

SARDINIA IN THE
MEDITERRANEAN:
A FOOTPRINT
IN THE SEA

Studies in Sardinian Archaeology
Presented to Miriam S. Balmuth

edited by Robert H. Tykot
and Tamsey K. Andrews

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Published by
Sheffield Academic Press Ltd
343 Fulwood Road
Sheffield S10 3BP
England

Typeset by Sheffield Academic Press
and
Printed on acid-free paper in Great Britain
by Alden Press
Oxford

British Library Cataloguing in Publication Data

A catalogue record for this book is available
from the British Library.

ISBN 1-85075-386-5
ISSN 0960-6432

**Monographs in
Mediterranean Archaeology**
3

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Sheffield Academic Press



MIRIAM S. BALMUTH
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Where then? Spain or Sardinia. Spain or Sardinia. Sardinia, which is like nowhere. Sardinia, which has no history, no date, no race, no offering. Let it be Sardinia. They say neither Romans nor Phoenicians, Greeks nor Arabs ever subdued Sardinia. It lies outside; outside the circuit of civilisation. Like the Basque lands. Sure enough, it is Italian now, with its railways and its motor omnibuses. But there is an uncaptured Sardinia still. It lies within the net of this European civilisation, but it isn't landed yet. And the net is getting old and tattered. A good many fish are slipping through the net of the old European civilisation. Like that great whale of Russia. And probably even Sardinia. Sardinia then. Let it be Sardinia.

D.H. Lawrence (*Sea and Sardinia*, 1923)

At the time that D.H. Lawrence wrote his novel, Sardinia was certainly considered peripheral to European civilization, both ancient and modern. Little was known of the island's history beyond the successive waves of (civilized) conquering peoples. Lawrence did recognize, however, that there was something unique, something special about Sardinia, something as yet uncaptured.

In the last few decades, more of Sardinia's history has been found, and the island has gone from 'nowhere' to a place of central importance in the ancient Mediterranean world. We owe much of this recognition to the efforts of Miriam S. Balmuth, who did not let Sardinia slip through the net. This volume is offered as a token of our appreciation for her inspirational role in our lives as teacher, mentor and friend, and as evidence of the broad influence she has had on the study of Sardinian archaeology.

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Editors' Preface

'A Festschrift should be fun, at least for the authors', said one of the contributors to this volume. That this has been true for the editors as well is due in large part to the enthusiastic support we have received throughout this project: from the overwhelming response to our call for papers, to the generosity of both institutions and individuals in underwriting the inevitable costs, to invaluable editorial assistance in the actual preparation of the manuscript.

The publication of this volume would not have been possible without the generosity of the following:

Chancellor Jean Mayer, Provost Sol Gittleman, and the Office of the Dean of the College of Liberal Arts, all of Tufts University; Edward H. Merrin; the Dr M. Aylwin Cotton Foundation, and the Royall House Association; Elie and Batya Borowski, Count Cinelli, Lia Glovsky, Anne Rossi, Mr and Mrs Edward Shapiro, Elizabeth Lyding Will, and Marianne Witherby. Also, Monni Adams, Ralph Appelbaum, Jane A. Barlow, Marilyn M. Beaven, Philip P. Betancourt, Larissa Bonfante, Estelle Brettman, John Brownson, Victoria Bunker, Jose Bustamente, Madeline H. Caviness, Marie Cleary, Patricia Crawford, Frank Moore Cross, Jeanne C. Dillon, Julia Dubnoff, Ernestine S. Elster, Thomas R. Fenn, David N. Fixler, Carolyn Frazer, Eleanor M. Garvey, Esther Stoddard Graves, Judith P. Hallett, Alice Ryerson Hayes, Amy K. Hirschfeld, R. Ross Holloway, Sarah Hood, Gertrude Howland, Debra A. Hudak, Mr and Mrs James D. Hume, the Joukowsky Family Foundation, Ann O. Koloski-Ostrow and Steven E. Ostrow, Christine Kondoleon, Neal A. Konstantin, Guenter Kopcke, Gilbert Lawall, Heather Lechtman, Albert Leonard, Jr, Mary Louise Lord, Susan S. Lukesh, Gioconda Cinelli McMillan, Regina F. Merzlake, Leo Mildenberg, Andrew M.T. Moore, Susan Tufts Moore, Peter L.D. Reid,

Brunilde S. Ridgway, Eleanor Robbins, William and Elizabeth Ruf, Sondra and Milton Schlesinger, Jane Ayer Scott, Philippa D. Shaplin, S. Amber Somes, Dennis Trout, Jane C. Waldbaum, Howard Weintraub, Shelby White and Leon Levy, Malcolm H. Wiener and Susan Wood.

Equally invaluable were the following for assistance in the production of the manuscript: Gloria Bates and Amélie Beyhum, who translated articles from French into English; Marisa Ciani, who translated summaries into Italian and proofread Italian-language articles; and Lia Glovsky, Debra Hudak, Paula Kay Lazrus, Laura Maniscalco McConnell, Amber Somes and Ruth Thomas, who proofread and corrected both articles and summaries. Both Kay Teahan, of the Classics Department at Tufts, and Gretchen Traister, of the Graduate Dean's Office, helped track down former Tufts University students for the *tabula gratulatoria*.

Finally, we would like to thank Marshall Joseph Becker, David Gordon Mitten, Elizabeth Lyding Will, Ladislaus Bolchazy, A. Bernard Knapp and last but not least, Norman Balmuth, for their advice and direction.

On behalf of everyone involved, we offer this Festschrift in appreciation of Miriam Balmuth's own enthusiasm for the archaeology of Sardinia, and the inspiration she has given several generations of students—one of whom wrote, 'Whenever I think of Tufts, Miriam is the first person who comes to mind: she was a mentor, role model and friend for me'. The production of this volume has been most satisfying for the editors, and it is our hope that it will also be fun for Miriam.

Robert H. Tykot
Tamsey K. Andrews
December 1991

Introduction

Robert H. Tykot and Tamsey K. Andrews

This Festschrift in honor of Miriam S. Balmuth continues in spirit the series of edited works collected under the title *Studies in Sardinian Archaeology*, based on the proceedings of her colloquia begun in 1979 at Tufts University. When *Studies in Sardinian Archaeology* appeared in 1984, it was the first such volume in English since Margaret Guido's *Sardinia* (1963). Since that time, Early Neolithic settlements dating back to c. 6000 BC have been discovered, Sardinian obsidian has been found in Corsica, mainland Italy, and southern France, and Late Bronze Age Aegean-type ceramics and metal artifacts have been identified at a number of sites on the island; the number of *nuraghi* (towers), *tombe di giganti* (giants' tombs), *domus de janas* (witches' houses), *pozzi sacri* (sacred wells), and other characteristic manifestations of Sardinian culture that were under investigation had increased significantly, as had also the number of professional archaeologists in the *Soprintendenze di Archeologia* for the provinces of Cagliari/Oristano and Sassari/Nuoro, and at the Universities of Cagliari and Sassari. The cumulative result of this expanded picture of Sardinia's past has been the realization of both the depth of the island's own cultural history, and its intimate relationship with other areas of the Mediterranean.

Also in that period, excavations began to be directed by foreign scholars for the first time: David Trump in the Bonu Ighinu Valley (1971–72, 1979–80), Miriam Balmuth at Nuraghe Ortu Còmidu (1975–78), Joseph Michels and Gary Webster at Nuraghi Toscono and Urpes in the Marghine (1982), and Paul Sondaar and colleagues at Corbeddu Cave beginning in 1982. This growing involvement of American and British scholars in Sardinian studies, the escalation of research results, and the increased awareness in the larger archaeological community—due in part to the major exhibition at Karlsruhe, Germany in 1980—of the importance of Sardinia in the Mediterranean, all mandated the publication of a volume to bring English readers up to date on Sardinian archaeology.

This initiative was continued and expanded

upon in *Studies in Sardinian Archaeology, Volume II: Sardinia in the Mediterranean* (1986), the revised proceedings of the First International Colloquium on Sardinian Archaeology, held at Tufts University in September 1983. Thematic sections on early settlement, Nuragic art, east and west, Sardinia and the Greeks, trade and contact, and metallurgy emphasized both the island's singular developments and its relationship to other areas of the Mediterranean. The volume, a mixture of period studies and topical investigations, covered a wide range of disciplines reflecting the increasing complexity of Sardinian archaeology and the still accelerating pace of research.

Studies in Sardinian Archaeology III (1987), the proceedings of the colloquium held at the American Academy in Rome in 1986, was dedicated to a single topic: Nuragic Sardinia and the Mycenaean World. A broadly international group of scholars participated in this colloquium, and for the first time their edited papers were published in both English and Italian.

In addition to this foreign-sponsored research and publication, Sardinian scholars have increased even further the number of their own field surveys, excavations, and scientific, art-historical, and epigraphical research over the last several years. Major conferences have been held in Cuglieri (1984), Selargius (1985, 1986, 1987), Ozieri (1986–87), Olièna (1988), and Sassari-Monte d'Accoddi (1990), with research articles also appearing in the new journal *Nuovo Bullettino Archeologico Sardo* (vols. 1–3, 1986, 1989, 1990), in the *Quaderni* published by the Soprintendenze, as well as in the well-established *Studi Sardi*, *Notizie degli Scavi*, and other Italian periodicals. Among the most important recent books are Giovanni Lilliu's revised and expanded *La Civiltà dei Sardi* (1988), the full excavation report *Il Nuraghe S. Antine nel Meilogu-Logudoro* (1988), and the corrected version of *La Civiltà Nuragica* (1990).

This history of international, scholarly dialogue, cooperation, and collaboration in recovering Sardinia's past is carried on in this Festschrift, with articles by 53 authors from seven countries, in

both English and Italian. The Editors wanted this volume to reflect the entire range of current Sardinian studies, and invited contributions on the Palaeolithic through Roman periods, from specialists in anthropology, classics, art history, epigraphy and laboratory sciences. The articles were organized into thematic groupings and sequences on the basis of both chronology and disciplinary approach.

The Prenuragic section starts off with a survey by John Cherry of the evidence for Pleistocene settlement in Sardinia. This subject, barely 10 years old, represents an area of Sardinian studies that opens up a new line of inquiry into early island settlement and ecology. The most fundamental issue, whether the island was settled in the Pleistocene, profoundly affects our interpretation of subsequent Neolithic and Bronze Age developments. His call for more complete information on the lithic finds is answered by Fabio Martini, who describes and illustrates several of the stone tool assemblages. Gerard Klein Hofmeijer and Paul Sondaar argue that the discovery in Corbeddu Cave of cusp fragments which can be refitted to molars in deer mandibles proves that the mandibles were used in the cave *post mortem*, probably as cutting or scraping instruments, between 11,000 and 17,000 BP. The evidence of the cusp fragments may satisfy Cherry and others who feel that the excavators should bear the burden of disproving the possibility that the assemblage is the result of non-human activity, before we generally recognize a Palaeolithic settlement of Sardinia.

The Holocene levels of Corbeddu Cave, on the other hand, are of unquestionable human origin, and rival those of Grotta Filiestru (Mara-SS) in their importance for understanding the chronology and ecology of Prenuragic Sardinia. Particularly significant will be the palynological and faunal data since so few of these studies have been done in Sardinia.

Whether Sardinia was initially settled in the Palaeolithic, or in the Mesolithic/Early Neolithic, it was certainly not isolated from other regions of the western Mediterranean at any time during the Prenuragic period. Robert Tykot, who presents new data on the sources and distribution of Sardinian obsidian, and Patricia Phillips, who examines its distribution as a larger European Neolithic phenomenon, conclude that the exploitation of individual sources varied both geographically and chronologically. Use-wear analyses by Linda Hurcombe supplement this data by showing how function could affect the form and circumstances under which obsidian was distributed. Obsidian studies remain most

promising in their potential for revealing economic and subsistence activities, and future investigation will enhance the foundation begun here.

The Late Neolithic of Sardinia is represented by the relatively uniform Ozieri cultural horizon, characterized by significant developments in artistic and religious expression. Maria Luisa Ferrarese Ceruti presents as an example the *domus de janas* of su Littu (Ossi), and offers an interpretation of the bull's horn and anthropomorphic figure reliefs carved on its walls. Along with dolmens and menhirs, the construction of these cultural monuments did not take place in isolation from concurrent developments in Corsica, and can be considered manifestations of an even more widespread megalithic phenomenon. Joseph Cesari reviews the Corsican monuments, which are noteworthy because of their frequent occurrence in large groups, and François de Lanfranchi offers a simplified classification of these monuments into two types. The architectural evidence of stone circles and burials *a tafone* in both southern Corsica and northern Sardinia are supplemented by the presence in Corsica of imported obsidian and Sardinian-type ceramics. Jean Guilaine shows us that striking similarities also exist between the Sardinian monuments and examples in southern France and eastern Spain. The distances involved, however, make it difficult to tell whether these similarities are due to reciprocal influence or simply convergent architectural development.

The period between the Neolithic and Bronze Age in Sardinia comprises a complex Chalcolithic period lasting nearly a millennium. Vincenzo Santoni provides a detailed examination of the ceramic and other material remains from the sub-Ozieri levels of Cuccuru s'Arriu-Cabras, and relates them to other Sardinian sites. He also suggests that the subsequent Filigosa and Abealzu-Monte d'Accoddi facies may be pushed chronologically closer to the more widespread Monte Claro (evolved Chalcolithic) horizon.

The Neolithic, Chalcolithic and Bronze Age populations themselves are examined by Franco Germanà in his important study of the corpus of human skeletal material found on Sardinia. The appearance of individuals with brachymorphic cranial features starting in the Monte Claro period, accounting for up to 35% of samples from Early Bronze Age northwestern Sardinia, may be attributed to some population shifts in the Chalcolithic, but many of the typical features of native Sardinians today may be traced to a hybridization process that was mostly complete by the Late Neolithic Ozieri period.

It is in the Middle Bronze Age that nuraghi, the most characteristic architectural feature of ancient Sardinia, first appear. This nuraghi-based way of life endured for approximately two millennia, encompassing the Phoenician, Punic and Roman periods, during which these structures were continuously elaborated and reoccupied. The Editors have divided the articles concerning this long period into three sections: Part II deals strictly with architecture and Nuragic settlement; Part III examines Sardinia's relations with the outside world; and Part IV covers the period of foreign settlement on the island.

Beginning in the Middle Bronze Age, the megalithic phenomenon of Sardinia, limited in earlier periods to sacred-religious architecture, is extended to the domestic sphere in the form of nuraghi. The major questions surrounding these stone towers—in the ancient Mediterranean second in size only to the Egyptian pyramids—concern their use and their relation to other (Aegean) architectural traditions.

The function of the nuraghi is addressed by Lucia Manca Demurtas and Sebastiano Demurtas in their examination of 55 protonuraghi *a corridoio passante*. They emphasize that these structures were in their own right successful attempts at constructing an enclosed space with a dual function of habitation and defense. Alberto Moravetti, in his survey of the Marghine and Planargia regions, integrates geological, soil, and topographic data in modelling the functions and interrelationships of both corridor and tholos nuraghi in the same territory.

David Trump cautions us against projecting the latent military function of the complex nuraghi-fortresses back in time to the protonuraghi, and notes that the transition from classic to complex nuraghe requires a more profound social explanation than that from corridor to tholos. By means of an analogy from mainland Italy, Marshall Becker also points out that we should be careful about ascribing a single function to all nuraghi, since it is unlikely that a static form of social organization applied simultaneously throughout Sardinia. Renée Bonzani uses ethnographic data to relate the use of territorial space to particular types of social organization, and proposes a testable model which focuses on the occupation of buffer zones between clusters of nuraghi.

Giovanni Ugas notes that funerary practices such as those evidenced by the Tomb of the Warriors in Decimoputzu indicate dramatic changes in social organization in the Nuragic period. He also maintains that the transition to the classic, tholos nuraghe may yet have some rela-

tionship with Aegean architectural developments. While the early nuraghi predate Aegean tholos architecture, the Sardinian *pozzi sacri* do not. Paolo Belli's survey of Mediterranean architecture related to water sources and storage, including the thermal bath of S. Calogero on Lipari, shows that similar types of structures—both in form and in function—were used contemporaneously with the Sardinian wells. He suggests, therefore, that architectural concepts and influences could have accompanied the well-documented ceramic and metal products known to have flowed between East and West in the Late Bronze Age. The religious function of these buildings, documented by the study by Maria Ausilia Fadda *et al.* of the materials used in constructing Nuragic wells, springs and sanctuaries, could then be seen as a Sardinian elaboration of an architectural type more widespread in the Mediterranean. Barbro Santillo Frizell also argues for foreign architectural influence, specifically in the sacred well at Santa Cristina (Paulilatino) where the Tanit-shaped entry and the geometry of the dromos could be explained by the intervention of Phoenician craftsmen familiar with ship-building.

The development and elaboration of domestic and religious architecture in Sardinia is in stark contrast to Nuragic ceramic production, which Aviva Weiss Grele demonstrates to have been remarkably conservative. Her preliminary study of data from the Pennsylvania State University excavations in the Borore region, however, does show an increase in the number of vessel types in the Late Bronze Age, and implies a rising demand for material goods beginning in that period. Faunal data from the Late Bronze Age village of Nuraghe Santa Barbara (Bauladu), presented by Lenore Gallin and Ornella Fonzo, illuminate the pastoral aspect of Nuragic subsistence: the raising of cattle, pigs, sheep and goats for meat, wool, and possibly milk products.

In Part III, Fulvia Lo Schiavo adds to the growing inventory of imported and imitated Aegean-type artifacts found in Sardinia with her presentation of a Cypriot-type fibula found at Nuraghe Nurdole; the possibility of its manufacture in Iberia only supports the likelihood of Sardinian maritime contacts with both the East and the West in the Late Bronze/Early Iron Age. That the island became a focal point in the Mediterranean metals' trade in these periods is demonstrated by Claudio Giardino's synthesis of Sardinian metallurgy. His investigation of marine currents and navigational capabilities is a systematic assessment of the actual routes and times of year favorable to long-distance trade.

Zofia Stos-Gale and Noël Gale give us the latest

results of their ongoing provenience study of the copper oxhide ingots found on Sardinia. Thirty ore deposits in Sardinia have now been tested, and none match the 31 oxhide ingots analyzed in their lead isotope composition, although some additional ores remain to be checked. All 31 do, however, match the Cypriot fields for both lead isotope composition and gold/silver ratios, and a scenario is offered to explain how foreign copper can be found on an island with its own rich copper sources. Furthermore, there is no evidence that any foreign copper was melted down to make Nuragic artifacts.

David and Francesca Ridgway suggest that between 1200 and 900 BC, the Cypriots may have been exchanging copper for iron, as described in the *Odyssey*; this could explain both the late appearance of oxhide ingots in Sardinia, and the similarities between Sardinian and Cypriot metal-smithing tools. They also suggest that the lost-wax bronze-casting process used to make the *bronzetti* could have been introduced to Sardinia by Cypriots. C. Atzeni *et al.* report here the results of metallographic analysis of some *bronzetti* in the National Archaeological Museum in Cagliari, the first time that a Sardinian collection has been analyzed; the discovery of a figurine made of a copper-silver alloy rather than tin bronze points out the need for further investigation of the use of silver in Sardinia.

After the Phoenician colonization of the island in the 8th century BC, imported materials, especially ceramics, increased markedly. The Phoenicians and their Carthaginian successors served as a medium for the importation not only of Levantine products, but also Greek and Etruscan material. Carlo Tronchetti describes the Attic Greek ceramics found in Sardinia, mostly of the 6th–4th centuries BC, and notes the importance of both drinking vessels and perfume containers. He suggests that an exponential increase in Greek imports in the 5th century BC is the result of Hellenization of the Punic civilization, rather than of direct Greek contact. According to the ancient authors, however, the Greeks did settle in Sardinia; among them was Sardus who gave his name to the island. Giovanni Lilliu summarizes these legendary accounts, and concludes that while they contain some threads of truth, they are not confirmed by archaeological evidence. Jean Davison suggests that the Hellenization of Sardinian culture, through Phoenician–Punic commercial contacts, resulted in Sardinians adapting a view of their own mythic history that was essentially Hellenocentric. Since this adoption probably occurred in the 6th and 5th centuries BC, the later historians Diodorus Siculus and

Pausanias would then have observed Sardinian cultic practices based on, and therefore apparently validating, these originally Greek legends.

The effects on the indigenous Nuragic population of Phoenician, Carthaginian and Roman colonization are examined in Part IV. Paolo Bernardini points out the difficulties in defining an Orientalizing ‘culture’ after the establishment of Phoenician colonies in Sardinia in the 8th and 7th centuries BC, despite the quantity of Orientalizing artifacts found on the island. His argument, that the Nuragic society encountered by the Phoenicians was neither static nor homogenous, is borne out in his discussion of the influence of Orientalizing art and culture on indigenous craft production and social relations. Brian Peckham, conversely, highlights the diversity of the Phoenician colonists themselves who, from several independent city-states, headed west for different reasons, by different routes, and at different times: first the Sidonians, and later the Tyrians, ultimately landing at Bosa, Nora, Sulcis and Tharros. The presence of votive Nuragic lamps in the earliest phase of the tophet at Sulcis, illustrated here by Piero Bartoloni, shows not only that native Sardinians had access to Phoenician sacred rites, but that there may have been an indigenous component to the settlement and urbanization of this site from its foundation in the 8th century BC. Through these coastal interactions, Orientalizing art, exemplified here by Enrico Acquaro in his presentation of some jewelry from Tharros, was introduced to Sardinia.

Giovanni Tore also cautions against generalizing the archaeological and historical data concerning the interaction between Phoenicians, Carthaginians and indigenous Sardinians. The northern coast of the island, for example, also had particularly close relations with Etruria during the 8th–6th centuries BC; during the Carthaginian domination, Tore argues, an antagonistic relationship did not necessarily exist in all parts of the island, and certainly not at all times. Further light is shed on the Phoenician–Punic colonization of Sardinia by epigraphic evidence, comprehensively catalogued by Maria Giulia Amadasi Guzzo; here she presents two Punic inscriptions from Olbia and Tharros which refer to settlements called ‘new city’.

Gary Webster and Maud Teglund, integrating archaeological, historical and epigraphic evidence, suggest a three-zone model of Phoenician, Punic and Roman interaction with native Sardinians. The intermediate, middle altitude zone is where they see the most significant chronological change. This zone was occupied by socially stratified, organizationally complex Nuragic

peoples during the Phoenician period, was later abandoned and/or controlled in the Punic period, and was then reoccupied by a newly emerging elite in the Roman period. Their study underscores the central theme of Part IV, that colonial-native interaction was a melding of dynamic, heterogeneous cultures, and requires careful, region-specific interpretation rather than broad island-wide generalization. Robert Rowland focuses on the extent of Punic settlement in the interior of the island; he concludes that although some Carthaginians actually settled in the countryside, the archaeological evidence from both funerary and habitation sites is best explained by the effects of Punicization on native Sardinians.

The Romanization of Sardinia, like that of other Roman colonies, is thought to have involved the military domination of highland Nuragic settlements, with rural villas marking *latifundia* worked by slave labor. Stephen Dyson uses new survey data to show that far fewer villas existed in Sardinia than in Roman Britain which, along with the continuity shown at native sites within Roman *territoria*, indicate dialogue rather than domination in this period of the island's history. Finally, Elizabeth Lyding Will's study of Sardinian

amphora collections provides yet another line of inquiry into the economy of Roman Sardinia; her observation that olive oil was imported from mainland Italy in the 1st century BC, and then from Spain in the 1st century AD, once again reflects both the long-standing, yet ever-changing relations of Sardinia in the Mediterranean.

Editorial Notes

The opposite-language summaries following each paper were written by the Editors, who take full responsibility for their contents. Summaries, rather than abstracts, were provided to serve as useful tools for research. Some homogenization of spelling and format was done; although all article titles are capitalized, Italian conventions for numbers were retained. The bibliographic format is that of the *Journal of Mediterranean Archaeology*. The chronological conventions used are BP for raw radiocarbon dates, uncal BC for uncalibrated dates, and cal BC for calibrated dates. Whenever possible, the raw date with reference is given so that recalibration can be done by the reader as necessary.

Introduzione

Robert H. Tykot e Tamsey K. Andrews

Il *Festschrift* in onore di Miriam S. Balmuth continua in spirito la serie di opere pubblicate e raccolte sotto il titolo *Studies in Sardinian Archaeology*, basate sui colloqui organizzati da Miriam Balmuth a Tufts University a partire dal 1979. Il primo volume di *SSA* pubblicato nel 1984 è stato il primo volume redatto in lingua inglese (riguardante l'archeologia in Sardegna) dopo *Sardinia* di Margaret Guido (1963). Successivamente, sono stati scoperti insediamenti appartenenti al Neolitico antico che risalgono al 6000 a.C., è stata ritrovata ossidiana sarda in Corsica, in Italia e nella Francia meridionale, e presso numerosi siti dell'isola sono stati identificati ceramiche e metalli di tipo egeo appartenenti al Bronzo tardo. Il numero di nuraghi, di tombe di giganti, di pozzi sacri, di domus de janas, e di altre strutture architettoniche sarde prese in esame è aumentato considerevolmente così come è aumentato il numero di archeologi nelle Soprintendenze delle Province di Cagliari e Oristano, di Sassari e Nuoro, e nelle Università di Cagliari e Sassari. I risultati cumulativi dell'espansione del quadro storico sardo, sono

consistuti in un approfondimento della storia culturale dell'isola e delle sue relazioni con altre aree del Mediterraneo.

Durante quel periodo, per la prima volta, scavi archeologici sono stati diretti da studiosi stranieri: David Trump nelle Valle di Bonu Ighinu (1971–1972, 1979–1980), Miriam Balmuth presso il nuraghe Ortu Còmidu (1975–1978), Joseph Michels e Gary Webster presso i nuraghi Toscono e Urpes nella Marghine (1982), e Paul Sondaar e i suoi colleghi presso la Grotta di Corbeddu (dal 1982). La crescente partecipazione di studiosi inglesi e americani nelle ricerche in Sardegna e l'aumentata consapevolezza nella comunità archeologica dell'importanza della Sardegna all'interno del Mediterraneo—dovuta in parte all'esibizione presso Karlsruhe in Germania nel 1980—hanno contribuito alla pubblicazione di un volume (*SSA*) che aggiornava i lettori di lingua inglese sull'archeologia in Sardegna.

Questa iniziativa è continuata ed è stata ampliata con la pubblicazione del secondo volume, intitolato *Studies in Sardinian Archaeology*,