

BRONZE AGE EXPANSION 1750-1250 BC: THE COGOTAS I PHASE IN THE MIDDLE EBRO VALLEY

INTRODUCTION

The essays in the volume *Development and Decline in the Mediterranean Bronze Age* started by assuming that the Mediterranean was a coherent geographical and environmental unit where processes of change could be observed (Mathers & Stoddart 1994). Particularly interesting were the processes that led to episodes of social complexity, as well as the trajectories of decline that succeeded them. Problems of expansion cycles were analysed successfully with evolutionary models, and adequate methodologies measured the variables for intensification of food production, specialisation, interactions beyond the local community, and material indicators of elite status.

Much more troublesome were explanations for the declines observed in many areas, as Renfrew made clear in his preface to the book when he said that «...the task of explaining episodes of decline or collapse (is) even more daunting than that of explaining development.» (Renfrew 1994:6). Evidently, he thought it would be more difficult to monitor falling productivity than growth, despite the fact that we know «that the operation of continuous variables can have a strikingly discontinuous effect.» (*ibid.* 10), a conclusion that seems self-contradictory. Collapses can be obvious in the West Mediterranean record. There is now a strong empirical case for an environmental catastrophe overwhelming the late Eneolithic communities on the garrigues of Languedoc at the end of the third millennium BC. Soil erosion, probably caused by torrential autumn rains when the fields were ploughed and unprotected by vegetation, was so severe that the agricultural economy would have collapsed immediately (Wainwright 1994). The cultural impoverishment that followed lasted for a millennium. Although this was a local disaster, which cannot be shown to have had repercussions in the Bronze Age record surviving from neighbouring Provence or Catalonia, it is perfectly possible that it was repeated elsewhere.

Nevertheless, two important general results were obtained: the identification of cyclical expansion and collapse, and the remarkable chronological independence of these cultural florescences, suggesting they were unconnected with each other. These are worth exploring further.

The study of the Ebro Valley and Northern Spain suggested at least one cycle could be recognised locally from 1750-1250 BC¹ (Harrison 1994), and that this did not coincide with other cycles of expansion and contraction recorded in Southeast Spain (2600-1600 BC) (Mathers 1994) or La Mancha (2250-1500 BC) (Martín *et al.* 1993). Nor did it follow the cultural trajectory now defined for the mountainous landscapes of Teruel (Burillo & Picazo 1991-2). Such chronological

¹ All dates cited here are calendar dates, based on the Seattle-Belfast calibrations of C14 determinations.

These are still the accepted international standard which should be followed (Bowman 1994).

independence hints that different causes may lie behind each cycle, although they could be broadly similar functionally; indeed, one could argue that there is no necessary connection between any of these cultural florescences. But the fact that cultural cycles can be recognised in the second millennium ought to excite prehistorians to enquire about the mechanisms responsible for it, and stimulate hypothesis building in the manner suggested by Kristiansen (1992). The results from new surveys and excavations in Navarra and Aragón make it timely to return to the issue of an expansion phase in the second millennium BC in the middle Ebro valley, and possible social explanations for it. That is the purpose of this essay.

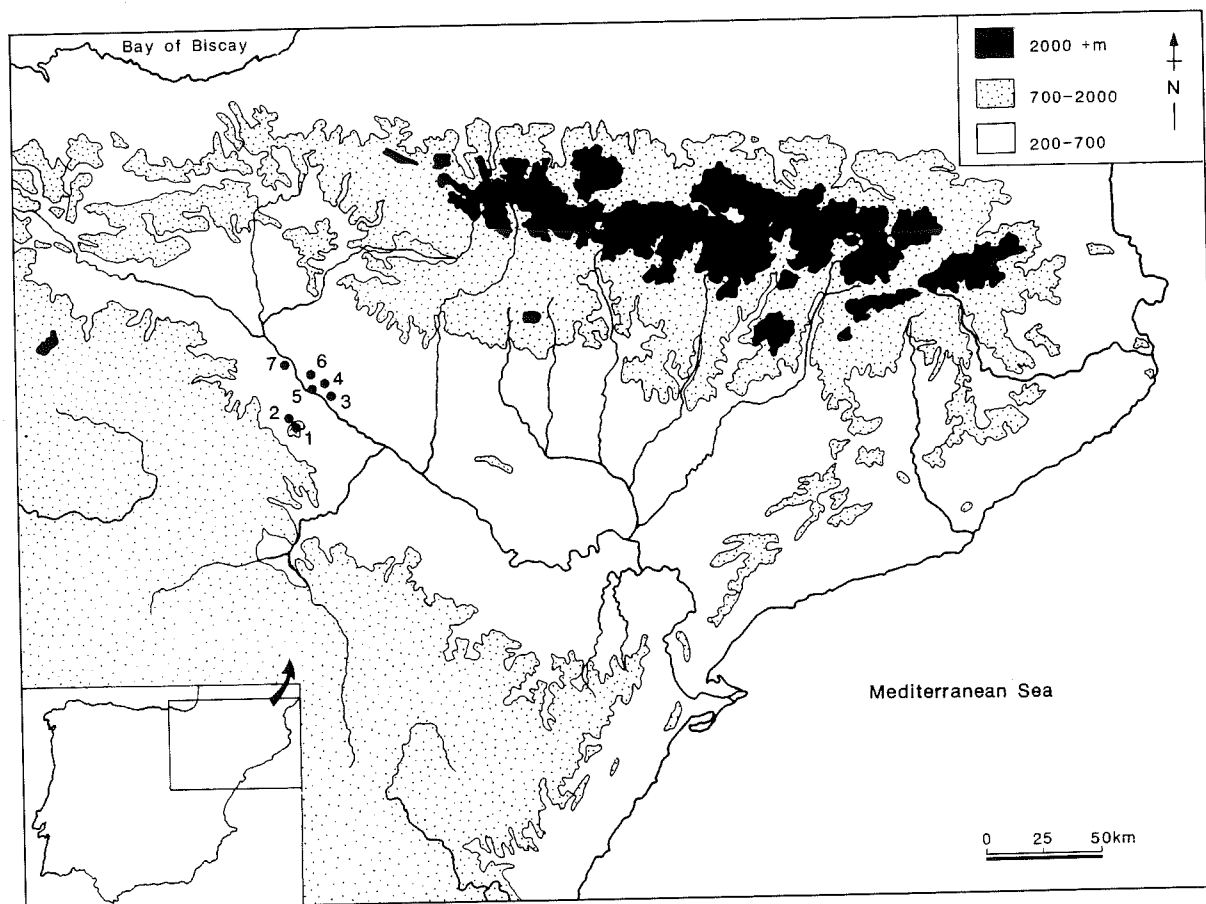


FIG. 1. Map locating sites and regions mentioned in the text. 1 Moncín, 2 Majaladares, 3 La Balsa de Tamariz, 4 Monte Aguilar I and II, 5 Cuesta de la Iglesia, 6 Muga Valdecruz, 7 La Atalayuela.

DEVELOPMENT AND INTENSIFICATION

The argument for an expansion phase between 1750-1250 BC is based on at least four independent classes of evidence, which coincide chronologically and spatially within settlement stratigraphies.

Firstly, there is apparently a real increase in the number of sites attributed to the Cogoecces phase (also termed proto-Cogotas) of the Cogotas I phenomenon, making them quite common in

Old Castille, the upper Tajo valley, and the Bardenas Reales of Navarra. They seem to be more numerous than Eneolithic settlements and more varied in their location in the landscape. Modern surveys in the Bardenas Reales by Sesma discovered 159 new sites of the Eneolithic-Bronze Ages, of which 76 could be dated by their material culture; of these 16 had Bell Beaker pottery, while the rest (60) were later in date (Sesma Sesma 1993). Other results come from the area around Madrid, where at least 56 sites with Bell Beaker materials are now known, all of them small (Blasco *et al.* 1994) in a settlement pattern without a clear hierarchy. Nor were Cogotas I settlements smaller than Eneolithic ones in this area, distributing the same population more thinly over more sites. More extended, calibrated surveys will be able to develop these distinctions in the future, and perhaps even identify a simple settlement hierarchy. The correct evaluation of the age and ubiquity of the decorated wares that define the Cogoece phase is relatively recent (Blasco Bosqued 1994; Delibes & Fernández Manzano 1981; Fernández-Posse 1986; Harrison 1993a). The C14 determinations from sites in these regions must be calibrated to appreciate fully the long period of time involved, and show that it cannot be called an horizon. This suggests that the underlying social processes behind the expansion would have operated relatively slowly. The Cogotas I phenomenon spanned at least a millennium, and was the major cultural expression in the second millennium BC for much of central Spain.

Secondly, there is evidence for an increase in food storage capacity, using underground silos to keep cereals, and perhaps legumes, dry, safe and edible. Food storage is important because it would allow people to maintain their political independence, by keeping surpluses in the hands of primary producers. This is clearest at the settlement of Moncín (Zaragoza), where over 50 silos were excavated, some surviving to their full depth and conserving their original bottle-necked shape. The silos were known from the initial occupation in the later Eneolithic, but became much more numerous after 1750 BC, and continued to be constructed until the end of the settlement's life around 1250 BC. They were associated with Cogoece phase artefacts (Harrison, Moreno López & Legge 1994). Recently, similar silos were found within the settlements of Monte Aguilar I, Cuesta de la Iglesia (A), Monte Aguilar II, and Muga Valdecruz (Las Bardenas Reales, Navarra) (Sesma & García 1994:150). Just to the east, a concentration of silos was found at the Balsa de Tamariz (Tauste, Zaragoza) (Rey Lanaspá & Royo Guillén 1993). Yet not all the excavated settlements actually had storage silos; at Majaladares (Zaragoza) they were probably absent, although other subsoil features are present (Harrison, Aguilera Aragón & Moreno López 1992). These data suggest that food storage became more important from about 1750 BC, and that some settlements had a greater food storage capacity than others which were occupied at exactly the same time. If observations of inter-site disparities could be multiplied, they would be good evidence for a rudimentary system of social ranking among settlements.

Thirdly, there was a marked simplification in the flint industry at the same time as the silos become numerous. From 1750 BC onwards, toothed flint flakes, interpreted as elements for reaping sickles, became completely dominant in the flint industry, forming 90% of all retouched tools at Moncín by Phase IIA (1550-1250 BC) (Harrison, Moreno López & Legge 1994, Caps. 8 & 10). The same diachronic pattern can be seen at Majaladares which lies just three kilometres from Moncín, and is now independently corroborated by the second millennium BC settlements from Las Bardenas Reales (Sesma & García 1994:149). Flint sickles were very common throughout Iberia in the Bronze Age, although few settlements produced the numbers found at Moncín (over 400) and Majaladares (over 200). This trend was also important in another context, that of metallurgy in copper and bronze. Such extensive use of flint for one basic farming tool

indicates how socially restricted were the uses for metal implements, and it is surely significant that metal was not used for implements involved in basic agricultural tasks.

The fourth strand of evidence comes from the animal husbandry and hunting patterns, reconstructed from animal bone collections. Pastoralism and horse rearing can be recognised. The raw percentages from three substantial collections in the Middle Ebro valley break down as follows²:

Site	Horse	Pig	Red deer	Cattle	Caprines
Moncín	14,0	7,0	25,0	18,0	33,5
Majaladares	26,5	7,0	25,5	14,5	24,5
Monte Aguilar	<1,0	10,0	0,0	19,0	70,0

The faunal spectrum for each settlement remained constant throughout its occupation, showing statistically insignificant changes between occupation phases. What stands out from this chart are the similar exploitation practices at Moncín and Majaladares, with many domesticated horses and much hunting of wild deer. The lack of horses at Monte Aguilar may be important culturally; the absence of red deer is to be expected, given the the small amount of woodland found in the catchment areas for Monte Aguilar and the Bardenas Reales as a whole. What is novel is that the verification studies being carried out on the settlement of Majaladares should confirm so strongly the patterns observed at Moncín. When first analysed, Moncín appeared to be an anomaly; but that is no longer so. The patterns are clearly reliable, and demand explanation. Equally, the defining characteristics of the Moncín and Majaladares fauna are precisely those lacking from Monte Aguilar. There is a two way check on the patterns observed, each site reinforcing the integrity of the other. The explanation should lie in accepting how varied and sophisticated were the animal exploitation economies four thousand years ago. The hunting patterns show a substantial trade in forest products, of which the most obvious are antler, furs and skins. Red deer were hunted systematically throughout the year, although antler fragments were very rare, despite the abundance of bones from the rest of the body. This strongly suggests that the antler was carefully selected and appreciated for its properties in hafting tools of stone and metal, or just for use as an unadorned pick (one haft and one pick were found at Moncín. [Harrison, Moreno López & Legge 1994 Figs. 18.106 and 18.116]). A high proportion of deer were killed as fawns, or as young animals less than a year old, probably for their decorative skins which carry bold markings at these ages. Furs from badger, lynx, wild cats and rabbits would have contributed to this aspect of the economy. The cattle at Moncín and Majaladares included draught animals suitable for drawing ploughs or waggons, or carrying loads across their backs, and also a milking herd. This would produce a potential surplus of processed milk products that could be stored for long periods without deteriorating, such as butter, cheese

² The Moncín and Majaladares figures come from the studies by Legge. Moncín is published (Legge, Cap. 10 in Harrison, Moreno López & Legge 1994), while Majaladares is still under excavation, and the figures relate to samples examined up to the end of 1993. The Monte Aguilar figures come from Sesma &

García 1994:140 averaged from the bar chart on Fig. 16. They are published only in a preliminary form, without the necessary details concerning the sample size, integrity and collection procedures. However, they promise to be of real interest, and they are included here to stimulate discussion.

and fermented foods. They concentrate fats and minerals, are readily stored and transported, and have a high value as food and exchange items. Few pigs were kept.

Horses were a domesticated population kept for riding and traction, and were butchered for meat like any other domestic animal. They probably derive from local populations of wild horses, as Uerpmann suggested (1991). However, the remarkably high proportions of horses at Moncín and Majaladares, as well as their absolute numbers, for over a thousand years, suggests other possibilities beyond that of providing lean meat and gelatinous marrow. Trained horses are valuable animals. They are not easy to raise, sometimes hard to train and break, and always of an individual character. Throughout later history, good horses have caught men's imaginations; their procurement was often fraught with difficulty, and negotiations for them more personal than in transactions for inanimate objects. So, it is not surprising that people who could breed and train them successfully were aware they possessed a valuable animals, unobtainable elsewhere. There may have been an effective monopoly in horse breeding; demand probably outran supply. Mares and stallions are splendid display animals, each unique in its attributes (and hence its value) and personality. Quite apart from their capacity to transport men on raids for booty or glory, they are visible luxuries just in themselves. In addition, their breeding and nurture are often hampered by natural conditions in parts of coastal Iberia, and fine beasts would have to be sought from far away. It is surely time to reassess the roles horses could have played in Bronze Age societies, and realise how much they could have been coveted. They combine scarcity, prestige, utility and force wonderfully well. The inhabitants of Moncín and Majaladares probably bred and traded horses for these purposes, and they certainly had a system of animal husbandry which not only covered its owners' necessities, but generated surpluses and prestige goods for trade.

The twin strategies of hunting and animal husbandry at Moncín and Majaladares went beyond meeting the immediate food needs of their communities. Producing animal products valued in trade was deliberate, and sustained for many centuries at both sites. The concept of trade in metal and pottery is familiar enough to us, but we must remember too the potential for really big exchange systems based on animal commodities. This was first suggested when Sherratt's model of the Secondary Products Revolution for the later Neolithic of Central Europe was adapted to Bronze Age Spain and called the *Policultivo Ganadero* (Harrison & Moreno López 1985).

These four strands of data covering settlement, the management of risk in the form of food storage facilities, technological specialisation, and animal husbandry and hunting economies, go a good way towards demonstrating the components of an expansion stage in the Cogoece phase. Development and economic intensification are discernible in the data.

FASHION AND IDEOLOGY

The striking simplicity and uniformity of the material culture of the Cogoece phase, and of the Cogotas I phenomenon in general, contrast with the artefact complexity of the preceding Eneolithic period, and above all, in the elaboration of funerary goods and mortuary practices, expressed in the Bell Beaker phenomenon. On the long time scale, one can see two comparable phenomena expressed in the decorated ceramics, the Bell Beaker and Cogotas I feasting services. It is worth while asking what these patterns could mean in terms of social behaviour, and offering an hypothesis to explain it.

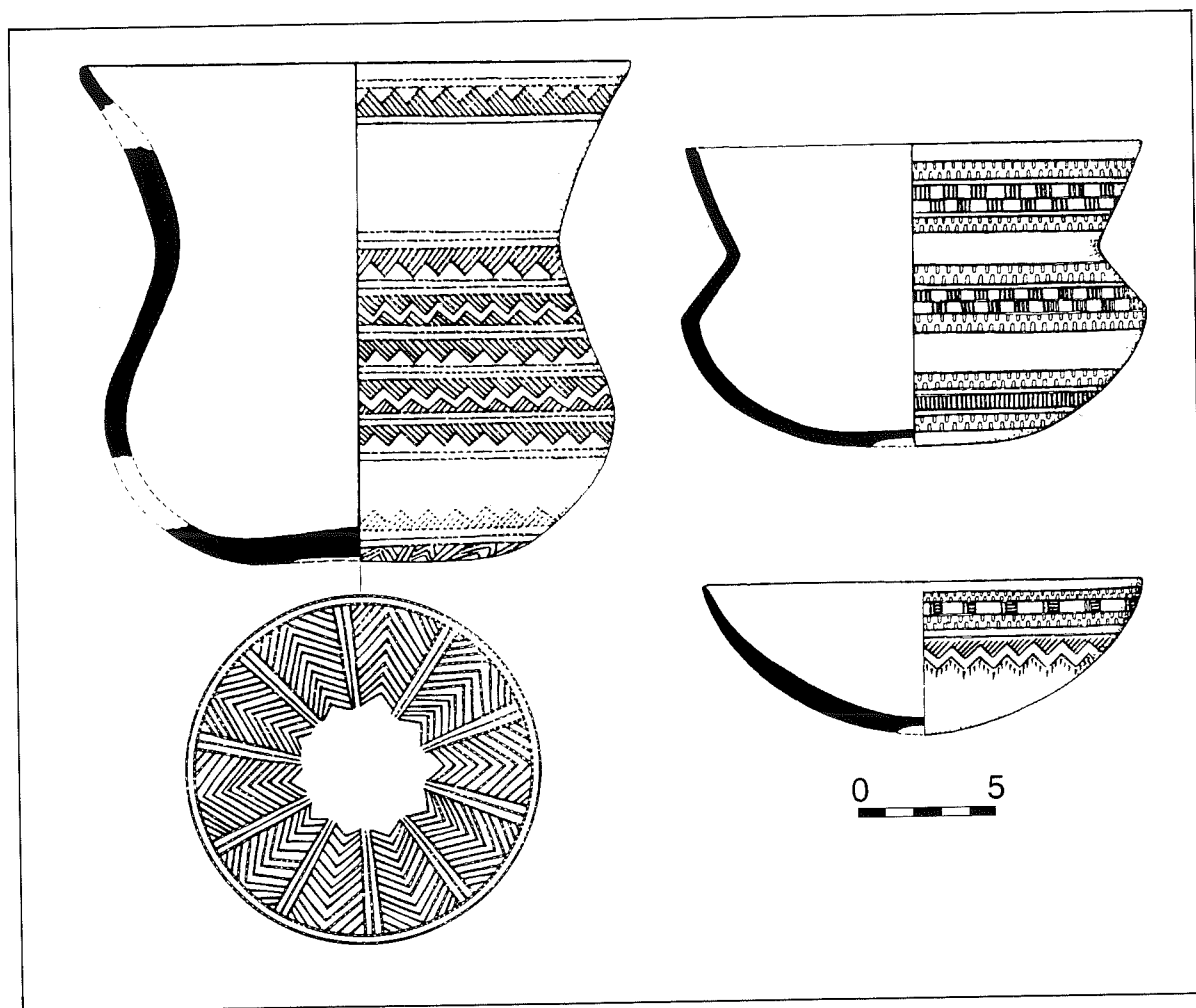


FIG. 2. *A Bell Beaker drinking set c. 2650-2500 BC from the mass grave at Atalayuela (Agoncillo, Rioja). After Barandiarán 1978.*

In the case of the Ciempozuelos Bell Beakers in Northern Spain, the typology of vessels committed to graves is quite closely controlled, with the set of Beaker, carinated bowl, and simple bowl often repeated (Delibes de Castro 1977). In the Ebro valley, the Beaker repertoire did include large vessels beside the finer quality table wares, and was in vogue from about 2750-2200 BC (Harrison 1988). A typological evolution can be detected, but the initial and final phases are difficult to date closely, and may have been very short-lived. The Beakers and bowls were suitable shapes for drinking liquids, or possibly foods with a liquid component, like frumenty, pottages or broth. Indeed, Sherratt (1986) went so far as to revive the old nineteenth century view that the Beaker package had its origins in a fashion for drinking newly discovered alcoholic beverages. He linked alcoholic consumption to the general rise of individual male assertiveness in the course of growing social competition in Central Europe in the early third millennium BC, which spread rapidly westwards as a fashion, if not a social amenity. Certainly, the effect of

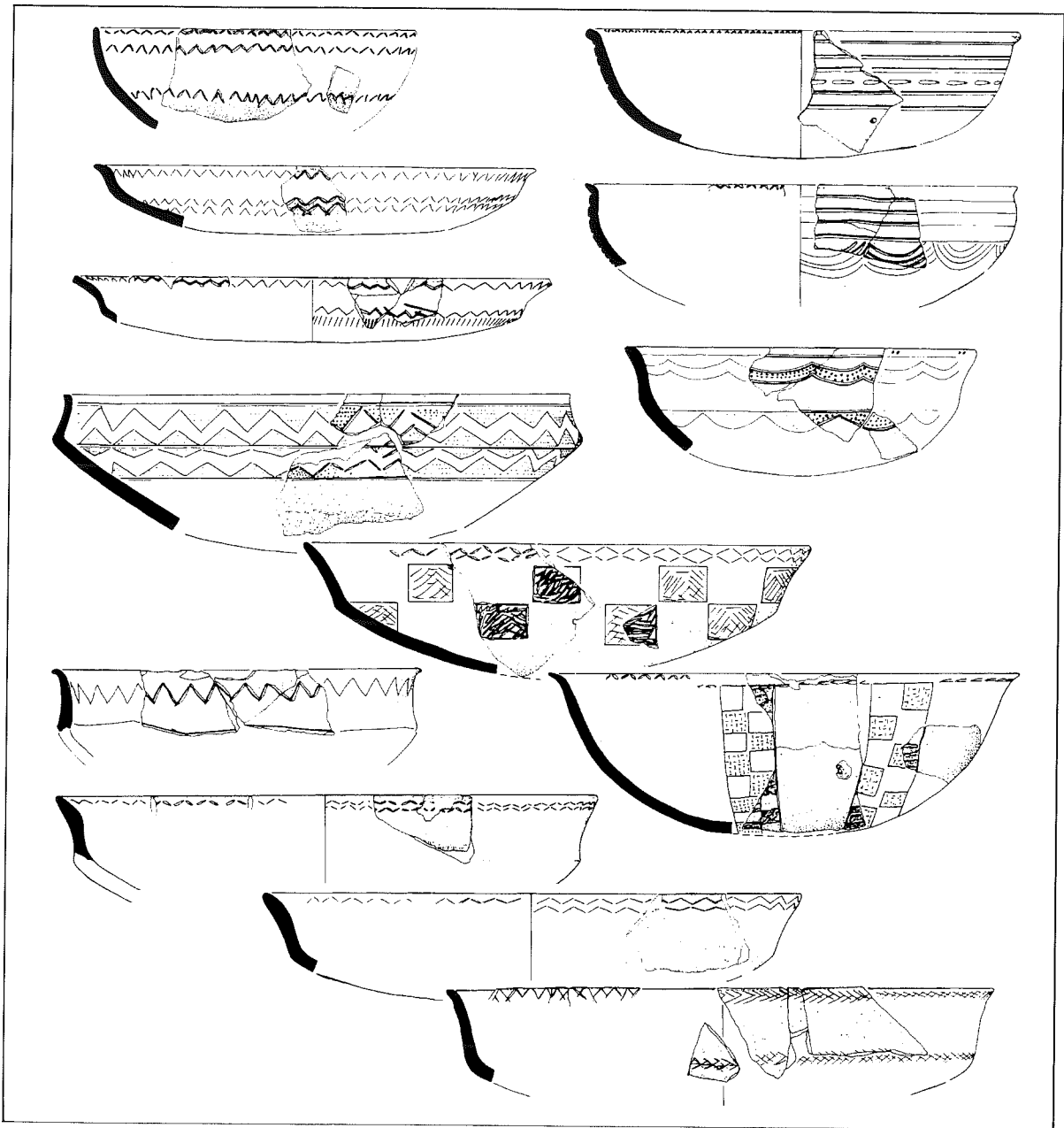


FIG. 3. Pottery belonging to the feasting service of the Cogoecces phase of the Cogotas I complex c. 1750-1250 BC, from the settlement of Moncín.

alcohol on people unaccustomed to drinking it, or drinking it abusively, can be dramatic; even small amounts alter the drinkers' behaviour and reactions.

An interlude without much decorated pottery ensued, with a few vessels related to styles in the Arbolí group in Catalonia. This ended around 1750 BC, when the Cogoecces styles of

decorated pottery appeared in the middle Ebro valley, perhaps introduced from the eastern Meseta. Thereafter, from 1750 until 1250 BC an evolutionary sequence can be charted for an increasingly elaborate ceramic service, which became progressively more important until it comprised 4,5% of the total pottery in use, a figure equal to that of the Beaker wares at the height of their popularity (Harrison, Moreno López & Legge 1994). This Cogoece service was characterised by large, shallow bowls and plates up to 35 or even 40 cm. in diameter, bearing thin bands of decoration on the inside and outside rims, or the carinated shoulder of the bowl. Small vessels were rare, but become commoner later, and quite numerous in the later Cogotas I assemblages after 1200 BC. The function of this service was quite different from that of the fine Beaker ware. It was designed, surely, for displaying solid food, piled and heaped up into the middle of a plate, showing just the rim, which was the only part of the dish that would be visible to the diners. The type of food could include roasted and boiled meats, joints of game, and perhaps baked cakes and buns, leavened or not. So we have a simple but obvious contrast between the Bell Beakers and bowls for drinking liquids (perhaps alcohol), and platters for serving larger portions of food (perhaps meats and breads). It seems probable that they evolved independently of each other.

Furthermore, the services were likely to be part of novel fashions of food preparation and presentation introduced to the communities of the Ebro valley, and in each case would create immediate opportunities for social emulation. The social significance, and symbolism both overt and concealed, of competing through feasting and food sharing cannot be overestimated; these were tactics ideally suited to agrarian, kin-based societies with subsistence production, and created what John Chapman called new «arenas of social competition» (Chapman 1991). He was discussing the rise of mortuary competition in fifth millennium BC Bulgaria, but the hypothesis is widely applicable. When the production of luxury items is severely limited by the available technology, or lack of human skills and dexterity (for example, in weaving and embroidering textiles), alternative settings for competition have to be found. They may include burials, dances, ritual enactments, or eating food prepared and cooked in a way deemed to be special. The imaginative possibilities would be endless. Seen from this anthropological perspective, it was probably no coincidence that the Cogoece and Cogotas I feasting services appeared at the same time as the role of livestock increased, and the Policultivo Ganadero developed. The greater importance of animals in the Bronze Age household economy was mirrored in their new prominence at family feasts. There seems no good reason why this change should not be widespread throughout the second millennium societies living on the Mesetas, and it may well account for the presence of a few pieces of Cogoece and Cogotas I pottery turning up in late Argaric contexts in Fuente Alamo in Almería or in Northern Portugal at the Bouça do Frade, for example.

Almost as interesting is the lack of the Cogoece and Cogotas I feasting services in Valencia and Catalonia, and their scarcity in the mountains of Teruel. Perhaps other forms of competition were in vogue; or that pastoralism and hunting was esteemed differently, and their roles expressed in another way. Is it so fanciful to see a special place for the domestic horse, and perhaps admired local breeds valued for their docility and hardiness, being prominent in these places? Isolated breeding populations can soon diverge markedly in behaviour as well as colour, size or other characteristics. There were many alternative «arenas» which could be invented for competition to flourish in an agricultural economy with livestock. It just required agreement for them to be accepted, and used.

SOCIAL EXPLANATIONS FOR EXPANSION

The pastoral element was clearly important in the middle Ebro economies. As a mode of production it was well adapted to the arid, seasonally difficult climate, and would combine particularly well with dry farming of cereals and legumes, which is also widely attested by charred plant remains from settlements on the Muela de Borja and in the Bardenas Reales. Apart from the capacity of pastoral systems to expand rapidly (and collapse catastrophically, as the ethnographic accounts testify), they can also function as a buffering mechanism to spread risk. That is, the mobility of the livestock means it can be moved away from areas of drought, or infection. Equally, it is easy to hide and conceal from greedy neighbours or raiding parties. These qualities confer upon the owners of flocks and herds an independence of action that is denied to farmers whose foods derive from cereals or legumes growing in fields. In turn, this means that social control, often extending to coercion, through using force or threats of expropriation, is harder to exercise over groups which practice a degree of pastoralism, even when it is part of a wider mixed economy (Harrison 1993b).

The social correlates of pastoralists vary, and not all are unstratified. But the majority are structured with extensive alliances between small, politically independent units, often no larger than an extended family. One way of guarding their independence is to disperse their settlements over a landscape, producing many small occupations, rather than congregate in larger communities and villages. This pattern seems to be followed in the middle Ebro valley and over much of the northern Meseta. A recent table³ showed the average settlement size was the smallest of any Bronze Age region in the Western Mediterranean, although there is still uncertainty about the full range of Southeast Spanish site sizes:

Region	Expansion phases	Max. site size Ha.	Tiers of hierarchy
South Italy	1	3,00	1
Central Italy	1	15,00	1
North Italy	3	10,00	1
South France	1	19,00	1
Southeast Spain	1	3,00	2
Central Spain	2	0,50	1
North Spain	2	1,25	1

These theoretical points, and supporting data, may hold the key to understanding the mechanisms behind the Cogotas I expansion, and its demise. It seems likely that these societies had a significant pastoral element at their disposal, and elected to live in small, dispersed groups. This was probably a deliberate strategy to avoid coercion, which is easier when people are kept together in a few, relatively large settlements. Dispersed settlement tends to leave the control of

³ Taken from Table I.2 in Mathers & Stoddart 1994:17. Dr. S. Stoddart confirms that Central Italy has sites up to 15 Ha (not 1 Ha as published erroneously). Some Argaric sites from Southeast Spain may exceed greatly the 3 Ha. that Mathers gives, and cover several hectares more. Bronze Age settlements in the Campiña

of the upper Guadalquivir valley have been surveyed, and the largest ones claimed to cover an enormous area, up to 29.25 Ha. (Nocete 1994:187 Table 8). All these figures for Southeast Spain must be regarded with caution since they may be significant under- and over-estimates.

surplus production in the hands of the people who produced it. There are no overt signs of craft specialisation, although the potential for surplus production in valued agricultural products and draught animals was always latent, and sometimes was manifest, as at Moncín. When the conditions which promoted political independence were removed, either through choice or external causes, the Cogotas I phenomenon disappeared. This did not happen at the same time everywhere. The Muela de Borja (Zaragoza) was abandoned by 1250 BC, and a steep decline in settlement numbers and size (but not actual abandonment) was noted in the Bardenas Reales by Sesma. In the middle Ebro, there is a gap in the settlement record between 1250-800 BC, followed by an important change with the establishment of substantial planned villages like Cortes de Navarra around 800 BC. On the other hand, in the northern Meseta and the upper Tagus valley, the Cogotas I settlements flourished without interruption until 800 BC, as shown by the associations of Cypriot type fibula and bronze metalwork of Atlantic types. Therefore, the end of the expansion phase may have been as gradual, and piecemeal, as its growth, with important regional discrepancies.

The key to these regional changes in trajectory may lie in the creation of new social «arenas» for competitive expression, and the recognition that wealth could be accumulated in other ways beside livestock and their products. In any case, the cycles of emulation, and tactics of social competition, are not aligned with one another in neighbouring regions of the Ebro valley, nor over Iberia as a whole. All this suggests strongly that development and change during the third and second millennia BC must be modelled as local cycles, free from regional coordination. This should form part of the research agenda for the next decade.

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