

## 7. IBERIA, THE MEDITERRANEAN AND THE ATLANTIC

Iberia is formed by three main geomorphological units: the ancient Massif of Precambrian and Cambrian rocks, that constitutes the heart and the majority of the Peninsula (schist, granite, quartzite) and has continuity in Continental Europe and some Atlantic islands near the Portuguese shore; the abraded and flattened limestone surfaces, of the Secondary and early Tertiary, that define typical Mediterranean landscapes surrounding the former unit; the Ceno-Anthropozoic basins (like the Tagus), filled with sedimentary deposits (Drain 1975).

The Peninsula is like the European Continent at a small scale. The Mediterranean character is balanced by the Atlantic influences, brought by the winds and currents. The Atlantic, namely in the Portuguese territory, is present in the vegetation, the fauna (namely fish) and the climate, and was also responsible for a very irregular shore (today fairly regular, but still defining a complex sequence of bays in the Middle Ages). Also, the central massif, the Mezeta, generates Continental influences, evident in the climate, very dry and with high temperatures in the Summer contrasting with negative temperatures in the Winter. This variability, in a relatively small area, almost detached from the rest of Europe and surrounded by water, was historically one of the reasons of the success of the Iberian States in the 15th Century.

The contrasts are not only between inland and coastal areas. The west, south of the Mondego valley, has no real mountains in most of its length, and it is doubtful if the opposition of highland and lowland has any meaning in the Alentejo. The evergreen Mediterranean forest of the south contrasts with a major component of deciduous forest in the north.

There is little doubt about the Iberian Mediterranean interaction, regardless of the suggested models to explain it. Relations with the Atlantic become clear in the 3rd millennium, but it is arguable that they may date from earlier times (megaliths, isolated occurrence of cordial impressed pottery in the French Atlantic shore) (Daniel 1961, 1973; Eogan 1986, 1991). In this chapter, I will briefly analyse some data concerning the natural conditions for these relations.

Braudel (1972) defined the Mediterranean as a complex of peninsulae (Iberia, Italy, Balkans, Asia Minor and Northern Africa) and seas (Eolian, Tunisian, Etruscan, etc.). The Greeks knew the Mediterranean very well (Meijer 1986) and divided it into three parts: the East, with northern winds and the Autumn winds from Dalmatia to the Adriatic (Bora) and from the African desert to the Aegean sea (Sirocco); the Centre, with South West winds between Italy and Iberia (except the Mistral) and North and North West winds in the Tirrenian sea; the West, from Gibraltar to the Balearic islands, with Eastern winds (plate CLXXIV).

If one considers the main currents between the Iberian and the Italian peninsulae, one must consider basically three: from Liguria to Iberia along the coast, turning to the Maghreb in the eastern Andalucia; from the Spanish Levante to the

Balearic, and then to Sardinia and Corsica; from the Maghreb to Tunisia and Sicily, here splitting into two, one heading to Southern Italy, and the other to the East Mediterranean.

The Portuguese Atlantic coast is dominated by a northern current, part of which penetrates the Mediterranean through Gibraltar, while the main current follows the North African Atlantic shore.

Apart from the coastal navigation (Schüle 1970), the crossing of the Mediterranean implies travels of at least 13 Km between Morocco and Gibraltar, 70 Km from Tunisia to Pantelleria (150 Km to Sicily and 185 Km. to Sardinia). There is no direct evidence for navigation in the Mesolithic and early Neolithic, but the occupation of the Islands and the distribution of obsidian are a good indication in favour of a central Mediterranean navigation, whereas greater doubts may exist in the Iberian-Moroccan relations (that anyway have assemblages that relate to the impressed pottery in the early Neolithic).

Iberia shares most of its features with the Mediterranean. A thin plain shore is rapidly broken by chains of mountains, usually calcareous, generating two oppositions: lowland/upland, and coastal land / inland. The rivers are the main natural routes that enable the crossing of these mountains, of which the Tagus, the Mondego, the Guadiana, the Sado and the Guadalquivir will be often mentioned in this dissertation.

The mountains are poor, specially due to the very hard cold and wet winters, and tend to be more conservative. Pastoralism tends to be the main activity, but they also have very good soils for agriculture, like the high plateau valleys. Also, the limestones hill soils have a lighter texture, that combined with good Sun exposure and proper irrigation could support cereal growing very well. Among other measures, both irrigation (in Andalusia) and terracing (in Israel) date at least from the Chalcolithic. Terracing, in particular, does not involve too big human groups, and prevents soil erosion, while expanding the arable surface, smoothing the slopes and keeping the moisture (Smith 1979). The single clear evidence for terracing comes from the Ghassulian period (Gibson, Ibbs, Kloner 1991), in the 4th millenium, but indirect evidence has been noted in Greece and Sicily, and exaples of Neolithic field systems are known elsewhere (Caulfield 1993; Cooney 1991; Drewett et al. 1988; Fleming 1985). Also, the terraces in the *Casais Novos* area (Nabão valley, Tomar) are associated to Neolithic artifacts, unfortunately with no clear stratigraphic relation. Hence, in the early stages of the Neolithic process, hills could be at least as attractive as the coastal lands, providing a diversified landscape, natural shelters and refuges (caves), providing the best access to the lowlands and the mountains.

The plains are more productive, but also more unstable, due to the occurrence of marshes (focus for diseases, which formation is accelerated by deforestation) and floods (still now a major problem in Portugal and, very specially, in the Ribatejo). Their occupation implied, probably from the earliest times, some sort of means of

control of the abundance (and irregularity !) of water. Irrigation works have been considered by several authors as a major activity in South East Spain, and if one looks at the shell middens of Muge, apart from their eventual symbolic meaning, it is impossible not to see in them artificial islands for population refuge in case of flood. In fact, these sites integrate both burials and habitation structures, but it is likely these ones correspond to the flood periods.

As Braudel (1972) considers, the occupation of the plains implies a much more coordinated and heavy work, and this may be one of the reasons why the earliest Neolithic permanent sites tended to avoid these areas, even if it is a fact that sedentism is clearly associated to the occupation of high arable potential soils in the West Mediterranean.. Even in later periods, settlements need not coincide with these soils, since the best location is a central one, and hilltop sites kept at least two advantages: access to different types of soils and other resources; location above floods. This was also a reason for the continuous use of caves, that is still in practice in some areas , like Andalucia, constituting 3 to 7 % in some regions of Italy (Smith 1979). The rarity of open air settlements in the Neolithic is not due to a real unoccupation though. Erosion has heavily destroyed the original soils and many of the habitation sites in them.

Seasonal transhumance was, anyway, a widespread model in the Mediterranean, and it remains a strong possibility for the prehistoric populations in Iberia (Rubio 1974, 1975; Walker 1983). Trade, on the other hand, became more and more an important activity. Medieval records show Andalucian snow was traded to Oran. But it is obvious that the main trade involved food, and this became possible with the combination of transportation (animal traction), storage and specially conservation (salt) improvements. There is no clear evidence for the use of salt in the Neolithic, but I would argue that it may be not an accident that one of the most important concentration of Neolithic sites, Rio Maior, corresponds also to the major concentrations of salt in Portugal. It should be noted that a shell midden was found, as early as the 9th millenium, more then 80 Km from the coast, near Fátima (*Gruta do Papagaio*) (Arnaud and Bento 1988).

Finally, if one considers the mining resources, the West of Iberia is clearly the richer part of the Peninsula. Apart from alluvial gold (particularly in the North, but occuring also in other regions), there are important sources of tin (in the North) and Copper (in the South) This distribution has been considered when studying early metallurgy, as a support for the "colonies theory" (Blance 1961) or for the "passage" and trade character of central Portugal (Jorge 1990c).

The approach to the landscape and environmental conditions did not determine the Neolithic process. At best it offered a framework of possibilities. I shall look, in the next chapter, to the region I am concerned with in greater detail, attempting a first approach to its relation to human occupation through time.