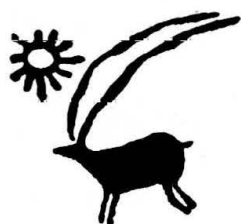


35 years of Archaeozoology in Spain: A critical review

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ABSTRACT: The present contribution provides a cursory review of archaeozoological research in Spain since 1963, when Jesús Altuna's study on the faunas from Aitzbitarte IV mark the start of this discipline in the country, until 1998 when the last ICAZ conference was held in Victoria (Canada). The focus is laid on historical constraints, conceptual developments and the future development of the field from a personal experience of nearly thirty years of involvement.

KEY WORDS: SPAIN, ARCHAEOZOOLOGY, ARCHAEOLOGY, HISTORY

RESUMEN: En el presente trabajo se ofrece una sucinta panorámica de la investigación arqueozoológica en España desde 1963, año en el que el estudio de Jesús Altuna sobre las faunas de Aitzbitarte IV marca el inicio de esta disciplina en el país, hasta 1998 fecha del último congreso del ICAZ en Victoria (Canadá). En el mismo, se ha puesto énfasis en las limitantes históricas, el devenir conceptual y el futuro desarrollo de esta ciencia a partir de una experiencia personal que se extiende sobre casi treinta años.

PALABRAS CLAVE: ESPAÑA, ARQUEOZOLOGÍA, ARQUEOLOGÍA, HISTORIA

INTRODUCTION: AN ERRONEOUS CONCEPTUAL FRAMEWORK AND ITS BEARING ON THE BIRTH OF SPANISH ARCHAEOZOOLOGY

As has been the case with so many other scientific disciplines, Spanish archaeology has systematically suffered from a lack of resources and infrastructure which explain, to a large extent, not only its limited success in terms of achievements but also the local (i.e., Iberian) sphere to which it has traditionally remained. One drawback which has been as detrimental as the limited funds has to do with its conceptual content. Archaeology in Spain is a humanity and, as such, is taught within a framework of history, art and languages. The result has been that students interested in other fields

have been either forced to move to other departments and/or countries or have had to pursue such interests on a strictly personal basis. A second problem, of apparently trivial nature, has to do with a formal, bureaucratically-oriented, division of the discipline in two separate fields: prehistory, dealing with the archaeological record until fully historical times, and archaeology *sensu stricto* dealing with that same record during classical and medieval times.

As a subdiscipline of archaeology within the realm of the natural sciences, archaeozoology has suffered both from such conceptual and budgetary constraints to the extent that it would actually be impossible to understand the peculiarities of its birth and development in Spain without taking those into account.

What follows is a necessarily personal perspective on some general aspects of Spanish archaeozoology with emphasis laid on general trends as evidenced by various surveys of the literature.

THE BIRTH

Although it would come as a surprise to many to learn that papers dealing with faunas from Spanish archaeological sites started appearing in the last two decades of the nineteenth century (Harlé 1881, 1882), it is not until close to a century later that a Spanish archaeologist (i.e., a "prehistorian" in the previously given restricted definition of the term) turns to fauna as the main focus of its research (Estévez, 1975). The original papers on Spanish archaeofaunas, as well as most of those made during the first half of this century, were made by foreign scholars who had, from time to time, shifted their research to the Iberian peninsula, that great incognita of European archaeology until the last half century (Harle, 1908a, 1908b, 1920; Wernert, 1956). Still, this research effort was sparse, discontinuous in time and space and had only a peripheral archaeozoological connotation. This was due to the fact that, as was the case with most archaeofaunal collections until 1950, its main focus was laid upon animal remains as chronoindicators and/or bioindicators, not as evidence of subsistence strategies.

It is precisely for these last two reasons that in Spain, as elsewhere in Europe, there has existed a long tradition for paleontologists to take up the study of archaeological faunas (eg., Bataller, 1918, 1952, 1953; Cazurro, 1919; Laborde & Elósegui, 1946; Crusafont & Thomas, 1950; Villalta 1962, 1974; Villalta & Thomas, 1974). Such tradition seems only natural as there is no absolute chronological border between Quaternary paleontology and archaeozoology. The trend, nevertheless, exemplifies the close collaboration which has existed between 'prehistorians' and paleontologists in the country. As a matter of fact, prehistorians, due to the restricted nature of their archaeological record, have fostered such collaboration whether through paleontologists or archaeozoologists and it is probably no coincidence that it was Jesus Altuna, a Quaternary paleontologist who had worked in close association with prehistorians for years, who was the first Spanish scholar to shift to

archaeozoology thirty five years ago (Altuna, 1963).

Another group of scholars who has traditionally dealt with archaeological faunas in Central Europe has been that of veterinarians. The veterinarian tradition probably owes its importance to the fact that paleontologists did not harbour reference collections of domesticated animals and it was precisely these which most often turned up at archaeological sites. The veterinarian influence on Spanish archaeozoology has been very scarce at the level of Spaniards (e.g., Martín-Roldán, 1959) yet extremely important for two reasons:

a) Starting in the late sixties, scholars from the Institut für Paleoanatomie, Domestikationsforschung und Geschichte der Tiermedizin in Munich, in conjunction with the Spanish branch of the DAI (Deutsches Archaeologisches Institut), developed an intensive program of research which, although losing impetus during the eighties, lasts to this day. It is these people, in particular the late Prof. Dr. J. Boessneck and A. von den Driesch, who laid the basics of archaeological faunas for large regions of the Iberian peninsula. It is also they who first stressed to Spanish archaeologists the need for a systematic retrieval and analysis of animal remains (Boessneck, 1969; Driesch, 1972).

b) Many of the people who later turned into archaeozoologists in Spain, have done so with the help of the veterinarians from Munich. This includes not only Morales and most of his students but also Altuna's and others scattered throughout the peninsula.

From its inception, then, Spanish archaeozoology has had a strong anatomical/biological bias whose effects last to this day and which, coupled with the conceptual shortcomings of Spanish archaeology (*sensu lato*), have often resulted in a prolonged love-hate affair not only with archaeologists in general but also with archaeozoologists with upbringings outside the realm of the natural and applied sciences.

THE GROWTH OF SPANISH ARCHAEOZOOLOGY

At a most general level of analysis, it seems appropriate to label as highly idiosyncratic the development of archaeozoology in Spain (Figure 1). By this, we mean that such development was

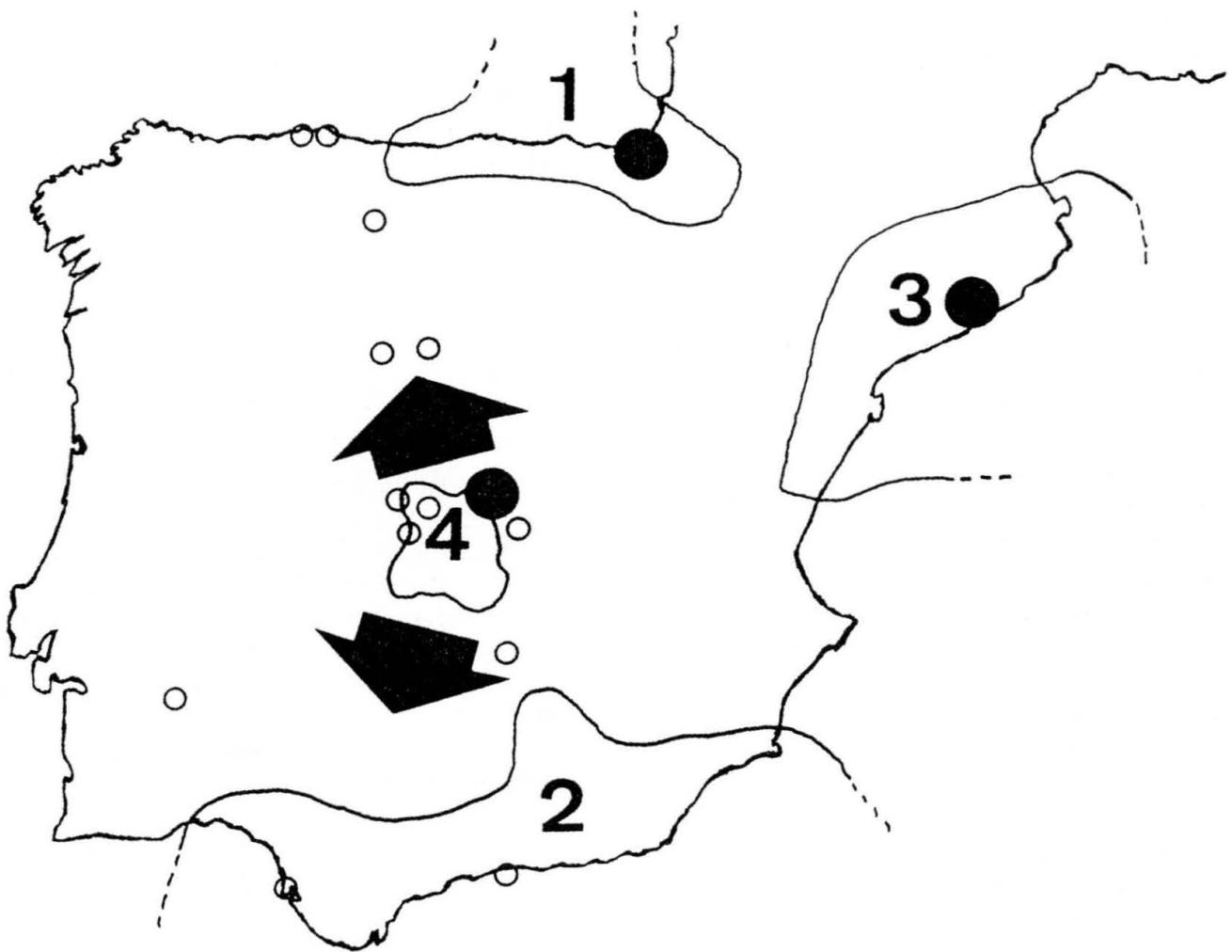


FIGURE 1

Map of the Iberian Peninsula indicating the areas of activity of the main groups of Spanish archaeozoologists (1 = Altuna; 2 = Germans from the University of Munich; 3 = Estévez; 4 = Morales) and the location of the main research centers (full circles). The arrows in the case of Morales indicate the areas of expansion of the people from the Laboratorio de Arqueozoología in Madrid and the open circles indicate the most relevant sites studied by this group.

not only a highly individualistic (vs. institutional) effort, but also that the training and personal interests of the initiators of the various groups have been essentially inherited by the students which these scholars managed to promote.

In this way, the group of Altuna has always retained its marked paleontological character in methodological approach and an interest for Quaternary faunas, mainly mammals, which lasts to this day (Altuna, 1963, 1966, 1972; Mariezkurrena, 1983a; Pemán, 1984; Castaños, 1987a, 1988; Elorza, 1990). Similarly, their geographical scope concentrated on the Basque country although neighboring areas towards both the west (Altuna, 1971, 1973a, 1986; Castaños, 1980, 1982a) and

the south of it (Altuna, 1973b, 1973c, 1974, 1978a; Castaños, 1982b, 1983a, 1983b, 1983c, 1986; Mariezkurrena, 1985) have been similar objects of study. This group has contributed papers of a strictly methodological nature (Altuna, 1973d, 1978b; Altuna & Mariezkurrena, 1983; Mariezkurrena, 1983b; Castaños, 1984) and, starting in the eighties, evidences a shift from strictly Quaternary mammals to domesticated ones (Altuna, 1980, 1983a; Altuna & Mariezkurrena, 1986). This eventually led to a shift from biological/chronostratigraphical questions to those dealing with subsistence analysis (Straus *et al.*, 1980; Mariezkurrena & Altuna, 1984; Altuna, 1986; Castaños, 1987b). Finally, since their geographical area of interest is

full of Paleolithic cave paintings, a number of papers have dealt with the study and interpretation of such findings in the context of animal remains found at each site (Altuna & Barandiarán, 1969; Altuna & Apellaniz, 1976; Altuna, 1983b). Such studies have been followed by others on faunas from burial sites which could similarly qualify within the realm of ideational analysis (Altuna *et al.*, 1984; Mariezkurrena, 1987; Elorza, 1989).

Of a more restricted methodological scope has been the contribution of the second group of archaeozoologists working in Spain, that of the Munich school. Their's was, however, an effort directed to satisfy a long-felt need of German archaeologists, for which no Spanish specialist seemed interested. Thus, although the methodological contributions of this group have had long-lasting effects throughout the world (Boessneck *et al.*, 1962; Driesch, 1976) most of the papers and monographs on Iberian faunas concentrated on providing detailed morpho-biometrical and biological analyses on extensive faunal collections from relevant sites throughout the peninsula (eg., Cerro de la Virgen, Driesch, 1972; Zambujal, Driesch & Boessneck, 1976; Motillas del Azuer y Los Palacios, Driesch & Boessneck, 1980; Cueva de Nerja, Boessneck & Driesch, 1980; Los Millares, Peters & Driesch, 1990; etc.). Their intention, as that of Altuna and their group, was to provide a basic *corpus* of data on which later theoretical work could be grounded. No data, no hypothesis, they argued. Such an honest, though often naive, attitude led to their labeling as the "Tierknochenfunde" people (literally, "the animal remain finds") in Spanish archaeological circles and to a criticism of their overly positivist approach. Their data, however, have been systematically taken by later scholars to formulate hypotheses (eg., Lull, 1984; Harrison & Moreno, 1984) which do not stand rigorous critical analysis (Morales, 1990a, 1990b).

The third group of archaeozoologists to appear in Spain was that of Jordi Estévez from the Universitat Autònoma de Barcelona. This was, as previously stated, the first time that a Spanish archaeologist took a serious interest in fauna with all the theoretical and conceptual implications such decision brings along. Estévez is, nevertheless, an inheritor of a paleontological current in Catalonia as exemplified by the school of Sabadell and his Ph.D. (Estévez, 1979) is an elaboration from the archaeological standpoint of previous contributions on the Pleistocene faunas from Catalonia made by Bataller (1918) and Villalta (1962). As

with Altuna's group, his geographical area of interest was local, concentrating on Catalonia and later extending towards the south (Valencia) and the east (Balearic islands) (Estévez, 1980a, 1980-1984, 1980b, 1980c, 1980d, 1987, 1988). From the start of his academic life, Estévez has been rightly concerned with the role that Spanish archaeology had to play in archaeozoology, being at times very critical with archaeozoologists of non-archaeological upbringing (Estévez, 1984). His theoretical framework has always been extensive but, at times, also rather naive in that it does not seem to take into account the historical constraints leading to the birth of archaeozoology in Spain (Estévez, 1977-78, 1983-84, 1991, 1995). One of the main areas of concern of Estévez and later members of this group has been that of taphonomy, in particular the analysis of butchering marks on animal bones (Davidson & Estévez, 1985). From such studies followed a series of analyses of subsistence strategies during Paleolithic times (Estévez, 1980e; Martínez, 1996, 1997) which lasts to this day.

The last of the "classical" groups of archaeozoologists in Spain is that of Morales in Madrid. An American zoologist by training, Morales became involved in archaeozoology in Copenhagen and, later, in Munich. Both training areas resulted in an emphasis on biological questions, which, added to the conviction of the poor qualitative and quantitative nature of the Spanish archaeozoological record and to the general disregard of animal remains on the part on most excavators, prompted an intensive program of research which not only included a survey of regions outside the interest of the previous groups but, above all, the creation of a wide group of researchers, with different upbringings, and different fields of interest. In addition, Morales was also determined to create solid research facilities and to have their affiliates travel to other research centers to complete their education and training. In retrospect, this now 23 years old effort has paid dividends for not only the sheer magnitude of its reference collections and library but, above all, for the number of sites analyzed (close to 100) and of papers published (more than 200). The Laboratorio de Arqueozoología now features 5 permanent researchers plus some extra 10 on a contract/freelance basis (half of them biologists, half archaeologists). Since 1992 the LAZ publishes ARCHAEOFAUNA, the only non-profit journal in the field. A side effect of such dynamism, however, is that, in conceptual and metho-

dological terms, the LAZ has still a long way to go being, by no means, at the level one would expect it to be on the basis of its gross output.

The list of researchers and research groups in Spain does not stop here for, among other things, Manuel Pérez Ripoll, an archaeologist with a long interest in taphonomical questions (Pérez, 1991, 1992) is setting up a promising laboratory of archaeozoology at the Universitat de Valencia and several other archaeologists, often also with a deep feeling for taphonomical questions (eg. Díez, 1985, 1992; Blasco, 1992; Domínguez-Rodrigo, 1994a, 1994b; Riquelme, 1994; Quesada, 1997a, 1997b) are starting to get permanent positions at various universities. To these one should add many other scholars, in particular I. Davidson, T. Legge, P. Rowley-Conwy from England and L. Freeman, R. Klein, G. Clark and L. Guy-Straus, from the US who have done archaeozoological work along the coastal regions of the Iberian peninsula (Americans concentrating in the Cantabrian fringe and

Britons spreading over Portugal, NW Spain and the Levant). As we will see later, although most of this research has been more sporadic and limited in scope, its impact on the international sphere far surpasses that of the work of all other Spanish archaeozoologists combined.

TRENDS: GROSS OUTPUT

Although the present overview is necessarily biased in that it not only does not pretend to be comprehensive (i.e., the number of publications is far too extensive to compile for a paper of this necessarily restricted nature) but it also acknowledges the fact that a great deal of the research done on Spanish archaeofaunas never gets published (only the LAZ features close to 150 interim reports) Irregardless, some quantitative aspects seem evident (Figure 2). In strict terms of gross

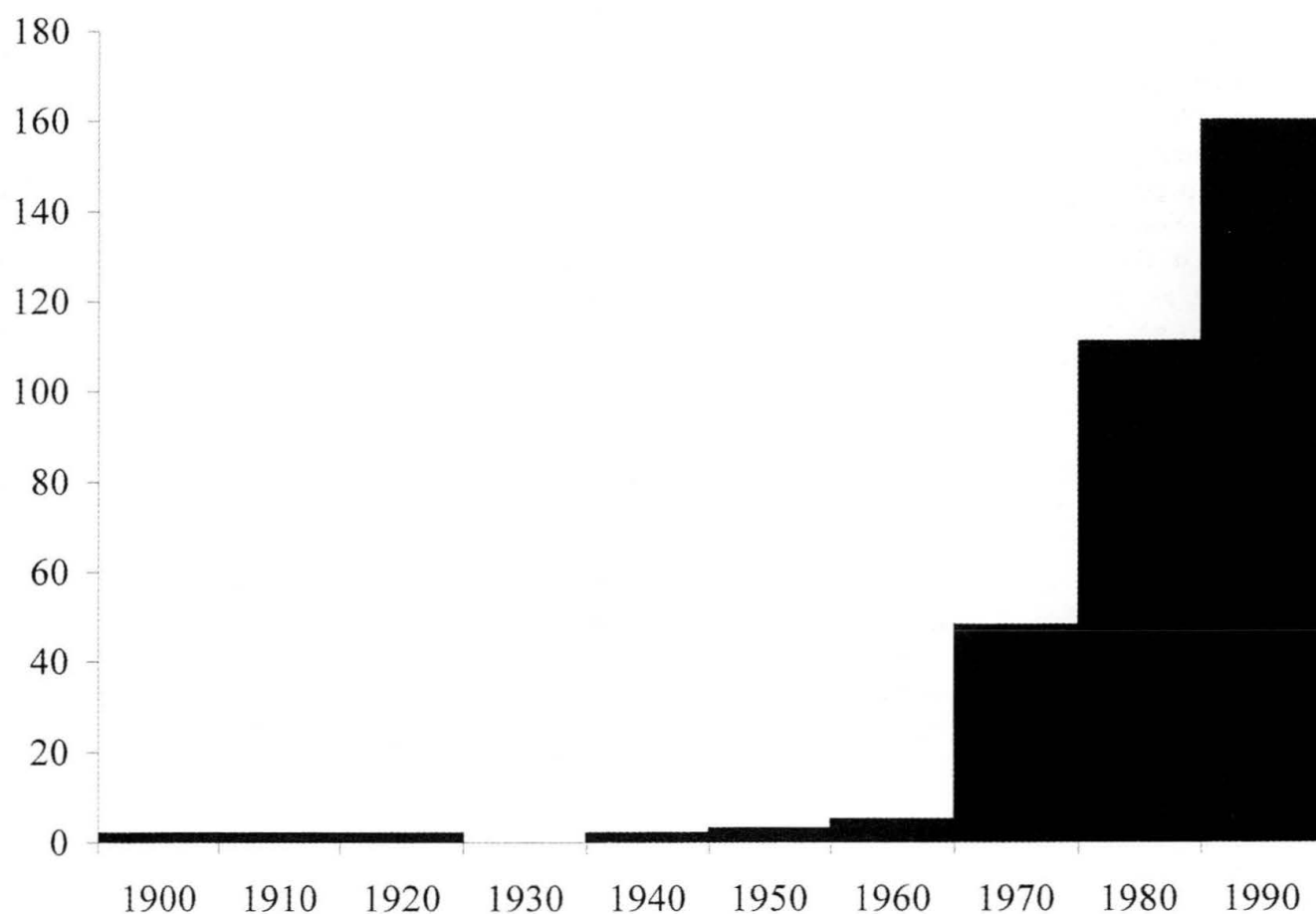


FIGURE 2

The quantitative output of Spanish archaeozoological publications during this century (numbers approximative only)

output, the birth of Spanish archaeozoology is coincident with the publication of the first paper by Altuna (1963). Still, the incremental growth is remarkable during the last two and a half decades, with the output of the seventies one order of magnitude higher than that of the sixties and that of the eighties more than doubling the one of the previous decade.

This trend, which at present reaches outputs equivalent to that of other developed countries for the first time in history, seems to be a general feature of Spanish society and economy in general and of Spanish science in particular but is, to no small extent, equivocal in that it overlooks the fact that those other nations have maintained that same production for decades. If this history is taken into account, one should expect the output of Spanish archaeozoology to lag still far behind a leveling phase and the exponential increase rate depicted in Figure 2 to proceed in the near future.

TRENDS: QUALITATIVE ASPECTS

The qualitative nature of Spanish archaeozoological publications can reveal interesting aspects. Thus, Figure 3 illustrates that close to 90% of the 150 reviewed sites whose archaeological faunas have been partially or totally analyzed, belong to those periods which, in the arbitrary "taxonomy" of Spanish academics, are dealt with by prehistorians. Although it is true that, at present, several important Roman and Medieval faunas await publication, this might not mean much for it is probable that many other "prehistoric" faunas will neutralize their effect. The trend does seem to be one of decreasing interest for faunas with time, the exception being the Neolithic, a period which seems to have been particularly neglected in Spanish archaeology due to its lack of spectacular finds and conventional artifacts (i.e., no wall paintings, no large mammals, no architecture, few tools and ornaments, few burials, etc.).

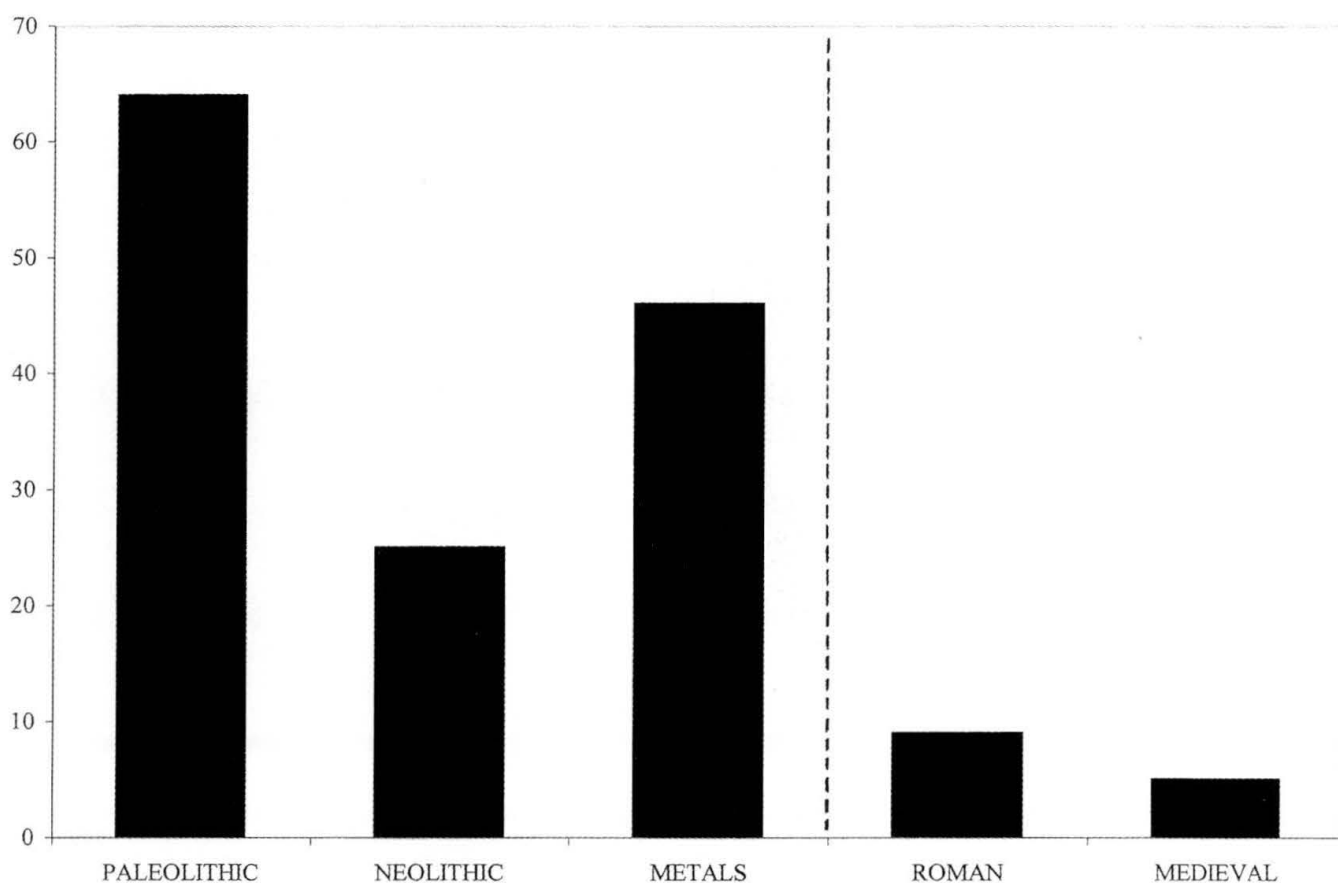


FIGURE 3

Number of Spanish archaeological sites, arranged on a chrono-cultural sequence, whose animal remains have been partially or completely studied during the last 35 years. The vertical dotted line identifies the arbitrary border between what Spanish scholars consider prehistorians (area to the left of the line) and archaeologists *sensu stricto* (area to the right of the line).

Although the trend of increasing interest for fauna as one moves further back in time does exemplify a secular neglect for bioarchaeological materials on the part of Classical and Medieval archaeologists in Spain, the truly interesting aspects of Spanish archaeozoological research appear when publications are classified according to content (Figure 4). Again, although such classification is arbitrary to a large extent since some papers qualify equally well into two or more categories, the overall analysis neutralizes, to some extent, the "disturbance" introduced into the system by specific items and allows one to evidence a series of patterns. Thus:

1) Although there are papers in all 17 categories and none of these dominates over the others, one does nevertheless discern a preference for descriptive analyses (i.e., hunting and fishing studies, subsistence and dietary reconstruction, biogeography, domestication, etc) over experimental papers

whether biological (eg., ageing and sexing, seasonality and mortality), cultural (eg., ethnoarchaeology, butchery studies, human modification of bone) or strictly methodological (ie., statistics and quantification) (Figure 4). It does seem that, to a large extent, Spanish archaeozoologists have been importing methods and have concentrated on the application of these methods to specific cases. This corroborates what has been previously said concerning the development of the research group in Madrid [Incidentally, one should stress that, since some papers qualified into more than one category, an inevitable duplication/inflation has resulted which accounts for the discrepancy between the number of papers recorded in Figure 4 (eg., 402) vs. the real number of publications taken into account for this survey (335; see Figure 2)].

2) Regional surveys do take a large share of all publications. Several reasons are responsible for this, including the necessity of updating and brin-

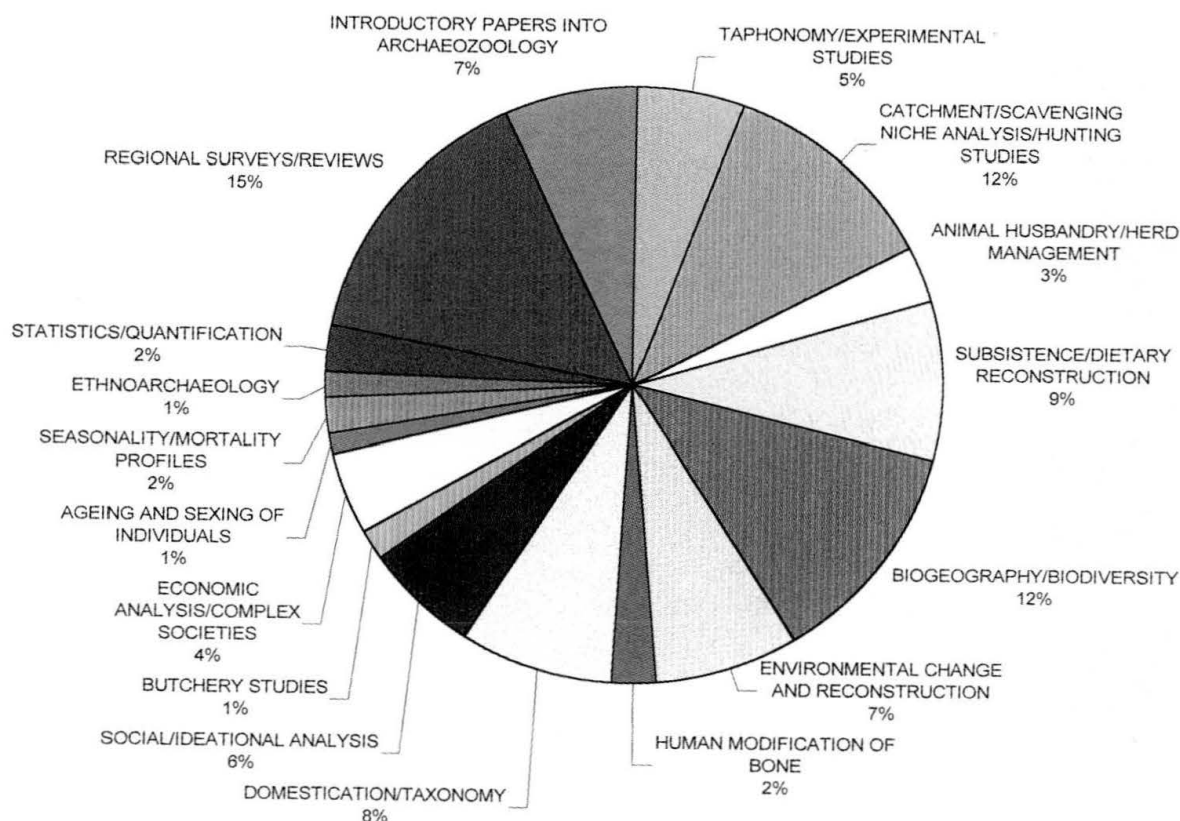


FIGURE 4

The Spanish archaeozoological publications subdivided into thematic categories. Since many papers qualify equally well into two, even more, categories some of the specific contributions have been recorded more than one time thus contributing to a duplication and subsequent inflation of the total number of papers in this Figure (N = 402) in comparison to the true total number of papers recorded in Figure 2 (N = 335).

ging together data from a vastly heterogeneous list of old and obscure publications, the number of Ph.Ds. devoted to archaeological faunas in Spain during the last decade or, even, the increasing influence of nationalisms within the Spanish political sphere.

3) Remarkable also is the effort devoted to papers introducing archaeozoology to the public (7% of the total). Such papers are mostly directed to archaeologists, both students and professionals, and, in many cases, aim at neutralizing the absolute lack of knowledge which these people have due to the anomalous placing of archaeology within the humanities. There is, obviously, some proselitism involved in this effort since archaeozoologists remain wholly dependent on archaeologists for the retrieval and sending of animal remains to their laboratories. Nowadays, as more archaeozoologists take part on the excavations and more archaeologists become acquainted with the possibilities offered to them by the analysis of animal remains, such effort has decreased and has mostly been re-addressed towards students rather than professionals.

Practically all categories in Figure 4 deserve some comments like those made in conjunction with the connection between social/ideational studies and parietal cave art, a common phenomenon throughout Iberia. Still, the generalities concerning the qualitative aspects of the Spanish archaeozoological output have not taken into account the fact that a majority of papers qualify only as "bone reports" (e.g., "laundry lists") and thus have not been included in our survey. Many of these close to 200 papers, which represent 40% of all Spanish archaeofaunal literature, have been occasionally made by people with little or no training in archaeozoology, often students, without the help of reference collections, hired by archaeologists in the hope of incorporating a bone report into their final publication without having to pay much (often without paying at all!) for it. Such practice, not devoid of the picaresque for which many-a-Spaniard has become known, is, fortunately, becoming increasingly rare at present.

SOME FURTHER CONSIDERATIONS

Since the vast majority of practicing archaeozoologists in Spain have come from fields outside of

archaeology, Spanish archaeozoology has remained essentially impermeable to archaeological debate during its 35 years of existence. The only exception to this rule has been Estévez, if only from a theoretical standpoint, since many of his papers have been also of an essentially descriptive nature. It is no wonder that those framing faunas in the context of subsistence strategies, niche analysis, optimal foraging, adaptive systems and the like have been archaeologists, often from foreign lands. Thus, returning to the qualitative nature of the Spanish archaeozoological publications, it is remarkable to see that some 40% of those in the categories of "catchment/scavenging niche analysis/hunting studies" (i.e., 20 out of 50) and "subsistence/dietary reconstruction" (i.e., 13 out of 35) belong to non-Spanish scholars, mostly Americans (i.e., Straus, Clark & Freeman). In addition, since these same people had been the initiators of these studies back in the seventies (Freeman, 1973; Straus, 1977) most of the papers on such topics by Spanish scholars having been written only during the present decade (see papers in Moure, 1992 and Villaverde, 1995). The encompassing nature of these papers, mostly written in English and published in journals and monographs of worldwide distribution, has made of these contributions the best known ones on Spanish faunas.

Some of these reviews, as those from people like Lull (1984) or Harrison & Moreno (1984) share one basic flaw, in that the authors are making use of someone else's data. It is no mere coincidence, for example, that so many papers have been written on the adaptations of late-glacial Cantabrian populations since the thorough and intensive studies of upper Pleistocene-early Holocene vertebrate faunas by Altuna and his group have provided a sound basis for comparative analyses. Making use of someone else's data is a risky business in that one may miss important issues which do not always get into the report. How can one, for example, make use of a skeletal profile in order to argue for a redistribution or transport of carcasses when no statements have been made in the original report concerning the nature of the unidentified bone fraction? We all know, for example, that for ungulates, identification of axial skeletal parts is more difficult than that of teeth or appendicular parts, yet how does one translate this into a "corrective index" in the absence of the pertinent information? Other problems are more general. Thus, a lot of the discussion concerning 'glacial' Cantabrian adaptations skip the issue of the biased

record, yet we all know that many of the relevant sites lie beneath the sea at present and that the available sites, close to 99% of them caves, might not represent but a marginal habitat from which extrapolations could be quite misleading (Zilhão, 1992, 1993; Quesada, 1997a, 1997b; Morales *et al.*, 1998). Even comparisons with nearby areas are not feasible in that the Cantabrian strip is unique in Europe as an area sandwiched between the sea and a mountain range! Concerns of this kind, together with others derived from sheer lack of knowledge on animal life habits, have been expressed occasionally (Morales, 1990a, 1990b, 1993) yet the fact remains that if archaeozoologists refrain from addressing issues of relevance to archaeological interpretation, archaeologists have at least an excuse for making use of published data, no matter how many misinterpretations might result from that. In the end, all the argument boils down to is considering archaeozoology a branch of archaeology, and giving archaeozoologists a fair treatment not only in the study and interpretation of the faunal materials, but also in the planning of an archaeological research project (Morales, 1993, 1997).

THE RELEVANCE OF SPANISH ARCHAEOZOOLOGY

The previous paragraphs illustrate, to some extent, the gap separating archaeozoology from "conventional" archaeology in Spain. However unfortunate this may be, and without entering on who is to blame for such a state of affairs, the worrisome impression is that this gap keeps widening. In fact, archaeozoology does not even seem to be feeding back much input into the whole system. A recent multiple-authored monograph on an updating of Iberian archaeology's achievements is a vivid example of such dramatic lack of feedback (Díaz-Andreu & Keay, 1997). Out of 15 papers ranging from the Pleistocene to Medieval times, 11 of them fail to include a single archaeozoological reference and in those that do (i.e., the chapters on the Pleistocene, Neolithic and the final commentary by Robert Chapman) most are general reviews, like those of Zilhão (1992, 1993) or Zvelebil & Rowley-Conwy (1984) which not only touch upon many other issues but which, in many cases, do not even refer to Spain or the Iberian peninsula! Noteworthy is the chapter on the Neo-

lithic where a total absence of faunal references, including the pertinent monograph of Altuna (1980) on animal domestication in the Basque country, combines with a dreadful section on "paleoeconomy" full of conceptual and factual errors (Ribé *et al.*, 1997: 73-74).

This situation, in fact, reflects to no small extent, the preciously little impact that Spanish archaeozoology has had on the academic sphere, both at a national and an international level. Many factors account for such a state of affairs. We have previously mentioned the failure of most faunal reports to deal with questions of cultural interest. At times there are reasons for this being so (e.g., small samples, inadequate retrieval techniques, lack of adequate contextual information, poor quality of preservation, etc.) but at other times the faunal analyst could certainly have done better. To this "low impact" of Spanish archaeozoological research in general contributes the fact that papers are mostly written in Spanish, appear in obscure publications (see list of references), have almost no diffusion even at the local sphere, and scholars have very restricted professional contact at all levels.

Since it makes little sense to grieve from one's past errors, Spanish archaeozoologists would do well in learning the lessons taught by history and re-frame both their way of doing research and of making it available to the scientific community, inside and outside the country.

THE FUTURE

It will probably take some time before all these changes are incorporated by the archaeozoological community. In Spain at the present, the retrieval of faunal remains is far from being a routine procedure and, unless archaeozoologists are given the chance to participate in multidisciplinary projects from the start, chances are that such systematic neglect of faunas will continue. On top of this problem, a very important one that comes a close second to it is that retrieval is seldom made using flotation or sieving. Only Paleolithic faunas constitute an exception to the rule. Again, giving faunal analysts the possibility to excavate would largely contribute to diminish such a deficient state of affairs.

Still, drawbacks do not remain restricted to planning and field techniques. Few Spanish insti-

tutions feature reliable reference collections and, of the few that do, most are devoid of curators and specialized personnel. Access is, thus, largely restricted for most scholars, and one is often forced to recur to personal contacts in order to be granted access to a particular place. Finally, financial problems lurk everywhere: lack of funds for research, little money for publication and almost none for travel and research outside one's own center. The fact that such problems seem to be everywhere at the present does not in any way contribute to make the Spanish situation any better for we still are lagging way back behind most countries due to our much delayed start.

In the end, again, the future will necessarily need to bring about a thorough change of mindset. This includes both the archaeologists, who have to start considering archaeozoology as routine teaching in their curricula, and archaeozoologists as simply another kind of archaeologist rather than aliens to the field. Faunal analysts, on the other hand, need to re-frame a lot of their thinking about animal bones as contingent products of human behaviour on top of biological and geological agents and must widen the scope of their research to encompass fields such as ethnography, trace analysis, and history.

CONCLUSIONS

Much to our despair, the achievements of Spanish archaeozoology do not run parallel with the impressive archaeological and anthropological record of Spain, a country which, on top of a myriad spectacular sites, features both the oldest physical evidence of hominids in western Europe [ie., *Homo antecessor* at Atapuerca (Burgos) ca. 800.000 BP] as well as the youngest Neanderthals thus far discovered [ie., Zafarraya (Cádiz); ca. 27.000 BP]. There is practically no time period, age, or culture without its own archaeozoological peculiarities: wildlife refugia of European taxa during each glacial maximum, coastal Iberia witnessed the explosion of shell middens in the transition from the Pleistocene to the Holocene. Spain seems to have been the headquarters of the Roman fishing industry and, during the Middle Ages, witnessed the coexistence of two cultures, Christian and Muslim, with far-ranging implications in terms of animal resource use and procurement. Spain was similarly the first European country to

import American domesticates in large scale and its biogeographic position, between the Atlantic and the Mediterranean, undoubtedly contributed to its development as a nation of fishermen (whale hunters in the north) for which archaeological finds provide ample evidence. Given these features, together with the vastness of the historical and documentary information available in libraries and archives, one should expect a much brighter scenario for the faunal analyst than the one he/she faces at present. In fact, one can say that, even though we have barely started to "scratch below the surface", the fact that Altuna has turned towards archaeology in recent years, the Germans have essentially left the country, Estévez went to Tierra del Fuego in the southernmost tip of the Americas while Morales and his group are now working in Russia, United Arab Emirates, Syria, Peru, etc, does seem to indicate that things might not be running in quite the right way. Will we need another 35 years to straighten this out? Let's hope not!

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