

Chapter 1 ('Archaeological History and Early Interpretations of La Quina') provides a critical review of work at the site by Dr Henri-Martin and subsequently that of his family in the early decades of the last century. The observational skills of Henri-Martin were crucial to the site becoming well known. He noted evidence of animal butchery, carnivore gnawing, and handedness of Neanderthals from dental wear. The chapter reproduces several old photographs and profile drawings which are useful in supporting the account of the different seasons of work. Generally, these illustrations are clear and well placed relative to the text they support. An American interest in the site began early, in 1912, when Charles Peabody visited. This visit led to the formation of a project that dug at the site for two seasons in 1921 and 1922. Material from La Quina can now be found in several museums around the world.

Chapter 2 is entitled 'The Development and Structure of the Cooperative Excavation Project'. It introduces and outlines the origins, aims and organization of the Cooperative Excavation Project, and reviews the stratigraphy of the site, comparing it with that described by earlier work. It compiles a refined stratigraphic, cultural and palaeoenvironmental sequence for the Mousterian layers of the site by focusing on the surviving section on the southwest face of Sector D. It does this by looking at the lithics, fauna, sediments and pollen and improves chronological understanding by using thermoluminescence, electron spin resonance and radiocarbon techniques. A series of useful illustrations of the site, the new work and images from the earlier profiles were also presented.

Chapter 3 presents the main questions to be explored through lithic analysis. It includes an investigation into raw material sources and outlines the metric attributes used for the statistical analysis. We learn that no obvious raw material sources were nearby but that the relatively sizeable collection of large flakes and *racloirs* chosen for specific study was distinctive. Lithic analysis was undertaken to explore correlations between typology, technology, changing conditions of environmental habitat and site structure. The patterns of variability that result from manufacture, use and reuse of artefacts were studied by depositional context.

Chapter 4, 'The Chronological and Palaeoenvironmental Setting of the Prehistoric Sequence at the Station Amont', unfortunately presents only a partial report of the geoarchaeology and environmental archaeology of the site. The title of the volume *Neandertal Lithic Industries...* is clearly justified as there is clearly more that could be produced on the environmental, depositional and ecological contexts of the site. Palaeoclimate is inferred from the large mammal fauna whilst the pollen record is attenuated in the lower beds and is inconsistent with the fauna record in the upper ones. An attempt is made to correlate the sequence with Combe Grenal using this and the ^{14}C and thermoluminescence dates, but such correlations are speculative, particularly when there are clear breaks in the sequences (Reynolds 1985). It is suggested, nonetheless, that Beds 8–6 could date between 44–42 kya but dates reported in an unpublished thesis suggest these could be 10 kya earlier. However, between pages 85–92 Jelinek generally does a sound job of environmental reconstruction in the light of this restricted data set. It is

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This volume is, according to its title, about the lithic industries at La Quina. It is actually more than this. Although it does present the industries, it places the study of them into a broader site- and research-context that makes this volume valuable for more than those solely interested in lithics. The book is based upon the work of the American–French Cooperative Excavation Project at La Quina which was undertaken between 1985–1996 exploring the already well-known site of La Quina in the Charente (France).

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important as it sets the background to interpretations of the lithic variability later.

Chapter 5 ('A Matter of Form: Typological Aspects of the Lithic Industries') begins with an excellent review of the significance of lithic variability. It is effective as it does not limit itself to Bordesian typology considering use life, purpose and chance as factors in deposition. The author is well placed to present this study having not only worked with Bordes, but also in Israel and on this project — so spanning many of the major developments in the study of lithic variability during in this time. The sequence at La Quina runs from 'classic Quina Mousterian' in the lower levels to more varied, but clearly Denticulate Mousterian, upper levels with one Bed (6d) being Mousterian of Acheulean Tradition (MAT) (type A). The analysis showed that the use of the broad Mousterian variants was appropriate and that all samples were similar. Broken pieces and flakes were also examined as these are excluded in the Bordes typology (1961). The study then explored the small flake typology. This showed more *racloir* retouch flakes and stepped retouch flakes in the lower part of the sequence and more denticulate and notch retouch flakes in the upper part. Bed 6d had biface reduction flakes.

In Chapter 6 ('A Matter of Quality and Quantity: Lithic Reduction Products and Materials at La Quina') Jelinek examines reduction in terms of size, raw material choices and morphology of reduction products. Specific questions exploring the use of raw materials are outlined and it is suggested that raw materials arrived on site as large flakes and were then reduced. Raw material sources at La Quina included small nodules from approximately one kilometre away. Larger materials came from further afield. The author observes a relationship in proportion between cortical area and overall mass that related to distance travelled to site.

In Chapter 7 ('A Matter of Time') we read of depositional and discard changes at the site through time. Discard is discussed and the author concludes that material derives from ledges in the cliffs above the 'site' as well as from down in the valley itself. Butchery and consumption take place at different times above the valley on ledges and, in the earlier part of the sequence, more often in the valley itself. Sometimes there is a mixture of the two. Reduction frequency is seen to increase from the base to the top of the lower deposits. The MTA of Bed 6d differs from the beds both above and below it and is distinctive — as might be expected.

In 'A Synthesis of the Prehistoric Sequence at La Quina' (Chapter 8) the sequence at the site is discussed bed by bed, starting with the oldest. The statistical tests in Chapters 5–7 show that there is relatively little change in many of the variables — both typological and technological. Jelinek assumes that similarities are due to consistent methods of lithic procurement, reduction and abandonment throughout the period of occupation. The layer-by-layer approach is very useful and introduces work by others such as Hardy (2004) on use-wear and residue analysis. The chapter also provides a useful artefact-by-artefact description, with pieces illustrated and/or photographed.

Chapter 9, 'In Perspective', places the work reported in *Neandertal Lithic Industries at La Quina* into the context of debate on Mousterian variability (summarized effectively in Mellars 1996). This debate is dated, but the *chaînes opératoires*

approach is noted and then dismissed. At La Quina there are three traditionally defined Mousterian industries: Quina, Denticulate and MAT. All share a background of notches, denticulates and disc core reduction products. So in reality there is a Denticulate variant (Quina) with lots of *racloir* reduction or a Denticulate (MAT) with biface reduction. It is assumed that the Quina Mousterian was for large game butchery at the base of high cliffs, with *raclairs* and large flakes introduced for this purpose and reused (we see double and triple patina); these were left and reused on subsequent visits. It is suggested that the locality was chosen as a geographical trap where the high cliff from which individuals or small numbers of prey could have been driven to their death. The twelve or so Neanderthal individuals represented in the deposits could be a result of the hazards of this type of hunting.

In the lower levels Neanderthals use large lithic resources as the reduced vegetation cover of late OIS-4 makes them more visible for reuse. It is suggested that thousands of butchery events could be represented and some may have supported small groups for several weeks.

Higher in the sequence, the Denticulate Mousterian starts in very cold conditions. These conditions become warmer and we also see clear signs of fire use. At this stage all occupation is in the small shelter on top of the colluvial slope. MTA type A (bifaces with tranchet sharpening of tips and broader use of raw materials) in Bed 6d is in a brief warm phase. This is the extreme material conservation and transport phase as vegetation is high and visibility of material low. The presence of bifaces on site may mean that they were being cached. The chronology suggested places Bed 8 at 53 kya (with Denticulate and slight Levallois presence, occasional *raclairs* and spheroids) MAT at 51 kya and the upper sequence after that at 51–49 kya as the climate cools. The author does not rule out Quina and Denticulate variants being contemporary but suggests that the MAT is a different population of Neanderthals with a highly specialized adaptation for conservation of lithic resources and a more generalized hunting strategy.

The final chapter (10: 'Epilogue') provides the author with an opportunity to suggest that we need to address artefact mass in greater detail and to give more attention to the morphological variability of small flakes. The associated CD of field data allows further tests of the conclusions reached here and greater exploration of the data. Jelinek gives a list of research that could be carried out. The future work needed includes sediment micromorphology and use of further limited scale excavations at the site.

Overall this is a valuable contribution to understanding Mousterian variability and Neanderthal behaviour in southwestern France. Although it is centred upon lithic variability, the discussion includes the planning, logistical organization and mobility of small Neanderthal groups around the site. The work is still well-rooted in the Mousterian variability debate but the interpretation of Neanderthals introducing large flakes and *raclairs* as sources for further reduction will also have resonance with recent studies of lithic variability in the less well-defined lithic assemblages of Southeast Asia (Brumm *et al.* 2006; Moore & Brumm 2007). There is mention of other work on residues, microfauna and

pollen that will add to this picture. The work is modest but effective in its ambition and provides a strong position from which to develop further studies.

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