Gravettian material comes from a former cave in the direct vicinity of the Kleine Feldhofer Grotte, the so-called Feldhofer Kirche. With these chapters should be included the brief presentation, later in the volume, of the new series of radiocarbon dates on the specimens, although it would have been nice to have had a table with the full chemistry, and not just the date and the associated  $\delta^{13}\text{C}$  value.

The remainder of the volume, over half of it, concerns the human remains from the site. In part the discussion concerns all of the human remains, those from 1856 and those from the 1997-2000 excavations, but a major portion of it concerns a detailed description by Fred Smith and colleagues of the newly discovered remains. It is a thorough and beautifully illustrated description of these paleontological specimens, one that will stand for years to come. If one can have any regrets regarding this presentation, it is that the authors did not provide a similarly detailed and illustrated redescription of the 1856 bones in the Rheinisches Landesmuseum Bonn. Despite early accounts of the bones, Schwalbe's classic 1901 treatise on the skeleton, and various publications in the past half-century that have provided additional data on the remains, there is no single, comprehensive, reasonably up-to-date description of the whole skeleton available. This would have been a wonderful opportunity to do so.

The companion article to this paleontological description is the paleopathological discussion of all of the Neandertal human remains by Michael Schultz, which nicely includes both surface details and histological analysis for a couple of the bones of the multiple abnormalities, abnormalities that include the well-known broken and atrophied left arm and hypertrophied right humerus, evidence of osteoporosis in this older individual, and new evidence of sinus infections. These presentations are accompanied by discussions

of the application of computer tomography (CT) scanning to the fossils and the several contributions that discuss the (then) current state of mitochondrial DNA (mtDNA) analyses of the Neandertals and their implications for both the fate of the Neandertals and Neandertal paleobiogeography. A final chapter before the editor's summaries by Günter Bräuer reiterates his views on Out-of-Africa and the fate of the Neandertals and unfortunately contributes little new to the volume.

Considering all of these contributions, this volume mostly does two things. It contributes significantly to the Paleolithic archaeology of the Rhineland, especially for the Middle Paleolithic, and it adds in a major way to the human paleontology of the Neandertals, especially to their anatomical patterning and their paleobiology. The latter is especially relevant, since at least the Neandertal 1 skeleton is that of an older individual, an age category that is poorly represented among the Neandertals. The contextual data also provide a setting for these specimens, tying them into the larger Neandertal sample in a secure chronological framework, something which ironically was absent for this, the first Neandertal, until the recent excavations of the redeposited materials from the Kleine Feldhofer Grotte.

There is little here that is new that will resolve the ongoing phylogenetic issues surrounding the Neandertals. Yet, the historical chapters place these discoveries nicely in their context, both in terms of paleoanthropology generally and the Neander Valley specifically.

In sum, therefore, this volume serves several roles. It will stand on its own as a primary paleoanthropological contribution to our knowledge of the Neandertal, the Kleine Feldhofer Grotte, their history and their contents. It will serve this role in large part by providing new and primary data and analyses of these remains, both archeological and paleontological. It celebrates the sesquicentennial of the original discovery there, the real birthplace of human paleontology. This is done through both the historical sections and the considerations of the Neandertal human fossils. It also provides a small glimpse on routes to the future, through the discussions of new evolving technologies and their applications to the human fossil record. And given these aspects, it is a far better tribute to Fuhlrott and Schaaffhausen (to whose memory the volume is dedicated) and to 150 years of human paleontology than yet another volume of position statements that are likely to be superseded and/or out-of-date by the time that they are in print.

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