

## Mode de Vie au Magdalénien: Apports de l'Archéozoologie / Zooarchaeological Insights into Magdalenian Lifeways

Sandrine Costamagno and Véronique Laroulandie (eds.)

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Early descriptions of the Magdalenian as *L'Age du Renne* provided a stereotype of a Tardiglacial European focus on reindeer that is still being debunked today. Costamagno and Laroulandie examined this issue by organizing a symposium at the XIVth UISPP Congress, held at the University of Liège, Belgium, from 2-8 September 2001, entitled *Mode de vie au Magdalénien: apports de l'Archéozoologie*. In 2003, they edited a volume of the same name (subtitled in English as *Zooarchaeological Insights into Magdalenian Lifeways*). The volume contains 11 papers, plus an introduction by Costamagno and Laroulandie. These papers focus tightly on the exploitation of animals found in Magdalenian archaeological assemblages, which were deposited between ca. 17,000 to 11,000 BP. However, the strength of the papers, and thereby the value of the volume, lies in their synthetic nature. Almost all of the papers bring together multiple assemblages from either a continental or regional scale. They cover western and central Europe, Germany, Switzerland, northern Spain, southern France, and the Paris Basin. This comparative approach is critical for understanding this dynamic period and human prehistory in general, and it increases the volume's value, not in the least because of the extensive bibliographies contained within it.

The volume addresses the relationship between Magdalenian people and the animal community with multiple lines of research. First, were they specialized reindeer hunters? Second, how did they exploit large game resources, including seasonal usage? And third, what was the role of small game in their economies?

The issue of specialization is a consistent theme in Magdalenian studies. Specialization in the exploitation of a specific animal has been defined in two ways (as in Costamagno). First, it has been defined as the simple dominance of one species in an assemblage, usually above 80% (or even 90%). Alternatively, it involves large communal hunting, usually assumed to be for seasonal stocking for storage. In sum, the volume refutes the hypothesis that Magdalenian people were specialized reindeer hunters. Costamagno provides the most comprehensive summary. Only 26.8% of 118 assemblages from southern France contain more than 80% of one species. Comparative data sets from throughout Europe (Turner), Germany (Gaudzinski and Street), Switzerland (Chaix), and the Paris Basin (Bridault et al.) support this conclusion. These results indicate that Magdalenian people were living within local environmental, climatic, topographic, seasonal and animal behavioral constraints. Species choice does not seem to reflect an ultra-

specialized economy; instead, it reflects species availability in a particular location or season.

Interestingly, the volume highlights current research showing that when assemblages are dominated by one species, many times it is by horse and not by reindeer (Bridault et al.; Turner). It appears that in many places, Magdalenian people focused on reindeer in the autumn, when the reindeer were in their best condition, and they hunted horses throughout the year (Bridault et al.; Enloe; Gaudzinski and Street). As Enloe documents in the reindeer dominated assemblages from Pincevent and Verberie in the Paris Basin, when reindeer were hunted, they were regularly taken during the fall migration. He proposes that the consistency in seasonal hunting and carcass processing indicates the strategic exploitation of reindeer for storage to survive the winter season. Enloe notes, however, that this may be a human adaptation specific to the Paris Basin, and Magdalenian people living elsewhere may not have targeted this resource in the same way. In a complementary study, Bridault et al. examine the exploitation of horses in the Paris Basin. Horses were hunted during all seasons of the year, and all ages (and therefore social groups) of horses were taken. She concludes that horse hunting became especially important at the end of the Magdalenian, while the climate was unstable and warming, reducing the availability of reindeer. Turner supports the non-selective nature of horse hunting with a more geographically diverse sample and by developing a method for reconstructing mortality profiles. Her analysis also documents consistent skinning, removal of gingival tissue, evisceration, carcass dismemberment, disarticulation, filleting, tendon and sinew removal, and marrow extraction. Costamagno's study shows similar results for reindeer, and it also reveals that the exploitation of grease from spongy bone (by boiling technology) and that the use of bone as fuel remain poorly documented. Corchón Rodríguez and Mateos Cachorro's paper reminds us that Magdalenian people could not have depended only on reindeer, because their range extends into Spain where reindeer were not available. Here, Magdalenian people hunted red deer and chamois.

Until recently, most zooarchaeological studies focused exclusively on large game resources. Fortunately, small animals are gaining attention and are subject to analyses similar to larger game. The Costamagno and Laroulandie volume contains three papers that focus exclusively on small game: arctic hare (Fontana), fish (Gall), and birds (Laroulandie). These papers highlight not only the dietary importance

of the taxa involved, but also the role these species may have played in other aspects of Magdalenian life. However, questions still remain about the complex technologies and hunting methods that were probably involved in capturing these small and fast game.

Fontana shows that Magdalenian people butchered and dismembered hares. They possibly boiled the meat and/or bones, and only occasionally broke the bones to exploit marrow. She uses the lack of intense processing and the absence of particular skeletal elements in an assemblage from the eastern France Pyrénées to argue for intensive fur exploitation, and possibly trade. Laroulandie provides a synthesis of bird exploitation from southern France. The Magdalenian provides the oldest, clearest evidence of regular flying bird hunting and consumption, as indicated by the consistent appearance of certain species (primarily ptarmigans), butchery marks, disarticulation cut-marks and breakage, burnt bones, and the skeletal elements present. However, there are some indications that birds were exploited for non-nutritional reasons as well. Magdalenian sites have yielded bird-bone tubes that are probably flutes, and Laroulandie also argues that owls were processed for their feathers. Gall documents that while fish were exploited throughout the Magdalenian, Upper Magdalenian people intensified their exploitation of fish, especially in the Atlantic Basin. Harpoons first appeared about 13,000 years ago, along with numerous assemblages that appear to be remnants of fish processing sites. In addition, salmon begin to feature prominently in Magdalenian art. Other authors touch on the presence of animals in various forms of Magdalenian art, suggestive of the close relationship Magdalenian people had with the animal community around them.

In all of these studies, it is critical to reconstruct the local animal community to separate local prey availability from human choice. Few of the authors present independent evidence, such as from plants or micromammals. They prefer to sample widely as a way to control for environmental variation. Kozdeba attempts to examine how competition for resources may have influenced red deer and reindeer niche partitioning in their shared geographical and biotopic areas. She examines the size variation in diverse samples from the Magdalenian throughout Central and Eastern Europe, expecting larger differences in body size when the

two species co-existed. However, this was not the case, so and further research is needed to clarify the issue.

Synchronically, there is much work that can be done on landscape use and seasonal movements, as suggested by work in northern Spain (Corchón Rodríguez and Mateos Cachorro). On a diachronic scale, a few authors hint at intensification during the Magdalenian and responses to the climatic instability and general warming that occurred. The Magdalenian stands as a bridge between the Late Pleistocene and Early Upper Paleolithic on the one hand and the Holocene and Epi-Paleolithic on the other. How did people respond to the climatic instability? Were human population densities increasing during this time? How did the people intensify? Were their seasonal movements and landscape use affected? How was lithic technology and raw material procurement affected? Were the animal communities affected by increased exploitation? To investigate these questions, a more detailed and consistent chronology for the Magdalenian is needed, but the volume sets a solid basis for future research.

One of the greatest strengths of this volume is the authors' attempt to compile many datasets and assemblages together to look for more general patterns. However, in their attempts to do this, some limitations of zooarchaeology are revealed. Multiple authors expressed dismay at the lack of detailed zooarchaeological analyses that could be fruitfully included in their study. Detailed zooarchaeological data have not been collected on many older assemblages, and Laroulandie raises the issue that we cannot know about the exploitation of small birds in these assemblages because they usually were not screened sufficiently to capture tiny bones. However, my reading of the volume also noted the variable ways in which modern zooarchaeologists present their data, making future comparisons difficult as well.

Costamagno and Laroulandie's volume is a significant contribution to Magdalenian studies. The authors discuss many aspects of the primary research topics zooarchaeologists can address for this dynamic time period, and they provide invaluable resources for comparative work. All zooarchaeologists will find useful information for their future studies here.