

Introduction and aims

... you have to leave the island in order to see the island, we can't see ourselves unless we become free of ourselves, Unless we escape from ourselves you mean, No, that's not the same thing.

José Saramago, *The Tale of the Unknown Island*

Thanks to its ability to provide long-term datasets, archaeology has become the bridging discipline for socio-natural studies (VAN DER LEEUW, REDMAN 2002; REDMAN 2005; SCHARF 2014; STEPHENS ET AL. 2019); nevertheless, the multiproxy approach in human ecology leads researchers to face ‘many competing options’, such as historical studies, agroecology, resilience theory and so forth (FISHER, FEINMAN 2005), which force the researchers to select and choose from a broad dataset spectrum. To understand the evolution of the palaeoenvironment within the ‘insularity’ field of study, a key point is therefore to assess the role of humans: on small islands, environmental and anthropic dynamics are closely related and cannot be evaluated separately (EVANS, O’CONNOR 1999; SUNDARESAN ET AL. 2013; DI NAPOLI, LEPPARD 2018; FITZPATRICK, ERLANDSON 2018).

Even today, island archaeology contributes to the study of prehistory, ‘by testing questions relating to migration, colonisation, human–environmental interaction, domestication, and cultural diversification, among others, within specific parameters’ (DAWSON 2013, p. 15). And this distinctive characteristic—which makes islands the main characters in the study of human prehistory—relies mainly on an island’s geographical features: ‘the essence of islands is discreteness, that is, their bounded and circumscribed nature’ (KIRCH 2009, p. 2). Furthermore, isolation is not simply measured in physical or social terms; it can be a function of the interrelationship between the geophysical and biogeographical properties of islands and the demographic trajectories of human and non-human island populations (LEPPARD 2015a).

Throughout prehistory, the small islands of the Tyrrhenian Sea were complex systems from both a social and an environmental perspective. Such a complex system presents large networks of components with no central control and simple rules of action, giving rise to complex collective behaviour, sophisticated and varied information processing, and adaptation through learning or local evolution (BIETTI SESTIERI 1982; MITCHELL 2009). Systems can be even harder to define in case of archipelagos or islands close to the coast because ‘an individual island or island group might have been more or less connected according to the time of year, the productivity of the harvest, the need for a bride for a grown son, the strength

of the *meltemi* [a Greek wind, author’s note], the size of the annual tunny shoals, or the proximity of the next island. The key recognition is that a range of variables contributes to how insular or how connected a given community is able to render itself’ (BROODBANK 2000, pp. 92–96, 175–210).

Nevertheless, some social and economic processes can be misinterpreted solely because of the peculiarities of the essence of an island—its isolation. For example, a central problem for islands during prehistory is using stylistic homogeneity for pottery as evidence of a horizontal cultural transmission, and then considering it as a proxy for some process of demographic spread when it is not clear that this assumption is valid. In fact, similarities and differences in insular material culture can reliably suggest trends in demographic and cultural dynamics, but this is not irrefutable (LEPPARD 2015b; SWETE KELLY, WINTER 2020).

This is one of the main reasons behind adopting a scientific protocol that can answer the questions on insularity and interconnections through different means and variables, such as with a multiproxy approach; this approach is not only the most representative protocol for human ecology (BUTZER 1982), but is also unavoidable for contexts such as islands (KAHN ET AL. 2014; SUREDA ET AL. 2016).

Year by year, environmental factors are starting to be recognized as just as significant as the social and symbolic aspects of insularity. For example, Cyprian Broodbank, exploring the development of initial Mediterranean seafaring activity, highlights how changing ecological parameters alters human perceptions of productive and unproductive landscapes, thereby potentially transforming islands from inhospitable to relatively welcoming environments over the course of just a few centuries (BROODBANK 2006, pp. 208–11; 2008, p. 75). This necessary integration of cultural and environmental dynamics represents a convincing account of the initial causation of Mediterranean colonization. Demographic growth can exert very real pressures, especially in liminal and insular societies (SHENNAN 2009), and this factor makes a demographic analysis of prehistoric islands of the highest interest with respect to insular balance. A correlation between demographic growth, preference for certain soils and ecological niches, and the speed and rate of colonization may illuminate aspects regarding the spread of island and coastal lifeways through the early Holocene Mediterranean (CHERRY, LEPPARD 2015b; LEPPARD, RUNNELS 2017; NAPOLITANO ET AL. 2021).

The amount of archaeological and archaeobotanical data available from, and the advanced investigations undertaken in, regional research on the Aeolian Islands (BERNABÒ BREA 1992; BACCI SPIGO, MARTINELLI 1996; FIORENTINO 2005; MARTINELLI 2015, 2020; MANNI ET AL. 2019), together with the long-term ecological and biological literature (LO CASCIO, PASTA 2004; LO CASCIO 2017; TROIA 2012; PASTA, LA MANTIA 2013), make this geographical context such a fundamental source of references that it has become the background for understanding occupation and abandonment of several Mediterranean populations, especially during the Bronze Age (2200–900 BP).

The main goal of the research published in this book, which is an edited version of a PhD thesis with the same title, is the application of palaeodemographic estimations based on archaeological data, together with the data obtained through the analysis of archaeobotanical, palaeoeconomic and environmental data from the Aeolian Archipelago during the Bronze Age.

A comparison of the results sheds new light on the relations between human communities and the islands in prehistory. It also provides an insight into the management of resources and an evaluation of the demography of the archipelago.

To achieve this final aim, the other topics of this book are as follows:

- A look at the state of the art of methodological approaches to island archaeology, archaeobotany and palaeodemography.
- Analyses of the data from the Filicudi—Filo Braccio village and the Lipari—Acropolis village.
- The synthesis of an environmental reconstruction of the Aeolian Islands during the Bronze Age.
- An evaluation of the resilience capacity of the Aeolian Archipelago during the Bronze Age, which is considered in relation to a series of environmental and anthropogenic variables.
- A technological reconstruction of the architectural features in the village of the Acropolis Lipari.

After the introduction, including the list of aims of the book (chapter 1), the second chapter is devoted to the state of the art and methodology of insular studies in archaeology. This chapter is divided into four sections: section 2.1 is a review of the latest studies on island archaeology in the Mediterranean; section 2.2 is a small compendium of the studies in archaeobotany on islands on the Mediterranean and Pacific areas; section 2.3 presents the palaeodemography, divided into subsections according to the evaluation parameters: artefact assemblages, food remains, carrying capacity and resource potential model or production system, architectural features, such as roofed-over space, calculations of mean family size, areas of the settlements and regional occupation, and finally some specific features on island palaeodemography; and section

2.4 explains the integrated approach to the Aeolian Islands and the specific aims of the research.

Chapter 3 describes the context framework, with synopses of the regional setting (section 3.1), the local ecological setting (section 3.2), the archaeological framework (3.3.1. The Bronze Age in the Aeolian Islands; 3.3.2. The villages of Filo Braccio and Montagnola; 3.3.3. The villages of Acropoli and Diana) and the archaeobotanical dataset (section 3.4).

Chapter 4 collects the results from the island of Filicudi. In section 4.1, the published and unpublished archaeobotanical data from Hut G, Hut I, Open Area L and the silo are described (4.1.1. Wood charcoals; 4.1.2. Seeds and fruits; 4.1.3. Spatial analysis); section 4.2 reports the results of the functional analysis of the case study of Hut F; section 4.3 presents all the other data relevant to the discussion: soil properties and geomorphological features (4.3.1), isotope analysis (4.3.2), archaeozoological analysis (4.3.3) and archaeometric analyses (4.3.4); and section 4.4 contains the results of the palaeodemographic analysis, divided into settlement and archaeological data (4.4.1) and local resources and carrying capacity (4.4.2).

Chapter 5 has a similar structure to chapter 4, but with the results from the island of Lipari. Section 5.1 is on the research implemented by new data collected from the island of Lipari; section 5.2 collects the results of the distribution and spatial analysis within the Acropolis village; section 5.3 synthesizes the data relevant to the discussion (fauna, archaeometry, etc.); and section 5.4 describes the palaeodemographic model through the archaeological data of the settlements and the evaluation of local resources and carrying capacity.

Chapter 6 is devoted to a discussion of a possible palaeodemographic model. Section 6.1 is an introduction, with some methodological remarks; section 6.2 focuses on the areas of the settlements and the regional occupation of the archipelago during the Bronze Age; section 6.3 describes the human impact on the landscape and the use of local resources; a discussion on Filicudi and Lipari about the use of wooden resources in the architectural techniques is considered in section 6.4; section 6.5 discusses food production and carrying capacity in the case studies, and an analysis of the palaeodemography of the archipelago during the Bronze Age (mainly focused on the Early Bronze Age); finally, section 6.6 provides a synthesis of the occupation of the archipelago and the use of resources from a diachronic perspective.

Conclusions are the content of the last chapter (7), divided into a global evaluation of the human–environmental data on the archipelago (section 7.1), a comparison of the human dynamics and settlement strategies on the Aeolian Archipelago with those in Southern Italy and Sicily during the Bronze Age (section 7.2), and finally a palaeodemographic model (section 7.3).