

## When Neanderthals and Modern Humans Met

Nicholas J. Conard (ed.)

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**W**hen *Neanderthals and Modern Humans Met* comprises 20 papers first presented in the context of a conference held in Tübingen in 2004 on the nature of the interactions between Neanderthals and Cro-Magnons (i.e., *Homo sapiens sapiens*) during the interval commonly referred to as the Middle-Upper Paleolithic Transition. Edited by Nicholas Conard, this book constitutes a wide-ranging and eclectic (in the best sense of the term) compendium of studies representing where our understanding of the Middle-Upper Paleolithic transition stands at the close of the first decade of the 21st century. In that sense, the book's goal to present how far studies of the interaction between Neanderthals and modern humans—at least presumably, as the fossil record is all too scant for this time period—have come since 1856 is met with great success.

While the book's overall production value is very high, it does contain a few typos and illustrations are of unequal quality across contributions. This does not, however, detract from the wealth of information it contains about the 'transitional' record of Eurasia, from the Iberian Peninsula to the Russian plains, and almost every point in between. As such, it is a must-have for the library of any researcher seriously engaged in 'transition studies,' as it provides not only abundant new data about the paleoanthropological record of this crucial time period, but also some new and very promising perspectives from which to approach what may seem to some to have become a threadbare issue.

The volume opens with an introductory chapter by Conard who draws a provocative pan-Eurasian picture of how contacts between Neanderthals and modern humans—when and where they happened—likely unfolded, and of the various behavioral mechanisms which enabled modern humans to outcompete Neanderthals throughout their range. This is followed by a paper by Weniger who reviews broadly what the empirical record allows us to say about population dynamics across the transition and that it is important to base any interpretations first and foremost on those coarse-grained data rather than on preconceived notions of how Neanderthals must have disappeared. This theme is also touched upon by Haidle, albeit from a very different perspective—she argues that Neanderthals are consistently construed as the stereotypical "other" in most narratives of modern human origins and that, as in many works of fiction, prevalent scenarios about their interaction with modern humans reflect tacit preconceptions and the tendency of framing encounters in us-versus-them terms.

The next two chapters are among the best contributions to the volume and are likely to become requisite read-

ing for all paleoanthropologists. In Chapter 4, O'Connell uses four cases, drawn from ethnography and archaeology, of replacement of one forager group by another to derive test implications about what may have facilitated a replacement of Neanderthal by modern humans in the Paleolithic. Although not accounting for all of the nuances of the Early Upper Paleolithic record, this approach admirably highlights the proper referential basis on which we should be building models of Pleistocene hunter-gatherer interactions, as opposed to drawing from inappropriate analogies from European colonization of the Americas and Australia. In Chapter 5, Hovers presents a very thoughtful discussion of ecological theory to recast the parameters of Neanderthal-modern human interaction and suggests that, as congruent competitors, they likely coexisted in a state of dynamic equilibrium. This perspective has the advantage of accounting for the very similar archaeological signatures of the two groups of hominins over tens of millennia, a situation Hovers rightly emphasizes is quite distinct from that of Europe during the transition interval.

In the next chapter, Bräuer presents a critical evaluation of claims about the possibility of a substantial genetic contribution of Neanderthals to the gene pool of early European modern humans. He concludes that the identification of Neanderthal features in Upper Paleolithic *Homo sapiens* is largely unconvincing, based as it is on misleading assessment of certain features and/or on using features which he considers problematic. He concludes that there was likely only a very modest amount of gene flow between the two groups. In Chapter 7, Hublin and Bailey seek to address much the same issue, but approach it from the opposite perspective, namely by looking for modern features in late Neanderthals remains. They conclude that, especially when features linked to strong genetic signals are given primacy, there is little convincing evidence for interbreeding or *in situ* evolution towards modern human morphology. The conclusions of these two studies stand in notable contrast to those of Trinkaus and colleagues (Chapter 9) who present new details about the context and morphology of the Peștera cu Oase early modern human remains. These authors conclude that the presence of archaic features in these specimens indicates phylogenetic affinities to some kind of archaic hominin group, likely Neanderthals.

Bocherens and Drucker (Chapter 8) present new stable isotope evidence to address the question of Neanderthal and early modern human diet and its inferential link to potential dietary competition between the two groups. They complement their analyses of hominin dietary patterns by

showing that two contemporary bear species dated to the transition interval occupied distinct niches in order to coexist. In contrast, Neanderthal and modern human diets were equally dominated by protein from open environments, suggesting that they would have been in direct competition in those areas where they coexisted, an interpretation interestingly in sharp contrast with that reached by Hovers.

The next four papers focus on the transitional archaeological record of Eastern Europe. In Chapter 10, Adler et al. present the results of recent work at Ortvalde Klde (Caucasus) and suggest that Neanderthals and modern humans appear to have had the same subsistence base. While the lithic and osseous technology of the latter is quite distinct, the authors admit that it is at present difficult to establish what specific advantage they would have conferred on modern humans. They postulate that changes in social organization, as reflected by diachronic differences in non-local raw material procurement, were the most important factor that allowed modern humans to quickly replace Neanderthals in the region. In the next chapter, Monigal argues that over the course of the transition interval, the Crimea (then linked to mainland Europe) was occupied by groups bearing markedly different industries (i.e., Eastern Micoquian, Western Crimean Mousterian, Strelestskeyan, and Aurignacian) that remained completely impermeable to one another. This is in spite of their displaying considerable geographic and temporal overlap, nearly identical subsistence bases, and having exploited the same flint outcrops. She concludes that the Aurignacian should not be considered the first 'true' Upper Paleolithic industry of the region, and that the Crimea is best considered a transitory zone exploited by various groups of foragers as they moved around southeastern Europe. This is followed by a chapter by Usik et al. in which they refute claims about the transitional record of the area put forth by Cohen and Stepanchuk and present data from the site of Sokirnitsa (Transcarpathian Ukraine) that show an autochthonous, regional transition from the Middle to the Upper Paleolithic, yielding an industry clearly distinct from the Aurignacian. In Chapter 13, Svoboda summarizes the transitional record found along the Danube and emphasizes that the region yields convincing evidence of both *in situ* development of the Mousterian to the Upper Paleolithic (as indicated by a number of transitional industries) and immigration from the east of populations bearing the basis of Aurignacian technology, potentially taking place in several waves. This chapter also includes a provocative discussion of the potential use of select caves in the funerary ritual of modern humans.

The next two papers concern the transitional record of Central Europe. In Chapter 14, Nigst presents new lithic data from Willendorf II (Austria) that indicate that the industry from Layer 3 is akin to the early German Aurignacian or the Aurignacian I of France and marks a sharp technological break with the Middle Paleolithic of the area. He summarizes available data from East-Central Europe to contextualize these observations and suggests that different hominins were responsible for different contemporary as-

semblages, making interaction between Neanderthals and modern humans highly likely in the Middle Danube Valley. This is followed by Conard et al.'s contribution in which the transitional record of the Swabian Jura is examined. The authors underline that, in this region too, the Aurignacian is sharply distinct from the preceding Middle Paleolithic in terms of its lithic technology and typology, subsistence base, organic technology, evidence for symbolic behavior, and sheer occupational intensity. In fact, they argue that the Swabian Jura was most likely depopulated when modern humans bearing Aurignacian technology first entered it, implying there were no interactions between Neanderthals and modern humans in that region.

A set of five theoretically and methodologically diverse papers rounds out the volume. Chapter 16, by Giaccio and colleagues, proposes that the volcanic eruption responsible for depositing the Campanian Ignimbrite (CI) over large stretches of Eurasia was a major factor driving cultural and behavioral adaptations during the close of OIS 3 and in OIS 2. This is one of the most original contributions of the volume, drawing as it does from disciplines to which paleoanthropologists often pay lip service without integrating data from these disciplines fully within their research. While one may argue over some of the finer details presented in this paper, there is no doubt that recognition of the CI and its ecological impacts offers a new way of thinking about the transition. Interestingly, these authors also suggest that the Aurignacian did not mark a dramatic break from previous technocomplexes and indeed was one of the casualties of the CI eruption. This paper is followed by a chapter by Grayson and Delpuch in which they take Mellars to task for his continuing claim that the Aurignacian is distinguished from the Mousterian in part on the basis of clear evidence for specialized large-game hunting. A thorough and multifaceted analysis of data from over 200 faunal assemblages fails to find evidence for Mellars' claims about Aurignacian hunting specialization. In Chapter 18, Vaquero et al. review the available data from the Iberian peninsula and conclude that accumulating chronological, archaeological, and geographical data since the 'Ebro Frontier' model was first proposed indicate that the Aurignacian was present earlier than 30 kya in the lowlands of southern Iberia, while the latest Mousterian is found mainly in mountainous settings and may be older than generally thought. They thus suggest that the transition from one to the other in Iberia might be best understood as an example of range partitioning by hominins who were spread rather thinly on the landscape throughout that interval. This is followed by the contribution of Cabrera Valdès et al. who present new data from excavations at El Castillo and synthesize information from across Cantabria to argue that the passage from the Middle to the Upper Paleolithic was an indigenous development in that region. While they accept the idea that some modern human populations entered the area early in the Upper Paleolithic, the authors propose a scenario whereby these new contacts would have generated the development of new traditions and technologies grounded in the behavioral substrate of the indigenous Neanderthals. The book

closes with a provocative contribution by Bar-Yosef who argues that prevailing perceptions of modern human-Neanderthal interactions may have been unduly skewed by what he considers to be a mistaken belief that most blade-based transitional industries were made by Neanderthals. In his view, most of those—including most importantly the Châtelperronian—would have been manufactured by modern humans spreading westward from the Near East. Their presumed Neanderthal authorship is, according to Bar-Yosef, the result of postdepositional incorporation of Neanderthal remains into archaeological layers deposited by modern humans. Acculturation of Neanderthals by modern humans did, however, occur, as suggested by the existence of transitional industries containing leaf points.

Clearly, these papers present a wide range of rather disparate approaches to the concept of encounter between the two hominins. Overall, however, the authors seem more concerned with establishing whether there was chronological and geographical overlap than with how interaction actually worked. In other words, most papers address the issue of the *potential* for interaction rather than the *mechanisms* of interaction and their archaeological correlates. Indeed, several papers conclude that there was *no* apparent contact between the two populations. I found it curious that, in a volume dedicated explicitly to the issue of interaction between Neanderthals and modern humans, there appeared to be little concern about defining acculturation and how it might be tracked in the archaeological record of the transition interval. In fact, while archaeologists dealing with other time periods have given quite a bit of thought to the issue of the archaeological visibility of acculturation, there appears to remain in paleoanthropology a sense that acculturation is a commonsense notion that researchers can intuitively comprehend and easily detect archaeologically. However, even in more recent periods (including those for which ethnohistoric data are available) acculturation is a notion to that is rarely straightforward to define and track in the material record of past human groups (e.g., papers in Cusick 1998).

Despite this, several papers in the volume contribute to the growing awareness about the mechanics of acculturation in the Late Pleistocene (see also Tostevin 2007), which bodes very well indeed for contemporary Paleolithic research. In addition, most papers in the book admirably stress the importance of accounting for chronological and ecological variables in interpretations of Neanderthal-modern human encounters. As well, the large number of regional cases studies suggests that there might be a growing weariness over 'one size fits all' scenarios for the Middle-Upper Paleolithic transition operationalized at the continental scale, a development which I, for one, find heartening. *When Neanderthals and Modern Humans Met* therefore represents a timely ensemble of well-rounded studies that highlight critically some of the most salient issues, research questions, and methodological innovations that drive (and will continue to drive) contemporary paleoanthropology. As such, this volume constitutes essential reading for all researchers with a vested interest in the archaeology and phylogeny of Neanderthals and early Eurasian *Homo sapiens*.

#### REFERENCES

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