Fifth International Conference "L'Homme et l'Animal" of the Société de Recherche Interdisciplinaire, Juan-les-Pins, Antibes, 15th-17th October 1992.

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The relationship between humans and animals is a subject of interest in many disciplines, ranging from history, philology, archaeology and ethnography to philosophy, industry as well as nature conservation. This wide-ranging interest was amply demonstrated at the fifth international conference of the interdisciplinary research association "L'Homme et l'Animal", which was held in Juan-les-Pins, Antibes, France, from the 15th-17th October, 1992. The theme of this year's conference focused on the exploitation of wild animals through time. A total of 37 papers were delivered, one ethnographic film projected and eight posters exhibited. The conference was attended by over 100 participants (including speakers) from Europe, Israel, the United States and Canada. The talks were delivered consecutively and the posters were reviewed during intermissions. Unfortunately, the following review does not provide an exhaustive discussion of all presentations, due to limitations of space.

The first day was devoted almost entirely to the Palaeolithic period. Traditional theories of subsistence and change were challenged by many researchers using faunal data from sites located mainly in France. The theory of unilinear change in hunting strategies from diversification to specialisation was rejected. The coexistence of diversified and specialised subsistence strategies was suggested and the potential distinction between assemblages of bones from hunting, scavenging and butchering activities demonstrated. The complexities of subsistence data from the Early to Late Palaeolithic were discussed and the difficulties and potential of zooarchaeological interpretation emphasised (see M. Patou-Mathis, Les différents modes de subsistence au Paléolithique and F. David and J. G. Enloe, L'exploitation des animaux sauvages de la fin du Paléolithique moyen au Magdalénien). The talk by F. Delpech and P. Villa (Chasse et activités de boucherie au Magdalénien: les bouquetins de la grotte des Eglises, Ussat, Ariège) showed a need for detailed taphonomic studies in order to improve our understanding and recognition of variation in element distribution and butchering processes. Problems of taphonomy were also presented in the poster by G. K. Hofmeijer, M. Sanges and P. Sondaar which dealt with the curious modification of fossil deer mandibles and teeth excavated from Upper Pleistocene levels in Corbeddu cave, Sardinia, Interpretation of the particular wear on the teeth of Megaloceros is controversial as indicated by the title of the research - Stones as food or teeth as tools. Post-mortem damage of the lower dentition of Megaloceros cazioti.

The role of wild animals during the Neolithic period also appears to have been more variable than has been traditionally accepted. This was well illustrated by B. Wilkens (La chasse au Néolithique et à l'Age du Bronze) who described faunal assemblages from many Neolithic sites in central and southern Italy. Her results indicate that the transition from the Mesolithic to the Neolithic in terms of subsistence strategies is not clear cut and that changes occurred at different rates in different areas. In fact, on some sites hunting appears to have continued as an important subsistence activity from the Neolithic to the Bronze Age. The variability of subsistence during the post-Neolithic was depicted by L. Peske in his talk on zooarchaeological material from Czech sites of the La Tène period (Hunting specialisation during the La Tène D Period). The site of Pozaha is particularly interesting in that it yielded a high percentage of wild animal remains and young domestic ovicaprids, suggesting that meat procurement through hunting and animal husbandry, rather than agriculture, was the main subsistence activity. The importance of wild animals also seems to have varied within and between Near Eastern sites. The data summarised by C. Cavallo (The role of hunting at Tell Sabi Abyad, a late Neolithic settlement in northern Syria) indicates a change in the importance of hunting through time (5300-5000 b.c.). S. Bökönyi compared the data from two sites, Arslantepe, Anatolia, and Kamid-el-Loz, Bekaa Valley, Lebanon (Chalcolithic to Neo-Hittite). The evidence for hunting was integrated with the data for animal husbandry, cultual aspects and socio-economic status. While meat procurement from domestic and wild animals appears to have been the main objective at Arslantepe, successful stock keeping at Kamid-el-Loz might have resulted in a change in the importance and status of wild animals (appropriation of hunting rights by the elite, role of some wild species in religious practices).

A few papers tackled the problem of ibex exploitation. Although the model for prehistoric highland Alpine subsistence stresses the hunting of wild goat as a main subsistence resource, little faunal data has been recovered to support this hypothesis. Data recovered for sites located up to 1500 m and at altitudes of 2500 m do not provide good supporting evidence for the model (L. Chaix and M. Sidi Maamar, La chasse au Néolithique dans les Alpes du Nord, Valais-Italie du Nord-Savoie: des données archéozoologiques aux modélisations archéologiques and F. Fedele).

A popular theme within the conference was that of the symbolism inherent in wild animals and hunting. This topic was approached in different ways, by considering the symbolism of attachment to a territory, individual prestige, deliberate keeping of animals in a wild state, and the modern practice and ritual of hunting in northern France. J. D. Vigne discussed the potential for domestication of red deer and the reasons for which it was not undertaken, concluding that in historic periods (in contrast to Neolithic activity), this species was deliberately kept in a wild state in order to maintain its symbolic and later prestige value (Appropriation cynégétique ou élevage. Histoire d'un choix socio-culturel depuis le Néolithique. Le cas des cervidés). Anne Tresset suggested that wild animals, in particular red deer which is a very territorial animal, may have served as a symbolic anchor to a particular territory during the initial phases of animal domestication (Le rôle de la chasse dans l'évolution des cultures néolithiques: l'exemple de la vallée de la 'Petite Seine', France). The difficulty of differentiating between utilitarian and symbolic activities was indicated in the talk by E. Vila-Meyer on auroch horncores (A propos de vestiges de chevilles osseuses d'aurochs retrouvées à Tell Chuera, Bronze Ancien, Syrie: un exemple de chasse a vocation non alimentaire). The location and size of the remains suggests that the aurochs were hunted for their symbolic value rather than for meat, however this conclusion was contested as both explanations are equally plausible. Ethnologist B. Hell presented his film of deer hunting and the training of young hunters in modern day Picardy. This study and his later talk (Le culte du trophée: continuité et discontinuité de la trame symbolique des systèmes cynégétiques en Europe occidentale) provoked much discussion. One interesting aspect of present day hunting is the element of ritual still involved in this activity.

There was a marked enthusiasm for unusual subjects. These included the discussion of marine mammals such as the dugong and manatee by C. Guerin, A. Prieur and M. Raimbault (L'exploitation des Siréniens à travers le temps). This paper focused on the excavation of prehistoric manatee remains in the southeastern Arabian Gulf (Umm al Quaiwain; VII-VI millennium B.C.) as well as present day exploitation methods in the same area. New fossil evidence for the presence of manatee in the Niger Delta during the Neolithic was also discussed. The medicinal aspect of wild faunas in antiquity was humorously presented by F. Bourdy (Utilisation des produits d'animaux sauvages dans la thérapeutique humaine et vétérinaire dans l'Antiquité romaine et tardive). The presentation by I. Coste on the use of grey 'amber' (kidney stone) of the whale species Physeter macrocephalus, in the modern perfume industry, received a very enthusiastic response from the audience (L'exploitation de l'ambre gris du cachalot). It was detailed and humorous and delivered an important ecological message about the over exploitation of animal resources in the 20th century. The discussion was followed by an eagerly attended 'amber' extract smelling session. Similarly the poster presented by C. Couloumy on the Golden eagle in the French National Park "Parc des Ecrins" was much appreciated (Exploitation de l'Aigle royal, Aquila chrysaetos). Past uses and current status of this species were illustrated and a plea for it's conservation was made.

Specific adaptation to difficult environments was depicted in the talk by C. Lefèvre who discussed exploitation of wild birds in insular conditions (Prédation des oiseaux en milieu insulaire: exemples d'exploitation de l'avifaune en Patagonie australe, aux iles Aléoutiennes et dans l'Atlantique du nord

A few papers and posters dealt with method and techniques, for example the study by J. P. Brugal and F. David of bovid tooth crown heights and mortality curves (Présentation d'usures dentaires, courbes de mortalité et saisonnalité: exemples chez les grands Bovidés). N. Benecke discussed pig domestication and the methods used to distinguish wild and domestic forms of swine (The exploitation of Sus scrofa, Linne, 1758, on the Krim Peninsula and in southern Scandinavia in the Early and Middle Holocene. Two regions, two strategies). Problems include sample size, interbreeding between wild and domestic animals and the recognition of intermediate forms. J. Desse and N. Desse-Berset presented data on fish size and exploitation levels (Pêche et surpêche: le témoignage des os; see also N. Desse-Berset, Contenus d'amphores et surpêche: l'exemple du Sud Perduto). Their results indicate a decrease in fish size from antiquity to the present day, however the lack of growth models for modern fauna inhibit a better understanding of osteometric change. W. Van Neer, S. Augustynen and T. Lindowski used otolith growth rings to determine capture strategies in prehistoric Egypt (Seasonality of fishing during the Late Palaeolithic in Egypt. Evidence from daily growth rings of tilapia otoliths).

A range of papers focused on the combination of historical and archaeological data. These included material from the Near East and Europe. L. Moulinier described the precious and highly detailed medieval zoological treatise by 12th century Hildegard of Bingen on freshwater fishes of the Rhine (Vie des poissons et vie du cloître un aspect de la zoologie de Hildegarde de Bingen). In the Christian faith, fish symbolise purity and in religious communities they constituted an important replacement for meat. She pointed out an exception to this symbolism: during the medieval period eels were equated with swine and hence they were considered an impure species. The importance of fish in religious contexts was also indicated by the zooarchaeological remains recovered from the 16th century ecclesiastical centre at Orléans, discussed by M.C. Marinval-Vigne (Consommation d'animaux sauvages en milieu écclésiastique à Orléans au 16è siècle, France). Data presented by J.H.Yvinec (La part du gibier au haut Moyen Age en France) and P. Baker (Exploitation de la faune sauvage en Italie septentrionale pendant le haut Moyen Age: comparaison des sources zooarchéologiques et historiques) indicate the discrepancy between historical and zooarchaeological data concerning the importance of hunting in Early Medieval subsistence systems in France and Italy. While the data presented by Yvinec focused on the diachronic change in dietary and social importance of wild fauna, the study presented by Baker focused on the synchronic discrepancies between syntheses of faunal and textual data. Although historical texts suggest that hunting played an important role in Early Medieval subsistence of all social classes, the zooarchaeological data indicates a minor role for these resources as dietary components, with some variation between sites. One problem encountered in the study of Early Medieval subsistence systems is the lack of comparative material for the Roman period in both Italy and France.

Syntheses of large quantities of data from the historical period in eastern Europe also indicated the problems of data interpretation due to inadequate recovery techniques. This was stated in the papers by M. Udrescu (La chasse chez les Géto-Daces (Ilè-Ier siecles av. J.C.) du sud-est de la Roumanie), M. Teichert (Hunting and fishing by the Germanics in the Roman Age). Although recovery techniques were hardly mentioned in papers focusing on prehistoric periods, this seems to be an important and as yet unresolved source of bias in European sites of Roman and post Roman age.

Papers of a purely theoretical nature were few. E. Tchernov's discussion of energy transfers and game size (*The effects of sedentism on the exploitation of the environment*) represents the exception. F. Poplin closed the conference with a philosophical discourse on the relationship between the realm

of the 'wild' and that of the 'domesticate' (Quel' homme cultive aussi bien le sauvage que le domestique). He notes that the symbolism of wild animals lies in their opposition to domesticated animals, this confrontation reinforcing the existence and significance of each.

The papers and posters presented at this conference indicate the wide ranging interest in human-animal relationships and the various methods of study and approaches. The presentations also revealed the complexity of a subject such as the "Exploitation of wild animals through time" and the potential of interdisciplinary meetings to stimulate much thought and debate between researchers from a vast array of backgrounds. The exchange which took place at this conference will surely lead to the elaboration of new research ideas and projects. We will likely hear some of these at the sixth international conference of "L'Homme et l'Animal".