Research Article

Roberto Micheli*

Similarities and Differences Between Italian Early Neolithic Groups: The Role of Personal Ornaments

<https://doi.org/10.1515/opar-2020-0194>

received February 7, 2021; accepted August 4, 2021

Abstract: The Early Neolithic is an interesting period for observing the changes that took place in material culture and also in the ideology that influenced the production of personal ornaments. Objects of adornment are useful for understanding how past peoples differentiated themselves on the basis of gender, age, or group affiliation. The Early Neolithic in Italy developed throughout the entire sixth millennium cal. BC, during which the first farming communities settled in the Italian peninsula and islands, with diverse Neolithic groups related to wider-ranging cultural spheres. Early Neolithic ornaments were mainly ring bracelets, manufactured beads and perforated shells or teeth. Through their choice and the raw materials used for their production, individuals and groups emphasized their diverse identities based on shared traditions. Focusing on some of the more significant sites, this article considers similarities and differences in forms and raw materials employed for ornaments by different Early Neolithic groups and how these could have been useful attributes to emphasise identities and in particular the membership of particular social or cultural groups.

Keywords: perforated shells and beads, ring bracelets, Impressed-Cardial Ware complex, Incised Lines Ware, Po Plain Neolithic

1 Introduction

The Neolithic is an interesting period for observing the changes that affected the material culture and the ideology of prehistoric groups. During its early phase, the production of personal ornaments improved; new types and a greater variability of forms and raw materials are found compared to the previous period (Bar-Yosef Mayer, 2013; Martínez-Sevilla et al., 2021; Rigaud, d’Errico, & Vanhaeren, 2015). The increase and spread of these objects were certainly due to innovations in the social organization of Neolithic communities determined by the development of farming, animal husbandry, and settled villages (Cauvin, 1994; Chapman & Gaydarska, 2011; Robb, 2007; Whittle, 1996), as well as being consequences of the changes in craft production, exchange networks, and raw material procurement, which strongly influenced the material culture and subsistence of Neolithic groups (Baysal, 2019; Micheli, 2012a; Wright & Garrard, 2003).

Special Issue: THE EARLY NEOLITHIC OF EUROPE, edited by F. Borrell, I. Clemente, M. Cubas, J. J. Ibáñez, N. Mazzucco, A. Nieto-Espinet, M. Portillo, S. Valenzuela-Lamas, & X. Terradas

* **Corresponding author: Roberto Micheli**, Ministero della Cultura – Soprintendenza Archeologia, Belle Arti e Paesaggio del Friuli Venezia Giulia, Trieste, Italy, e-mail: roberto.micheli@beniculturali.it

The development of the production of elaborate ornaments, based on new geometric shapes – often standardized and obtained by transforming existing natural forms, was undoubtedly the most important innovation in the field of body adornment in the period. The manufacturing of disc-shaped or cylindrical beads, as well as ring bracelets, requires knowledge of specific processes related to abrasion, polishing, and perforation techniques that call for careful planning and manual skills and derive from developments in the production of polished and ground stone tools. The technological complexity of ornament production reveals in many cases the beginnings of craft specialization and the social organization that underlay it (Bar-Yosef Mayer, 2013; Bonnardin, 2009; Martínez-Sevilla, 2019; Wright & Garrard, 2003; Wright et al., 2008). Although stone ornaments appeared at the end of the Palaeolithic, manufactured stone beads and rings increased in frequency from the earlier phases of the Neolithic, expanding the range of stones and minerals used and the colours of the raw materials available. Thus, the range and the diversity of coloured personal ornaments, which before the Neolithic consisted mainly of perforated shells and teeth, was significantly enlarged from this period onwards by the production of stone ornaments (Bar-Yosef Mayer & Porat, 2008; Baysal, 2019; Micheli, 2012a). The appearance of new decorative objects made possible new modes of personal adornment and probably the conveyance of new symbolic messages through ornaments as an effect of emerging social identities forged in the first farming communities.

The Early Neolithic in Italy developed during the entire sixth millennium cal. BC (Figure 1). Although the picture is complex and varied, two major cultural spheres can be recognized geographically, each with its own distinctive material culture and probably also its own ideology. The Impressed-Cardial Ware

Figure 1: Chronological chart of Early Neolithic groups in Italy (after Biagi & Starnini, 2016; Biagi et al., 2020; Improta & Pessina, 1998; Natali & Forgia, 2018; Pessina & Tiné, 2008; Radi & Petrinelli Pannocchia, 2018; Starnini et al., 2018; Tiné, 2002).

complex (Bernabò Brea, 1946, 1950; Binder et al., 2017) is found extensively in Italy, mainly along the coasts and on the islands, while the Po Plain Neolithic groups settled in northern Italy, including the sub-Alpine territories (Bagolini, 1980; Biagi, Starnini, Borić, & Mazzucco, 2020; Pearce, 2013; Pessina, 1998; Starnini, Biagi, & Mazzucco, 2018), the Incised Lines Ware groups occupied the zone between the rivers Arno and Tiber (Fugazzola Delpino, D'Eugenio, & Pessina, 1999; Grifoni Cremonesi, 1992), and the Catignano group inhabited Abruzzo (Colombo, 2010; Radi & Tozzi, 2009).

The Impressed-Cardial Ware complex was not a monolithic entity since even during its initial stages local variants appeared with regard to pottery decoration and became stronger throughout their evolution. In southern regions, the development of Impressed Ware was initially subdivided into three main phases (early, advanced and recent), until it merged with the Neolithic cultures with graffito and painted pottery (Cipolloni Sampò, 1992; Tiné, 1983, 2002). In recent years, two main horizons have been better distinguished within Impressed Ware groups (Natali & Forgia, 2018; Pessina & Tiné, 2008): an early phase (*Impressa arcaica*) dated between c. 6000 and 5800/5700 cal. BC and an advanced phase (*Impressa evoluta*) ranging from c. 5800/5700 to 5300 cal. BC. In Calabria and Sicily, the Early Impressed Ware phase was followed by the Stentinello culture, which had a very long duration (Guilaine, 2018; Natali & Forgia, 2018; Pessina & Tiné, 2008; Tiné, 2002). Central Italy was reached and inhabited by Impressed Ware groups in c. 5800 cal. BC (Grifoni Cremonesi & Radi, 2014; Pessina, 2002; Radi & Petrinelli Pannocchia, 2018), while the development of the Cardial Ware groups in the Tyrrhenian area and Liguria indicates distinct episodes of neolithization between c. 5800/5700 and 5300/5200 cal. BC (Biagi & Starnini, 2016; Binder et al., 2017; Grifoni, Tozzi, & Weiss, 2000; Pessina & Tiné, 2008).

The formation of Po Plain Neolithic groups can be explained taking into account multiple factors and the interaction of different peoples and traditions, in which even a late Mesolithic component played some roles, although its real influence has recently been debated (Biagi, 2003; Binder, 2000; Pearce, 2013; Pessina & Tiné, 2008; Pessina, 1998; Starnini et al., 2018). The combination of these aspects gave rise between c. 5600/5500 and 4700/4600 cal. BC to the cultural variety of the Po Plain Neolithic groups, recognized mainly on the basis of their site names or some regional characterization: Fiorano, Friulian groups, Isolino, Vhò, and Gaban (Biagi et al., 2020; Improta & Pessina, 1998; Pessina, 1998; Starnini et al., 2018). The Vasi a Coppa or Vlaška group in the Trieste Karst is often associated with the latter groups, although it has a particular location at the edge of Italian territory and a diverse origin that is not yet well understood (Ferrari et al., 2018). In the area occupied by Incised Lines Ware (*Ceramica a Linee Incise*) groups in central Italy, it is also possible to recognize some regional variants, probably influenced by the Fiorano group in northern Tuscany and by other local traditions in the southern territories (Fugazzola Delpino et al., 1999; Grifoni Cremonesi, 1992; Pessina & Tiné, 2008). The Catignano group in Abruzzo marks the transition from late Impressed Ware features to those of painted *figulina* pottery (Radi & Tozzi, 2009).

In this multifaceted picture, personal ornaments for bodily adornment also show a mainly twofold division. The two cultural spheres remained substantially independent from each other and preserved their own characteristic material cultures even though there were contacts between some groups (Figure 2). This article considers cultural similarities and differences between these two groupings, with a particular focus on the role of personal adornments and on how this contrast was expressed through the selection and manipulation of particular raw materials and forms.

The Early Neolithic of Italy embraced a long period of time, was characterized by various neolithization events, and featured several groups of diverse importance and chronology. Despite the many sites that are known and the numerous ¹⁴C dates available, there are few well-preserved stratigraphic sequences that allow the definition of a reliable chrono-cultural framework for this period. In this context, personal ornaments attracted scarce attention in the archaeological literature until a few years ago. Furthermore, since they are generally uncommon, their occurrence varies widely between sites, and abundant discoveries are exceptional, the statistical analysis of adornment objects to compare the data available for various groups is unfortunately not possible. The following observations are therefore based on a descriptive comparison of the assemblages, so as to offer some insights on personal ornaments and the categorization of body adornments in Early Neolithic groups.

Figure 2: Early Neolithic sites with personal ornaments: (1) Torre Sabea; (2) Scamuso; (3) Coppa Nevigata; (4) Passo di Corvo; (5) Ripa Tetta; (6) Rëndina; (7) Villaggio Gaudiano; (8) Trasano; (9) Grotta 3 di Latronico; (10) Grotta di San Michele di Saracena; (11) Favella della Corte; (12) Trefontane; (13) Fontana di Pepe; (14) Grotta Corruggi; (15) Grotta dell'Uzzo; (16) Cala Pisana – Lampedusa island; (17) Riparo di Su Carropu; (18) Grotta Filiestru; (19) Grotta Verde; (20) Torre Sinello; (21) Villaggio Rossi – Marcanese; (22) Fontanelle; (23) Grotta dei Piccioni; (24) Santo Stefano – Ortucchio; (25) Grotta Continenza; (26) Grotta La Punta; (27) Paterno; (28) Capo d'Acqua; (29) Grotta delle Marmitte; (30) Ponte Rosso – Catignano; (31) Villa Badessa – Cepagatti; (32) Villaggio Leopardi – Penne; (33) Grotta Sant'Angelo; (34) Maddalena di Muccia; (35) Ripabianca di Monterado; (36) La Marmotta; (37) Grotta Patrizi; (38) Grotta del Vannaro; (39) Poggio Olivastro; (40) Le Secche – Giglio island; (41) Cala Giovanna Piano – Pianosa island; (42) La Scola – Pianosa island; (43) Tane del Diavolo – Parrano; (44) Sigillo; (45) Bettona; (46) Tuoro sul Trasimonto; (47) Borghetto; (48) Terontola; (49) Grotta dell'Orso di Sarteano; (50) Grotta Lattaia; (51) Grotta del Fontino; (52) Affitti Gotti – Campiglia Marittima; (53) Paduleto – Castagneto Carducci; (54) Condotti Vecchi; (55) Casa Querciolaia; (56) Grotta Borzini or dei Pipistrelli; (57) Arma dell'Aquila; (58) Grotta dell'Acqua or del Morto; (59) Caverna Pollera; (60) Caverna delle Arene Candide; (61) Grotta delle Paste; (62) Arma di Nasino; (63) Arma dello Stefanin; (64) Alba (Regione Borgo and Cooperativa Lavoratori); (65) Monviso (various localities); (66) Torino; (67) Villa del Foro; (68) Pieve – Novi Ligure; (69) Rio Carona – Momperone; (70) Brignano Frascata; (71) Biagasco – Pozzol Groppo; (72) Rocca Boromea – Arona; (73) Palude Brabbia; (74) Monte Alfeo – Godiasco; (75) Casa Gazza – Travo; (76) Bobbio; (77) Salerno; (78) Albinea; (79) Fornaci Carani – Fiorano Modenese; (80) Pescale – Prignano sul Secchia; (81) Savignano sul Panaro; (82) Bellaria – Bazzano; (83) Bologna; (84) San Lazzaro di Savena (Idice, Villa Bignami and Ponticella, Sant'Andrea); (85) Massa Rapi – San Lazzaro di Savena; (86) Castel San Pietro Terme; (87) Podere Rossola – San Prospero; (88) Fornace Grattelli – Lugo di Romagna; (89) Riolo Terme, via Ripa; (90) Sergnano; (91) Dugali Alti – Ostiano; (92) Vhò di Piadena (Campo Ceresole, Campo Costiere, Campo Sera Mattina and San Lorenzo Guazzone); (93) Cascina Bocche – Isorella; (94) Cascina Ferramonde di Sotto; (95) Riparo Gaban; (96) Mezzocorona Borgonuovo; (97) Plunacker; (98) Lugo di Grezzana; (99) Ca' Bissara; (100) Le Basse di Valcalaona; (101) Valer; (102) Bonifica di Muzzana del Turgnano; (103) Sammardenchia; (104) Pavia di Udine; (105) Buttrio; (106) Riparo di Biarzo; and (107) Grotta dell'Orso di Gabrovizza (for details, see Supplementary Materials file <https://doi.org/10.1515/opar-2020-0194>).

2 Adorning the Body to Attract Social Attention

Personal ornaments and body decoration are very important in almost all traditional societies from pre-historic to modern times, since both are closely associated with people themselves. Ornaments are fascinating objects to wear, accumulate, or exchange. It follows that they may have had various uses in each group, with different social, economic, or symbolic implications – as suggested by the use of stone rings in different Neolithic contexts for example (Fromont, Hérard, & Hérard, 2010; Gebel, 2010; Martínez-Sevilla et al., 2021; Pétrequin et al., 2015b, 2019). In this article, the ornaments are interpreted as personal adornment items related to the decoration of the body or garments. Since ornaments are key elements for highlighting aspects of the personhood of individuals (Fowler, 2004), they reveal the multiform ways in which past peoples paid attention to their appearance and adorned themselves to stress their identity and to attract the social attention of others. In fact, human beings have always considered their bodies as a natural support for decoration and transformation, to convey symbolic meanings. Besides, the great diversity of personal adornments suggests a ubiquitous effort to mark the distinction between what is natural and what is instead a cultural, symbolic product (Cordwell, 1979; Bartholeyns, 2011; Baysal, 2019).

Figure 3: Distribution map of the main types of Early Neolithic ornaments in Italy (for details, see Figure 2 and Supplementary Materials file).

Early Neolithic ornaments are not very common in Italy compared to other contemporary European Neolithic contexts, or indeed to other phases of Italian prehistory. Moreover, there is an evident divergence between the Impressed-Cardial Ware sites – with small but often variegated assemblages – and those of Po Plain Neolithic, Incised Lines Ware, and Catignano groups, where ornaments are commonly isolated or rare finds (Figure 3). In addition, well-preserved Early Neolithic burials have not yet furnished ornaments. Since the data are not homogeneous and sites with ornaments are geographically dispersed and often distant in time from each other, the scarce information available is useful but incomplete evidence concerning body adornment traditions. However, despite these difficulties, a general analysis and some interpretations regarding the use and importance of personal ornaments in Early Neolithic Italy are proposed in the following sections (for details about site and ornament distributions, see Supplementary Materials).

3 Personal Ornaments in the Impressed-Cardial Ware Complex

Ornaments of the Impressed-Cardial Ware complex have been found in settlement and cave sites not associated with mortuary practices. Consequently, there is little or no information about the relationships between personal ornaments and their use on the body (Grifoni Cremonesi, 2002, 2006; Conati Barbaro, 2008; Zemour, 2011). The available data from settlements provide some general trends confirmed by recurrences and similarities from distant areas where the Impressed-Cardial Ware complex occurs; sites are often located right on the coast or nearby, as in the Tyrrhenian area and Liguria, or in inland plains or along river valleys in the southern regions (Grifoni et al., 2000; Manfredini, 2002; Pessina & Tiné, 2008). Marine resources were intensely exploited in some areas for human nutrition and the manufacture of everyday tools and objects for adornment (Bisconti, 2007; Borrello, 2003, 2005; Cade, 1999; Cataliotti-Valdina, 1999; Ghisotti, 1997; Mannino et al., 2007; Nonza, 2000). Such ornaments were mainly perforated shells, among which *Columbella rustica*, or the dove snail, is dominant in some sites. Perforated teeth and bones are uncommon, while the incidence of elaborate ornaments, such as beads, pendants, and ring bracelets manufactured from stone or shell, is limited but known since the early phases (Micheli, 2002).

Impressed-Cardial Ware groups produced ornaments mainly from shells, although other local raw materials were also used, but less frequently (Figure 3). *C. rustica* is common in many sites, and specimens usually feature a hole in the dorsal part and sometimes lack the apex; a few other gastropod and bivalves shells are also attested. *Conus* and *Cyclope* shells are the most common perforated gastropods, while *Acatocardium/Cardium*, *Cerastoderma*, and *Glycymeris* are the bivalves most often used (Micheli, 2002, 2012a). Perforated *C. rustica* shells are found in the earlier Impressed Ware levels in some southern sites, such as at Torre Sabea (Radi, 2003) and San Michele di Saracena Cave (Figure 4(1–12)) and in Liguria in Arene Candide Cave where they occur in the earlier layers and in the subsequent Cardial phase (Bernabò Brea, 1946, 1956; Borrello, 2003; Micheli, Panelli, Rossi, & Maggi, in press; Traversone, 1999). Dove shells are also well known during the latter phase in some other Tyrrhenian Cardial Ware sites located on islands. Perforated bivalves are not numerically abundant in each site, but their distribution suggests a concentration in some area, for example, in Abruzzo and Sicily where it would have been easier to find these shells on the sandy beaches.

Other ornaments made from hard animal parts were perforated teeth and bones. Most pendants were canines of small carnivores or complete or fragmented *Sus* tusks; some perforated metapodials and small phalanges are also known. Nevertheless, these elements are rare or totally absent in southern and Tyrrhenian sites, while they seem more significant in central Italy in Adriatic Impressed Ware sites with mainly canines of canids, dog or fox, and *Sus* tusks. Fox canines are attested exceptionally in Sicily (Tusa, 1997) and also at Cala Pisana on the island of Lampedusa, where these animals seem never to have lived (Radi, 1972). Perforated canid teeth and hare metapodials were also found, as well as red deer atrophic canines. Despite this, some bone pendants mimicking atrophic canines were discovered in Sant'Angelo Cave (Grifoni Cremonesi, 1996), San Michele di Saracena Cave (Figure 4(14)), and Uzzo Cave (Tusa, 1997),

Figure 4: San Michele di Saracena Cave: (1–12) *Columbella rustica* shells; (13) perforated cave pearl; (14) bone pendant reproducing a red deer atrophic canine; (15 and 16) disc-shaped *Cardium* shell beads; (17) cylindrical *Spondylus* shell bead; (1–7 and 13) from Early Impressed Ware layers; (8–12 and 14–17) from Stentinello layers (after Natali, Agrostelli, Feriozzi, Forgia, & Micheli, in press).

demonstrating the addition to the ornament assemblage of an apparently natural component, which is in fact a man-made artefact.

The production of elaborate ornaments stems from changes in craft production, exchange networks, and raw material procurement. Shell or soft stone disc, barrel, and cylindrical beads appear in Early Impressed Ware contexts from the early centuries of the 6th millennium cal. BC (Figure 4(15 and 16)). Disc-shaped shell beads were obtained from *Acanthocardia/Cardium* or *Cerostoderma* valves, while thicker

barrel or cylindrical beads (Figure 4(17)) could be produced from larger and thicker shells (*Spondylus* or *Charonia*). In some southern Early Impressed Ware and also in later Tyrrhenian Cardial contexts, finished and unfinished stone beads have been found in small numbers. Among these, the presence of steatite beads is noteworthy because it attests an initial organized exploitation of this material – for which supply areas in Italian territory are limited – for the production of ornaments.

The spread of rings is associated with several cultural groups, especially in the northern and central regions where stone specimens, together with shell and some in bone, were important items of body adornment of Po Plain Neolithic, Incised Lines Ware, and also Catignano groups (Martínez-Sevilla et al., 2021; Micheli, 2012b; Ribero, 2017; Tanda, 1977). However, the oldest Italian specimen so far discovered is a *Spondylus* shell ring found at Torre Sabea (Radi, 2003) and dated to the beginning of the 6th millennium cal. BC (Figure 5(1)). Ring bracelets, however, do not seem to have enjoyed much favour among the Italian Impressed Ware groups. In fact, the only evidence of shell ring manufacturing so far documented in the Impressed-Cardial Ware sites is a large cut-out *Spondylus* valve found recently in the Cardial Ware deposit at Arene Candide Cave (Figure 6). This object, interpreted as a discoid blank for a ring bracelet, indicates the possible initial production of these ornaments in the Early Neolithic. Abundant shell ring manufacturing remains are found in the Square Mouthed Pottery phase layers in the same cave (Borrello & Rossi, 2005; Borrello & Micheli, 2011).

Arene Candide Cave has yielded useful data on the Early Neolithic in Liguria and parallels with both Tyrrhenian and French contexts. In fact, this cave preserves one of the largest collections of Neolithic ornaments characterized by the prevalence of shell objects (Borrello & Rossi, 2005; Borrello, 2003; Micheli, 2005; Micheli et al., in press; Traversone, 1999). The excavations carried out here have brought to light certain characteristic shell pendants documented so far only in Liguria (Figure 7). These objects vary in shape and size and are of great aesthetic value, such as the specimen obtained from a *Charonia* valve, which was recently found in the Impressed Ware levels dated to c. 5800–5600 cal. BC (Figure 7(2)). This discovery is noteworthy because the artefact in question constitutes the missing half of another fragment found in the

Figure 5: Shell ring bracelets: (1) Torre Sabea, *Glycymeris* sp. shell (Early Impressed Ware group); (2) Ca' Bissara, *Glycymeris* sp. shell (Impressed Ware-Fiorano mixed context); (3) Fornaci Carani- Fiorano Modenese (Fiorano group), *Spondylus gaederopus* shell; (4) Isorella-Cascina Bocche (Vhò group), *Spondylus gaederopus* shell ((1) after Micheli, 2002; (2–4) after Micheli, 2006).

Figure 6: Arene Candide Cave, Cardial Ware horizon: blank obtained from a cut-out *Spondylus* valve (after Micheli et al., in press).

Figure 7: Arene Candide Cave: (1) *Glycymeris* shell pendant; (2, 5 and 6) *Charonia* shell pendants; (3 and 4) *Spondylus* shell pendants; (1, 3, 5 and 6) from the 19th century investigations; (2) impressed Ware horizon of excavations 1997–2012; (4) Impressed Ware horizon, layer 26C from the excavations of Luigi Bernabò Brea ((1 and 3) after Borrello, 2005; (2) after Micheli et al., in press; (4) after Micheli, 2005; (5 and 6) drawings R. Micheli; courtesy Genova-Pegli Museum of Ligurian Archaeology).

19th century in the same cave and now kept in the Genova-Pegli Museum (Figure 7(5)). Further evidence in favour of the Impressed Ware attribution of these objects is a smaller arched *Spondylus* shell pendant previously found in the same cave in layer 26C (Figure 7(4)). Additional disc and arched or semilunate pendants of uncertain cultural attribution were discovered in the course of the 19th century investigations

of the cave's Neolithic deposits (Bernabò Brea, 1946, 1956; Borrello, 2005; Taborin, 1974). Since these ornaments have no parallels from other Impressed-Cardial Ware contexts, with the exception of a single isolated find from Passo di Corvo in Apulia (Tin, 1983), they demonstrate that a local ornament tradition originated within this Early Neolithic group in western Liguria.

4 Personal Ornaments in Po Plain Neolithic, Incised Lines Ware and Catignano Groups

In the area occupied by Po Plain Neolithic and Incised Lines Ware groups, ornaments are uncommon except for ring bracelets. In northern Italy, perforated *C. rustica* and *Cyclope neritea* shells are only found in Trentino where perforated atrophic canines have also been found (Borrello & Dalmeri, 2005; Pedrotti, 1998). The presence of these shells in the Adige Valley in the middle of the mountains points to the spread of material of Mediterranean origin, from the Ligurian Sea in particular, through the Po Valley and Lake Garda. Other shell ornaments come from the Vh and Fiorano sites, where a few fossil *Glycymeris* and *Dentalium* (tusk) shells were found. These shells were collected from some of the numerous Plio-Pleistocene fossil shell deposits in the Apennines; it is not possible to determine with certainty the exact supply area (Micheli, 2005). Furthermore, the excavations carried out at Lugo di Romagna have added an interesting small assemblage, which provides new data about the eastern margins of the Fiorano group, including stone and bone ring bracelets, a discoid stone ring blank, a perforated dog premolar, some perforated bivalves (*Glycymeris*), a gastropod shell (*Nassarius reticulatus*), and many tusk shells collected from the nearby Adriatic coast (Micheli, 2018). Perforated marine shells together with some fossil tusk shells of Apennine origin were also used as ornaments by the Incised Lines Ware group in Tuscany (Grifoni Cremonesi, 1992).

Among elaborate ornaments, manufactured disc-shaped beads are unusual throughout the territories of the Po Plain Neolithic, Incised Lines Ware and Catignano groups – where instead ring bracelets are characteristic ornaments (Figure 8(1)). The latter is uncommon in the Impressed-Cardial Ware complex,

Figure 8: Fiorano settlement at Lugo di Romagna-Fornace Gattelli: (1) limestone ring bracelet; (2) fragmented limestone discoid; (3) fragmentary bone ring bracelet (after Micheli, 2018).

except for some shell specimens that appear only in Liguria during the late Cardial Ware horizon in Pollera Cave (Odetti, 1991) and later in early Square Mouthed Pottery culture contexts (Micheli, 2012a; Ribero, 2017; Tanda, 1977). Stone specimens are circular, subcircular, or oval in shape, with a triangular or a drop-shaped section; in northern Italy, they were made mainly from metamorphic rocks and in particular from some “greenstone” lithotypes, while in central Italy, other stones are also used in addition to examples mentioned earlier. The appearance of these rings also in central Italy in areas distant from the northern regions where their main Italian core zone seems to have been shared traditions and confirms relationships among the Po Plain Neolithic, Incised Lines Ware, and Catignano groups.

5 Mortuary Practices and Personal Ornaments During the Early Neolithic

Funerary practices are fascinating because they can shed light on a people’s conception of death and the afterlife and on the social identities and personhood of individuals. In this regard, tombs are the best context for improving our knowledge of the interrelatedness of people, objects, and places. Personal ornaments found inside them acquire significance because they are closely associated with individuals and their biographies (Baysal, 2019; Bonnardin, 2009; Fowler, 2004; Jeunesse, 1997).

In southern Italy, mortuary practices are characterized by single inhumation burials in shallow cuts in open-air settlements, while in central Italy, there are also burials of disarticulated bones in caves. Tombs are not numerous, and grave-goods and personal adornments are usually absent, as for example in southern Impressed Ware burials (Conati Barbaro, 2008; Grifoni Cremonesi, 2002, 2006). Therefore, ornaments do not seem to have been particularly significant in death for Impressed Ware peoples in Italian territory. This situation differs from that documented in southern France, where Early Neolithic burials contain grave goods and personal ornaments including beads, pendants, and bracelets made from shells, bone, and stone (Beyneix, 1997; Zémour, 2011; Zémour et al., 2017). Early Neolithic graves are unknown in northern Italy, while in the centre, some Incised Lines Ware burials occur with scattered grave goods and personal ornaments in Fontino, Orso, and Lattaia caves, but since these were disturbed contexts, they do not provide much useful information (Bagolini & Grifoni Cremonesi, 1994). Patrizi Cave in Latium is an exception: it preserved the famous burial of an adult male with a trepanned skull and contained a single perforated sheep metacarpal, interpreted as a pendant and not directly associated with the skeletal remains (Grifoni Cremonesi & Radmilli, 2002).

6 Personal Ornaments in the Early Neolithic

The data briefly presented highlight a distinction between Impressed-Cardial Ware groups on one hand and Po Plain Neolithic and related central Italian groups on the other hand regarding their use of adornment objects, indicating different ornamental traditions (Figure 3). The absence of funerary evidence where individuals and ornaments are directly associated constitutes a limitation for our analysis, which considerably reduces the possibility of delineating the personal identities of the Early Neolithic peoples settled in Italy. However, Early Neolithic ornaments provide some interesting insights into Neolithic body adornment. These objects include beads and ring bracelets; the former consists simply of perforated shells and animal teeth, together with beads manufactured from stone and shell. These elements could be joined together, in sequences of one bead type only or as mixed compositions in necklaces, bracelets, and anklets, or fixed as ornamental applications on garments or textiles. Ring bracelets, instead, could be worn directly around the wrist or arm above the elbow. It is thus possible to recognize diverse modes of use of ornaments according to the different ways of hanging, fixing, or wearing them. These probably reflected diversities in bodily adornment that were expressions of cultural differences between groups, highlighting membership and

personal identities. Furthermore, the distinction between natural ornaments and manufactured objects suggests ubiquitous attempts to differentiate between what is natural and not yet domesticated and what is instead a man-made, cultural product or an already domesticated item.

C. rustica is common in diverse Impressed-Cardial Ware sites in Italy and southern France, in localities not far from the coasts, while it becomes less frequent moving inland (Barge, 1987; Courtin, 2000; Taborin, 1974). Conversely, comparisons with the Impressed Ware groups of the eastern Adriatic are lacking because in the Dalmatian sites ornaments are very rare and take the form of a few perforated bivalve shells (Micheli, 2014; Müller, 1994). Among the northern Neolithic groups, *C. rustica* is found only in Trentino in some Gaban group sites, where the acculturation of the indigenous foragers seems more evident (Pedrotti, 1998).

C. rustica lives in shallow water throughout the Mediterranean in the infralittoral zone. Dove shells prevail in Neolithic sites probably because they were valuable ornamental objects due to their shapes and colouring. These shells probably fascinated Neolithic collectors, who found them easy to gather from areas of shallow water or from thanatocenoses on beaches (Perlès, 2016). Therefore, their frequency does not seem to be fortuitous, but rather related to a specific preference, a pointer to the specific ornamental traditions of Impressed-Cardial groups. Although in the beach deposits many shell species would have been available, *C. rustica* was preferred to other small-sized gastropods, which would also have been well suited to use as beads. Dove shells are generally associated with *Conus* sp. or *Cyclope neritea* and occasionally also with other small gastropod shells. *C. rustica* generally has holes on the dorsal face near the shell aperture (Figure 4(1–12)). Although the distinction between natural and artificial holes is not always possible (d’Errico, Jardon-Giner, & Soler-Mayor, 1993; Zemour et al., 2017), naturally perforated *C. rustica* shells could be easily collected, representing excellent, ready-for-use ornaments.

The ornamental use of *C. rustica* did not originate in the Neolithic. In fact, throughout the Mesolithic during the Early Holocene, *C. rustica* was very common in many regions from the eastern Adriatic coast in central Croatia (Cristiani, Farbstein, & Miracle, 2014; Cvitkušić, 2017; Komšo & Vukosavljević, 2011) and beyond in the Danube Gorges zone (Borić et al., 2014) and in Greece (Perlès, 2019). It appeared not only in the Trieste Karst and the eastern Alpine area in northern Italy (Bertolini, Cristiani, Modolo, Visentini, & Romandini, 2016; Cristiani, 2013; Dalmeri & Lanzinger, 1997; Franco, 2011) but also in Abruzzo (Colombo & Serradimigni, 2016), Calabria (Martini, 1993), and Sicily (Aranguren & Revedin, 1996; Compagnoni, 1991). Dove shells are also frequent during the same phase in southern France (Taborin, 1974) and in the Pyrenees region (Álvarez Fernández, 2008, 2010). *C. rustica* shells became the favourite ornament of various Mesolithic groups, being preferred to other gastropod species that could have been used as beads. A few other ornamental objects were associated with perforated *C. rustica* shells, completing the body decoration of the circum-Mediterranean foragers. Findings from Italian sites show that perforated red deer atrophic canines were certainly among the adornment objects most appreciated by the last foragers (Bertolini et al., 2016; Dalmeri & Lanzinger, 1997; Franco, 2011) and beyond (d’Errico & Vanhaeren, 2002; Newell, Kielman, Constandse-Westermann, van der Sanden, & Van Gijn, 1990; Rigaud, 2013). Although in many localities there seem to have been no apparent contacts between late foragers and the first farmers (Biagi, 2003; Guilaine, 2018; Starnini et al., 2018), the presence of *C. rustica* shells in Early Neolithic sites may in fact be a legacy of previous body adornment traditions (Guilaine & Manen, 2007; Micheli, 2002; Rigaud, 2011), the origins of which have been lost over time. In this regard, the burial at La Balance-Ilot P in Avignon in France of an adult man abundantly adorned with 158 *C. rustica* shells and 16 red deer atrophic canines attributed to a late Cardial Ware horizon stands out as an exceptional Neolithic site with regard to the quantity, manufacturing, and arrangement of ornaments it contains (Zemour et al., 2017).

The recent data obtained from the Arene Candide Cave excavations reveal that dove shells may offer indirect evidence of other practices. In fact, *C. rustica* colonizes the *Posidonia oceanica* meadow, living among the leaves in the phyllosphere; leaves, rhizomes, and fibrous remains of *P. oceanica* are usually washed up on coastal beaches during storm surges, together with sand, other sediments, and shells of various sizes (Boudouresque & Meinesz, 1982). Thus, the presence of *C. rustica* shells in coastal sites may not depend exclusively on human operations to obtain raw material for beads, but rather more on the introduction into caves of beached *P. oceanica* leaves used as a salt supplement and food for livestock

(Micheli et al., in press). The occurrence of other species of tiny marine shells, which were certainly not used for food or ornamental purposes, reinforces this hypothesis.

Ornaments made from the hard parts animals – bones and teeth of wild mammals (hare, deer, wild boar, bear, and fox) – attest the contribution of hunting activities to subsistence strategies. Such ornaments may also have linked individuals to the natural world through a metonymic process, connecting the wearer of a perforated animal part with the whole animal's body and its imagery. In fact, this association may have powerful and diversified symbolic meanings if parts of animals are used metonymically as ornaments to associate the wearer with the qualities of the animal (White, 1992). Among these ornaments, the canines of carnivores (mainly dog and fox) and *Sus* tusks are most often found, while the incisors of domestic herbivores are rare. The presence of a fox canine at Cala Pisana on the island of Lampedusa (Radi, 1972) may indicate the overseas origin of this ornament, suggesting a possible Sicilian or perhaps a North African provenance. Unfortunately, it is not possible to test this hypothesis nor to establish direct parallels with the Tunisian and Libyan coastal area, where Impressed-Cardial Ware sites are unknown. The appearance of pierced dog teeth constitutes material confirmation of the animal's domestication and close relationship with humans. Red deer atrophic canines and their bone imitations (Figure 4(14)) are uncommon but interesting finds, since this characteristic ornament of foragers had a strong symbolic value, emphasizing the bravery of the hunters and their success at hunting. Thus, the presence of perforated shells, atrophic canines, or wild carnivores' teeth could be interpreted as the persistence of previous ornamental traditions that refer symbolically to a natural world not yet domesticated by Neolithic farmers. This occurs in the Gaban group in Trentino (Pedrotti, 1998), and among the Cardial groups of southern France (Barge, 1987; Courtin, 2000).

Manufactured beads document new craft skills closely related to the production of polished and ground stone tools. The raw material used for disc-shaped or cylindrical beads could either be shell or various rocks of local or regional origin: siltstone, limestone, schist, sandstone, onyx or agate, radiolarite, and serpentinite. Steatite may be added to the list; although it is certainly the most interesting case, it was not yet extensively used during the Early Neolithic. It is a variety of talc, soft, and easy to work, which can be found in central-western Liguria, in the northern Apennine range between Emilia and Tuscany, and in some areas of the central hilly zone of the latter region, while in the rest of Italy, outcrops are reported only in northern Calabria and central Sardinia (Micheli, Ferrari, & Mazzieri, 2015). As in the case of perforated dove shells and red deer atrophic canines mentioned earlier, steatite was also utilized before the Neolithic. It was used during various phases of the Palaeolithic in Italy and France to produce both personal ornaments, such as beads and pendants, and female figurines (Alhaique, Bietti, Cristiani, Castiglioni, & Ferro, 2006; Mussi, 1991; Vanhaeren & d'Errico, 2003). The most extensive use of steatite for the production of adornment objects occurred during the 5th millennium cal. BC by the Square Mouthed Pottery groups of western Emilia (Micheli & Mazzieri, 2012; Micheli et al., 2015). It is not yet clear whether the beginning of the use of steatite during the Early Neolithic may be attributed to Tyrrhenian Cardial Ware groups that spread inland and discovered steatite outcrops in hilly and mountainous areas, or rather to Po Plain Neolithic or Incised Lines Ware groups that inhabited the western Emilia or Tuscany territories and were well acquainted with their natural resources (Micheli, 2002).

Disc-shaped stone beads and remains from their manufacture are attested in Impressed Ware contexts only at Coppa Nevigata in Apulia (Puglisi, 1955), Favella della Corte in Calabria (Micheli, 2009), and Le Secche on the isle of Giglio in the Tyrrhenian sea (Brandaglia, 1987), while in northern Italy, they are known at Godiasco-Monte Alfeo in a Vhò site (Simone Zopfi, 2004). In layer 25C of the Arene Candide Cave was found a cylindrical steatite artefact (Starnini & Voytek, 1997) that has two possible interpretations: as the elongated rough-out of a cylindrical bead not yet perforated, or as an elongated rod from which several discoid blanks could have been sliced. Furthermore, working remains of disc-shaped shell bead manufacture is still scanty and sporadically attested only in layer 14 (with graffito pottery) of Santo Tiné's excavations in the same cave (Traversone, 1999). A different picture emerges from Chateauneuf-les-Martigues, Riaux 1, and Fontbrégoua in southern France, where abundant remains of unfinished disc-shaped *Cardium* shell beads were found, indicating their large-scale production during the middle Cardial Ware phase. Stone beads, on the other hand, are very rare in the Early Neolithic sites of southern France (Barge, 1987;

Courtin, 2000; Taborin, 1974). Unfortunately, no data are available from Dalmatian sites of Impressed Ware groups (Müller, 1994), while those from the Ionian area of Greece are still very limited (Ifantidis, 2019). However, the Italian picture suggests that elaborate beads were already part of the ornamental tradition of the first farmers to reach Apulia from the south-east (Micheli, 2002). In this regard, the abundant disc-shaped shell beads found at Franchthi could be convincing evidence that bead manufacturing was well developed among Early Neolithic groups in Greece before these reached Italy (Miller, 1996; Perlès & Pion, 2020).

Several Early Neolithic groups were involved in spreading the use of stone ring bracelets, and this is also seen to some extent in certain later Middle Neolithic contexts. These objects are well documented in the Po Plain Neolithic groups, in particular in the Fiorano (Figures 5(3) and 8), Vhò (Figure 5(4)), and Friulian groups, and were not restricted to the Impressed-Cardial Ware complex. In southern France, ring bracelets are attested in middle and late Cardial Ware contexts (Barge, 1987; Courtin & Guthertz, 1976) with a more recent chronology compared to the Italian sites, but whose inhabitants were probably in contact with other local Neolithic groups. On the other hand, along the east coast of the Adriatic stone, ring bracelets are very rare; they are present in only four Danilo sites in central Dalmatia, but have an “Italian” appearance and probably originated from there (Martínez-Sevilla et al., 2021).

Most of the Italian stone rings were made from metamorphic rocks, although other lithotypes were also used. In northern Italy, the metamorphic rocks employed for rings include serpentinites, paragonite schists, and chlorite schists, which belong to the “greenstones” group, of which harder rocks – such as eclogite and jade or jadeitite – were also used more rarely. The frequency of different rock types employed for stone ring production varies between Neolithic groups (Martínez-Sevilla et al., 2021): greenstones and other less valuable rocks from Apennine sources in the Fiorano group (Figure 8(2)); a large majority of greenstones in Friulian groups; exclusively greenstones in the Vhò; and limestone or marble and greenstones, both found locally, in Liguria. Such differences could be related to (1) the distance of supply areas from the settlements; (2) the local availability of suitable stones and other less valuable rocks; (3) exchange systems allowing the circulation of valuable raw materials and goods; and (4) differing chronologies of the Neolithic groups (Micheli, 2012b). In this regard, marble or limestone rings that are tall and narrow in section, with evident parallels in southern France and Iberia (Constantin & Vachard, 2004; Courtin & Guthertz, 1976; Martínez Sevilla et al., 2021), are found only in Liguria. They did not spread further east into the northern regions, where flat and wide rings, triangular or drop-shaped in cross-section, were instead very common.

The greenstone supply areas were exclusively located in the western Alps, but other less valuable stone types were also used; these were procured locally or regionally from the Alps and Apennines. Steatite was occasionally employed for ring bracelets in few sites: Palude Brabbia, probably within the Isolino group (Tanda, 1977), Casa Querciolaia, attributed to the Incised Lines Ware groups with Fiorano influences (Iacopini, 2000), Pollera Cave, dated to Square Mouthed Pottery phase 1 (Odetti, 1991), and also further south in the site of Catignano (Zamagni, 2003). Bracelet manufacturing remains, however, are limited to single finds of western or local origin in Emilia Romagna (Figure 8(2)) and Lombardy, with the exception of recent discoveries at the Vhò site of Sergnano, where rough-outs, semi-finished products, and finished bracelets made from stones of probable local origin have been found (Angeli, in press). More significant, on the other hand, are the data collected in some Piedmont sites located close to secondary deposits of greenstones in the plains (Micheli, 2012b, 2018; Pessina, 1998; Starnini, D’Amico, Biagi, Ghedini, & Pitti, 2004) or near primary outcrops high in the mountains (Pétrequin et al., 2015a).

Alongside the large number of stone rings, there are also few specimens made of shells in Fiorano, Vhò, and Incised Ware Lines sites; shells of *S. gaederopus*, *Glycymeris*, and *Charonia lampas* were used (Figure 5). Unlike the stone ring components, the shapes of these in plan and section vary according to the form and the structure of the shells (Micheli, 2006). It is possible that, following Taborin (1974) and Courtin (2000), shell bracelets were the prototypes of the versions in stone that spread at a later time. The chronologies of the oldest shell bracelet found at Torre Sabea (Figure 5(1)), and of some later limestone specimens from southern France (Courtin & Guthertz, 1976) that realistically reproduce the shell versions, are valid clues that seem to confirm this hypothesis. Bone bracelets are even rarer than those made from shells (Micheli, 2018). Ring or flattened-disc bone specimens are known from the Vhò group at Isorella-Cascina Bocche (Starnini,

Ghisotti, Girod, & Nisbet, 2000) and Campo Sera Mattina (Bagolini & Biagi, 1975) and from the Fiorano group at the eponymous site (Bazzanella, 2000) and Lugo di Romagna (Figure 8(3)), from the Incised Lines Ware group at Lattaia and Orso caves (Grifoni, 1967; Grifoni Cremonesi, 1969), and also at the site of Catignano (Zamagni, 2003).

The origin of wearing rings around the wrist or arm has not yet been established in Italy, but the custom is known to have been practiced by various Neolithic groups in France and central Europe, where inhumation burials have been found in which the skeletal remains are directly associated with these bracelets (Bonnardin, 2009; Constantin & Vachard, 2004; Jeunesse, 1995, 1997; Nieszery & Brienl, 1993; Zápotocká, 1984), as recently seen in a tomb at Longueil-Sainte-Marie/Le Barrage in France (Pétrequin et al., 2019).

The real social meaning of such rings is not yet completely clear; they could also have been used as pendants in the case of small specimens, or attached to the body or clothes – as recently suggested on the basis of some anthropomorphic figures engraved in Buthiers/La Vallée aux Noirs in France (Pétrequin et al., 2019). In our view, these objects were mainly ornaments, but at the same time they could be considered as multifunctional items used in different ways: bracelets worn around the wrist or arm in many cases, decorations hung from or attached to other ornaments, as well as – especially in the case of the greenstone specimens – valuable goods to be kept or exchanged. There is no irrefutable archaeological evidence of their role as valuable objects, but their widespread diffusion in Italy and beyond underlines their symbolic and material importance for Neolithic peoples. Arm rings evidently acquired great value and a shared transcultural importance as a key costume component of various Neolithic groups that do not appear to have been influenced by the Impressed-Cardial Ware complex.

7 Conclusion

The ornaments of Impressed-Cardial Ware groups stand out from those of other Early Neolithic groups in Italy, a distinction that probably also extends further west along the Mediterranean coast of southern France. This evidence therefore adds to what we already know from other material culture components of the Impressed-Cardial Ware complex (pottery, flint and obsidian lithic industries, etc.) and demonstrates the existence of a shared cultural identity despite regional variations. This is also confirmed by the wide circulation of finished objects and raw materials along marine routes and the main river courses in the Impressed-Cardial Ware territories. At the same time – despite their differences, asynchronous chronologies, and geographical spacing – Po Plain Neolithic, Incised Lines Ware, and Catignano groups share some common cultural traits that extended along the Italian peninsula, including ring bracelets as an expression of the same body adornment tradition that underlined specific personal identities and reaffirmed individuals' group membership or affiliation. This emerges particularly clearly with regard to the Catignano group, which (with its own specific features) was derived from the early Impressed Ware culture, but used ornaments of evidently northern provenance.

Early Neolithic ornament assemblages are unfortunately scarce in Italy and in general not greatly varied in composition. Furthermore, burials are not much help in the analysis of Neolithic body adornment. The role of ornaments in creating differences and strengthening common cultural traditions between Italian Neolithic communities seems to have been significant, but is still far from being precisely identified. In fact, the real complexity and variety of items of body adornment and their symbolic and social meanings will fully emerge only when well-defined study samples are available and when past peoples, objects and places can be directly related to each other by means of well-preserved funerary contexts.

Conflict of interest: Author states no conflict of interest.

Data availability statement: All data generated or analysed during this study are included in this published article and its supplementary information file at <https://doi.org/10.1515/opar-2020-0194>.

References

- Alhaique, F., Bietti, A., Cristiani, E., Castiglioni, F., & Ferro, D. (2006). Un “pendaglio” in steatite proveniente dagli scavi Cardini 1938 alla Barma Grande: Tecnica di manifattura ed analisi chimico-fisiche preliminari. In *Materie prime e scambi nella preistoria italiana* Atti della XXXIX Riunione Scientifica dell'IIPP. (Vol. II, pp. 768–771). Firenze: Istituto Italiano di Preistoria e Protostoria.
- Álvarez Fernández, E. (2008). The use of *Columbella rustica* (Class: Gastropoda) in the Iberian Peninsula and Europe during the Mesolithic and Early Neolithic. In M. Hernández Pérez, J. A. Soler García, & J. A. López Padilla (Eds.), *V Congreso del Neolítico Peninsular. Paper presented at the Conference, Alicante, 27–30 November 2006*, (Vol. II, pp. 103–111). Alicante: Museo Arqueológico.
- Álvarez Fernández, E. (2010). Shell beads of the last hunter-gatherers and earliest farmers in south-western Europe. *Munibe Antropologia-Arkeologia*, 61, 129–138.
- Angeli, L. (in press). Sergnano (CR): Un atelier di lavorazione della pietra levigata. In *Preistoria e Protostoria in Lombardia e Canton Ticino* (Atti della LII Riunione Scientifica dell'IIPP). Firenze: Istituto Italiano di Preistoria e Protostoria.
- Aranguren, B., & Revedin, A. (1996). Problemi relativi all'insorgenza del Mesolitico in Sicilia. In R. Leighton (Ed.), *Early Societies in Sicily: New developments in archaeological research* (Accordia Specialist Studies on Italy, 5, pp. 32–40). London: Accordia Research Centre.
- Bagolini, B. (1980). *Introduzione al Neolitico dell'Italia settentrionale nel quadro dellevoluzione delle prime culture agricole europee*. Pordenone: Società Naturalisti Silvia Zenari.
- Bagolini, B., & Biagi, P. (1975). Il Neolitico del Vhò di Piadena. *Preistoria Alpina*, 11, 77–121.
- Bagolini, B., & Grifoni Cremonesi, R. (1994). Il Neolitico italiano: Facies culturali e manifestazioni funerarie. *Bollettino di Paleontologia Italiana*, 85, 139–170.
- Barge, H. (1987). Les parures du Néolithique ancien dans le Midi de la France. In J. Guilaine, J. Courtin, J. Roudil, & J. Vernet (Eds.), *Premières communautés paysannes en Méditerranée occidentale. Paper presented at CNRS International Conference, Montpellier, 26–29 April 1983* (pp. 567–574). Paris: CNRS Éditions. doi: 10.4000/books.editions-cnrs.1145.
- Bartheleyns, G. (2011). Introduction. Faire de l'anthropologie esthétique. *Civilisations*, 59(2), 9–40, 145–148. doi: 10.4000/civilisations.2567.
- Bar-Yosef Mayer, D. E. (2013). Towards a typology of stone beads in the Neolithic Levant. *Journal of Field Archaeology*, 38(2), 129–142. doi: 10.1179/0093469013Z.00000000043.
- Bar-Yosef Mayer, D. E., & Porat, N. (2008). Green stone beads at the dawn of agriculture. *PNAS*, 105(25), 8548–8551. doi: 10.1073/pnas.0709931105.
- Baysal, E. L. (2019). *Personal Ornaments in Prehistory. An exploration of body augmentation from the Palaeolithic to the Early Bronze Age*. Oxford: Oxbow Books.
- Bazzanella, M. (2000). L'industria in materia dura animale: Elementi per l'elaborazione di una tipologia relativa al primo Neolitico. In A. Pessina & G. Muscio (Eds.), *La Neolitizzazione tra Oriente e Occidente* (pp. 173–184). Udine: Museo Friulano di Storia Naturale.
- Beyneix, A. (1997). Les sépultures cardiales et épicaudales de France méridionale. *Bulletin de la Société Préhistorique Française*, 94(2), 191–197.
- Bertolini, M., Cristiani, E., Modolo, M., Visentini, P., & Romandini M. (2016). Late Epigravettian and Mesolithic foragers of the eastern Alpine region: Animal exploitation and ornamental strategies at Riparo Biadene (Northern Italy). *Quaternary International*, 423, 79–91. doi: 10.1016/j.quaint.2015.09.083.
- Bernabò Brea, L. (1946). *Gli scavi nella caverna delle Arene Candide, Parte I. Gli strati con ceramiche, I*. Bordighera: Istituto Internazionale di Studi Liguri.
- Bernabò Brea, L. (1950). Il Neolitico a ceramica impressa e la sua diffusione nel Mediterraneo. *Rivista di Studi Liguri*, 16(1–3), 25–36.
- Bernabò Brea, L. (1956). *Gli scavi nella caverna delle Arene Candide (Finale Ligure), Parte I. Gli strati con ceramiche, Campagne di scavo 1948–1950, II*. Bordighera: Istituto Internazionale di Studi Liguri.
- Biagi, P. (2003). A review of the late Mesolithic in Italy and its implications for the Neolithic transition. In A. Ammerman & P. Biagi (Eds.), *The widening harvest. The Neolithic transition in Europe. Looking back, looking forward. Colloquia and conference papers 6* (pp. 133–155). Boston: Archaeological Institute of America.
- Biagi, P., & Starnini, E. (2016). La Cultura della Ceramica Impressa nella Liguria di Ponente (Italia Settentrionale): Distribuzione, cronologia e aspetti culturali. In *Del neolítico a l'edat del bronze en el Mediterrani occidental. Estudis en homenatge a Bernat Martí Oliver* (Servicio de Investigación Prehistórica, Serie de Trabajos Varios n. 119, pp. 35–49). Valencia: Museo de Prehistoria.
- Biagi, P., Starnini, E., Borić, D., & Mazzucco, N. (2020). Early Neolithic settlement of the Po Plain (northern Italy): Vhò and related sites. *Documenta Praehistorica*, XLVII, 192–221. doi: 10.4312/dp.47.11.
- Binder, D. (2000). Mesolithic and Neolithic interaction in southern France and northern Italy: New data and current hypotheses. In D. T. Price (Ed.), *Europe's first farmers* (pp. 117–143). Cambridge: University Press.

- Binder, D., Lanos, Ph., Angeli, L., Gomart, L., Guilaine, J., Manen, C., ... Thiébault, S. (2017). Modelling the earliest north-western dispersal of Mediterranean Impressed Wares: New dates and Bayesian chronological model. *Documenta Praehistorica*, 44, 54–77. doi: 10.4312/dp.44.4.
- Bisconti, M. (2007). La Malacologia del sito di Cala Giovanna Piano: Paleoeologia, paleobiogeografia e prelievo antropico. In C. Tozzi & M. C. Weiss (Eds.), *Preistoria e protostoria dell'area tirrenica* (pp. 145–152). Pisa: Felci editore.
- Bonnardin, S. (2009). *La parure funéraire au Néolithique ancien dans les Bassins parisiens et rhénans. Rubané, Hinkelstein et Villeneuve-Saint-Germain* (Memoire de la Societe Prehistorique Francaise, XLIX). Paris: Société Préhistorique Française.
- Borić, D., French, C. A. I., Stefanović, S., Dimitrijević, V., Cristiani, E., Gurova, M., ... Filipović, D. (2014). Late Mesolithic lifeways and deathways at Vlasac (Serbia). *Journal of Field Archaeology*, 39(1), 4–31. doi: 10.1179/0093469013Z.00000000070.
- Borrello, M. A. (2003). Le parures en corail et en coquillage des niveaux néolithiques de la Caverne d'Arene Candide. *Bollettino dei Civici Musei Genovesi, XIX–XXI, 55–63*(1997–1999), 83–91.
- Borrello, M. A. (2005). Le conchiglie nella preistoria e nella protostoria. In M. Borrello (Ed.), *Conchiglie e archeologia. Preistoria alpina* (Vol. 40(2004), Supplemento 1, pp. 19–42). Trento: Museo Tridentino di Scienze Naturali.
- Borrello, M. A., & Dalmeri, G. (2005). Gli ornamenti lavorati in conchiglie conservati presso il Museo Tridentino di Scienze Naturali (Trento). In M. Borrello (Ed.), *Conchiglie e archeologia. Preistoria alpina* (Vol. 40(2004), Supplemento 1, pp. 43–52). Trento: Museo Tridentino di Scienze Naturali.
- Borrello, M. A., & Rossi, G. (2005). La lavorazione di ornamenti in *Spondylus gaederopus* nel Neolitico della caverna delle Arene Candide (Savona, Italia). Nota preliminare. In M. A. Borrello (Ed.), *Conchiglie e archeologia. Preistoria alpina* (Vol. 40(2004), Supplemento 1, pp. 83–90). Trento: Museo Tridentino di Scienze Naturali.
- Borrello, M. A., & Micheli, R. (2011). *Spondylus gaederopus* in Prehistoric Italy: Jewels from Neolithic and copper age sites. In F. Ifantidis & M. Nikolaidou (Eds.), *Spondylus in prehistory: New data and approaches – Contributions to the archaeology of shell technologies* (BAR International Series 2216, pp. 25–37). Oxford: Archaeopress.
- Brandaglia, M. (1987). Il Neolitico a Ceramica Impressa dell'Isola del Giglio. L'industria litica, II. *Studi per l'Ecologia del Quaternario*, 9, 51–61.
- Boudouresque, C. F., & Meinesz, A. (1982). *Découverte de l'herbier de Posidonie* (Cahier 4). Gardanne: Parc national de Port-Cros.
- Cade, C. (1999). Le malacofaune marine. In S. Tiné (Ed.), *Il Neolitico nella Caverna delle Arene Candide – scavi 1972–1977* (pp. 51–65). Bordighera: Istituto Internazionale di Studi Liguri.
- Cataliotti-Valdina, J. (1999). La malacofaune des parures. In S. Tiné (Ed.), *Il Neolitico nella Caverna delle Arene Candide – scavi 1972–1977* (pp. 299–303). Bordighera: Istituto Internazionale di Studi Liguri.
- Cauvin, J. (1994). *Naissance des divinités, naissance de l'agriculture. La Révolution des symboles au Néolithique*. Paris: CNRS Édition.
- Chapman, J., & Gaydarska, B. (2011). Can we reconcile individualisation with relational personhood. A case study from the Early Neolithic. *Documenta Praehistorica*, 38, 21–43. doi: 10.4312/dp.38.3.
- Cipolloni Sampò, M. (1992). Il Neolitico nell'Italia meridionale e in Sicilia. In A. Guidi & M. Piperno (Eds.), *Italia preistorica* (pp. 334–362). Bari: Laterza.
- Colombo, M. (2010). Nuovi dati sulla cultura di Catignano: Spunti e problematiche sul suo inquadramento nell'ambito della ceramica dipinta a bande rosse. *Origini, XXXII*(IV), 79–104.
- Colombo, M., & Serradimigni, M. (2016). Presenza e distribuzione degli elementi di ornamento a Grotta Continenza (Trasacco – AQ). In *Il Fucino e le aree limitrofe nell'antichità. Archeologia e rinascita culturale dopo il sisma del 2015* (Atti del IV Convegno di Archeologia, pp. 33–40). Avezzano: Archeoclub d'Italia – Sezione della Marsica.
- Compagnoni, B. (1991). La malacofauna del sito meso-neolitico della Grotta dell'Uzzo (Trapani). *Rivista di Scienze Preistoriche, XLIII*(1–2), 49–71.
- Conati Barbaro, C. (2008). Custodire la memoria: Sepolture in abitato nel neolitico italiano. *Scienze dell'antichità – Storia, Archeologia, Antropologia*, 14/1(2007–2008), 49–70.
- Constantin, C., & Vachard, D. (2004). Anneaux d'origine méridionale dans le Rubané récent du Bassin parisien. *Bulletin de la Société Préhistorique Française*, 101(1), 75–83. doi: 10.3406/bspf.2004.12949.
- Cordwell, J. M. (1979). The very human arts of transformation. In J. M. Cordwell & R. A. Schwarz (Eds.), *The fabrics of culture. The anthropology of clothing and adornment* (pp. 47–75). The Hague: Mouton Publishers.
- Courtin, J. (2000). *Les premiers paysans du Midi, Histoire de la France préhistorique de -6000 à -4500 ans*. Paris: Le Maison des Roches.
- Courtin, J., & Guthertz, X. (1976). Les bracelets de pierre du Néolithique méridional. *Bulletin de la Société Préhistorique Française*, 73(1), 352–369.
- Cristiani, E. (2013). Ornamental traditions of the late Pleistocene and the early Holocene foragers in the eastern Alps: The case of Riparo Biadene. *Gortania. Geologia, Paleontologia, Paleontologia*, 34(2012), 89–102.
- Cristiani, E., Farbstein, R., & Miracle, P. (2014). Ornamental traditions in the Eastern Adriatic: The Upper Palaeolithic and Mesolithic personal adornments from Vela Spila (Croatia). *Journal of Anthropological Archaeology*, 36, 21–31. doi: 10.1016/j.jaa.2014.06.009.
- Cvitkušić, B. (2017). Upper Palaeolithic and Mesolithic Ornamental Traditions in the Eastern Adriatic Coast and Hinterland. *Collegium Antropologicum*, 41(1), 45–59.

- Dalmeri, G., & Lanzinger, M. (1997). Gli oggetti d'ornamento del Trentino-Alto Adige di età Paleolitica-Mesolitica. In L. Endrizzi & F. Marzatico (Eds.), *Ori delle Alpi* (VI Quaderno della Sezione Archeologica, pp. 403–404). Trento: Castello del Buonconsiglio.
- d'Errico, F., & Vanhaeren, M. (2002). Criteria for identifying red deer (*Cervus elaphus*) age and sex from their canines. Application to the study of Upper Palaeolithic and Mesolithic Ornaments. *Journal of Archaeological Science*, 29, 211–239. doi: 10.1006/jasc.2001.0687.
- d'Errico, F., Jardon-Giner, P., & Soler-Mayor, B. (1993). Critères à Base Expérimentale pour l'Étude des Perforations Naturelles et Intentionnelles sur Coquillages. In P. C. Anderson, S. Beyries, & M. Otte (Eds.), *Traces et Fonction: Les Gestes Retrouvés. Paper presented at the International Conference, Liège, 8–9–10 December 1990* (Vol. 1, pp. 243–254). Liège: ERAUL.
- Ferrari, A., Forenbaher, S., Micheli, R., Montagnari Kokelj, M., Pessina, A., Velušček, A., & Visentini, P. (2018). Neolithic and Eneolithic of Caput Adriae. In E. Borgna, P. Cássola Guida, & S. Corazza (Eds.), *Preistoria e Protostoria del Caput Adriae* (Studi di Preistoria e Protostoria – 5, pp. 61–74). Firenze: Istituto Italiano di Preistoria e Protostoria.
- Franco, C. (2011). *La fine del Mesolitico in Italia. Identità culturale e distribuzione territoriale degli ultimi cacciatori-raccoglitori* (Quaderno 13). Trieste: Società per la Preistoria e Protostoria della Regione Friuli Venezia Giulia.
- Fromont, N., Hérard, A., & Hérard, B. (2010). Un dépôt d'anneaux en pierre du Néolithique ancien à Falaise, «zone d'activité Expansia II?». *L'Anthropologie*, 114, 199–237. doi: 10.1016/j.anthro.2010.03.009.
- Fugazzola Delpino, M. A., D'Eugenio, G., & Pessina, A. (1999). Le Néolithique ancien et moyen de l'Italie centro-occidentale. In J. Vaquer (Ed.), *Le Néolithique du nord-ouest méditerranéen. Paper presented at the XXIV Prehistoric Conference of France, Carcassonne, 26–30 September 1994* (pp. 25–34). Paris: Société Préhistorique Française.
- Fowler, C. (2004). *The archaeology of personhood. An anthropological approach*. London: Routledge.
- Gebel, H. G. K. (2010). Commodification and the formation of Early Neolithic social identity. The issues as seen from the southern Jordanian Highlands. In M. Benz (Ed.), *The principle of sharing. segregation and construction of social identities at the transition from foraging to farming* (Studies in Early Near Eastern Production, Subsistence, and Environment – SENEPSE 14, pp. 35–80). Berlin: Ex Oriente.
- Ghisotti, F. (1997). Shells of sea molluscs in the Cave of Arene Candide. In R. Maggi (Ed.), *Arene Candide: A functional and environmental assessment of the Holocene sequence (Excavations Bernabò Brea-Cardini 1940–1950)* (Memorie V, pp. 137–142). Roma: Istituto Italiano di Paleontologia Umana.
- Grifoni, R. (1967). La Grotta dell'Orso di Sarteano. *Origini*, 1, 53–115.
- Grifoni Cremonesi, R. (1969). I materiali preistorici della Toscana esistenti al Museo Archeologico di Perugia. *Atti Della Società Toscana di Scienze Naturali* (Memorie, Serie A), LXXVI, 151–194.
- Grifoni Cremonesi, R. (1992). Il Neolitico nell'Italia centrale e in Sardegna. In A. Guidi & M. Piperno (Eds.), *Italia preistorica* (pp. 306–331). Bari: Laterza.
- Grifoni Cremonesi, R. (1996). I livelli neolitici. In T. Di Fraia & R. Grifoni Cremonesi (Eds.), *La Grotta Sant'Angelo sulla Montagna dei Fiori (Teramo). Le testimonianze dal Neolitico all'Età del Bronzo e il problema delle frequentazioni culturali in grotta* (pp. 27–107). Roma-Pisa: Istituti Editoriali e Poligrafici Internazionali.
- Grifoni Cremonesi, R. (2002). I culti e i rituali funerari. In M. A. Fugazzola Delpino, A. Pessina, & V. Tiné (Eds.), *Le Ceramiche Impresse nel Neolitico antico. Italia e Mediterraneo* (Studi di Paleontologia, I, pp. 209–219). Roma: Istituto Poligrafico e Zecca Dello Stato.
- Grifoni Cremonesi, R. (2006). Sepulture e rituali funerari nel Neolitico in Italia. In F. Martini (Ed.), *La cultura del morire nelle società preistoriche e protostoriche italiane. Studio interdisciplinare dei dati e loro trattamento informatico. Dal Paleolitico all'età del Rame, Origines* 28 (pp. 87–107). Firenze: Istituto Italiano di Preistoria e Protostoria.
- Grifoni Cremonesi, R., & Radi, G. (2014). Du Mésolithique au Néolithique ancien en Italie centrale et méridionale. In C. Manen, T. Perrin, & J. Guilaine (Eds.), *La transition néolithique en Méditerranée* (pp. 243–267). Arles and Toulouse: Editions Errance and Archives d'Écologie Préhistorique.
- Grifoni Cremonesi, R., & Radmilli, A. M. (2002). La Grotta Patrizi al Sasso di Furbara (Cerveteri, Roma). *Bullettino di Paleontologia Italiana*, 91–92(2000–2001), n.s. IX–X, 63–110.
- Grifoni, R., Tozzi, C., & Weiss, M. C. (2000). Il Neolitico antico dell'area corso-toscana. In C. Tozzi & M. C. Weiss (Eds.), *Il primo popolamento olocenico dell'area corso-toscana* (pp. 259–271). Pisa: Edizioni ETS.
- Guilaine, J. (2018). A personal view of the neolithisation of the Western Mediterranean. *Quaternary International*, 470(Part B), 211–225. doi: 10.1016/j.quaint.2017.06.019.
- Guilaine, J., & Manen, C. (2007). From Mesolithic to Early Neolithic in the western Mediterranean. In A. Whittle (Ed.), *Going Over: The Mesolithic-Neolithic Transition in North-West Europe. Proceedings of the British Academy*, 144, 21–51. doi: 10.5871/bacad/9780197264140.003.0003.
- Iacopini, A. (2000). Il sito neolitico di Casa Querciolaia (Livorno). *Rassegna di Archeologia*, 17, 127–178.
- Ifantidis, F. (2019). *Practices of personal adornment in Neolithic Greece*. Oxford: Archaeopress Publishing Ltd.
- Improta, S., & Pessina, A. (1998). La neolitizzazione dell'Italia settentrionale. Il nuovo quadro cronologico. In A. Pessina & G. Muscio (Eds.), *Settemila anni fa il primo pane. Ambienti e culture delle società neolitiche* (pp. 107–115). Udine: Museo Friulano di Storia Naturale.
- Jeunesse, C. (1995). Les anneaux-disques irréguliers du Sud de la plaine du Rhin supérieur et la question des bracelets en pierre du Néolithique danubien. *Cahiers Alsaciens d'Archéologie d'Art et d'Histoire*, 38, 5–34.

- Jeunesse, C. (1997) *Pratiques funéraires au Néolithique Ancien. Sépultures et nécropoles danubiennes 5500–4900 av. J.-C.* Paris: CNRS Editions.
- Komšo, D., & Vukosavljević, N. (2011). Connecting coast and inland: Perforated marine and freshwater snail shells in the Croatian Mesolithic. *Quaternary International*, 244, 117–125. doi: 10.1016/j.quaint.2011.05.033.
- Manfredini, A. (2002). L'ambiente e il popolamento. In M. A. Fugazzola Delpino, A. Pessina, & V. Tiné (Eds.), *Le Ceramiche Impresse nel Neolitico antico. Italia e Mediterraneo* (Studi di Paleontologia I, pp. 167–181). Roma: Istituto Poligrafico e Zecca Dello Stato.
- Mannino, M. A., Thomas, K. D., Leng M. J., Piperno, M., Tusa, S., & Tagliacozzo, A. (2007). Marine resources in the Mesolithic and Neolithic at the Grotta dell'Uzzo (Sicily): Evidence from isotope analyses of marine shells. *Archaeometry*, 49(1), 117–133. doi: 10.1111/j.1475-4754.2007.00291.x.
- Martínez-Sevilla, F. (2019). Assessing the cultural and social value of Neolithic stone bracelets in the Iberian Peninsula. *Journal of Anthropological Archaeology*, 55, 101080. doi: 10.1016/j.jaa.2019.101080.
- Martínez-Sevilla, F., Baysal, E. L., Micheli, R., Infatidis, F., & Lugliè, C. (2021). A Very Early "Fashion": Neolithic Stone Bracelets from a Mediterranean Perspective. *Open Archaeology*, 7(1), 815–831. doi: 10.1515/opar-2020-0156.
- Martini, F. (1993). I complessi epigravettiani e mesolitici. In F. Martini (Ed.), *Grotta della Serratura a Marina di Camerota. Culture e ambienti dei complessi olocenici* (pp. 101–265). Città di Castello: Garlatti e Razzai Editore.
- Micheli, R. (2002). Gli ornamenti. In M. A. Fugazzola Delpino, A. Pessina, & V. Tiné (Eds.), *Le Ceramiche Impresse nel Neolitico antico. Italia e Mediterraneo* (Studi di Paleontologia I, pp. 269–288). Roma: Istituto Poligrafico e Zecca Dello Stato.
- Micheli, R. (2005). Gli ornamenti in conchiglia del Neolitico dell'Italia settentrionale. In M. A. Borrello (Ed.), *Conchiglie e archeologia. Preistoria alpina* (Vol. 40(2004), Supplemento 1, pp. 53–70). Trento: Museo Tridentino di Scienze Naturali.
- Micheli, R. (2006). Bracciali in conchiglia del Neolitico italiano: Tecnologia, distribuzione e inquadramento culturale. In A. Pessina & P. Visentini (Eds.), *Preistoria dell'Italia settentrionale. Studi in ricordo di Bernardino Bagolini* (pp. 437–446). Udine: Museo Friulano di Storia Naturale.
- Micheli, R. (2009) Gli ornamenti in pietra e terracotta. In V. Tiné (Ed.), *Favella. Un villaggio neolitico nella Sibaritide* (Studi di Paleontologia III, pp. 417–424). Roma: Istituto Poligrafico e Zecca dello Stato.
- Micheli, R. (2012a). Personal ornaments, Neolithic groups and social identities: Some insights into Northern Italy. *Documenta Praehistorica*, 39, 227–255. doi: 10.4312/dp.39.16.
- Micheli, R. (2012b). Raw materials, personal ornaments and Neolithic groups: Some observations on stone bracelets of the Early Neolithic of Northern Italy. In M. Borrell, F. Borrell, J. Bosch, X. Clop, & M. Molist (Eds.), *Xarxes al Neolític – Neolithic Networks. Rubricatum* (Vol. 5, pp. 241–248). Gavà: Museu de Gavà.
- Micheli, R. (2014). The use of perforated shells as personal ornaments/Le conchiglie forate utilizzate come ornamenti personali. In P. Visentini & E. Podrug (Eds.), *The Adriatic, a sea without borders: Communication routes of populations in 6000 BC/Adriatico senza confini. Via di comunicazione e crocevia di popoli nel 6000 a.C.* (pp. 204–207). Udine: Civici Musei and Museo Friulano di Storia Naturale.
- Micheli, R. (2018). Gli ornamenti personali. In S. Steffè & N. Degasperis (Eds.), *Il villaggio neolitico di Lugo di Romagna – Fornace Gattelli. Strutture Ambiente Culture, Origines 34* (pp. 557–576). Firenze: Istituto Italiano di Preistoria e Protostoria.
- Micheli, R., & Mazzieri, P. (2012). The circle and the square: Steatite exploitation for personal ornaments manufacturing during the Middle Neolithic in northern Italy. In M. Borrell, F. Borrell, J. Bosch, X. Clop, & M. Molist (Eds.), *Xarxes al Neolític – Neolithic Networks. Rubricatum* (Vol. 5, pp. 233–240). Gavà: Museu de Gavà.
- Micheli, R., Ferrari, P., & Mazzieri, P. (2015). Processi di lavorazione, impiego e diffusione degli ornamenti personali in steatite nel VBQ dell'Emilia occidentale. *Padusa, L*, 2014, 9–32.
- Micheli, R., Panelli, C., Rossi, S., & Maggi, R. (in press). *Ornamenti personali dai livelli impresso-cardiali della Caverna delle Arene Candide*. In Preistoria e Protostoria della Liguria. Atti della LIII Riunione Scientifica dell'IIPP, (Genova, 17–20 October 2018). *Rivista di Scienze Preistoriche*, special issue.
- Miller, M. A. (1996). The manufacture of cockle shell beads at Early Neolithic Franchthi Cave, Greece: A case of specialization?. *Journal of Mediterranean Archaeology*, 9(1), 7–37. doi: 10.1558/jmea.v9i1.7.
- Müller, J. (1994). *Das Ostadriatische Früneolithikum. Die Impresso-Kultur und Die Neolithisierung des Adriaumes* (Prähistorische Archäologie in Süd Osteuropa, 9/2). Berlin: Volker Spiess Verlag.
- Mussi M. (1991). L'utilisation de la stéatite dans les grottes des Balzi Rossi (ou grottes de Grimaldi). *Gallia Préhistoire*, 33, 1–16. doi: 10.3406/galap.1991.2283.
- Natali, E., & Forgá, V. (2018). The beginning of the Neolithic in Southern Italy and Sicily. *Quaternary International*, 470(Part B), 253–269. doi: 10.1016/j.quaint.2017.07.004.
- Natali, E., Agrostelli, M., Feriozzi, F., Forgá, V., & Micheli, R. (in press). I livelli neolitici della Grotta San Michele di Saracena (CS). In C. Colelli, G. Mittica, A. Larocca, & F. Larocca (Eds.), *Dal Pollino all'Orsomaso. Ricerche archeologiche tra Ionio e Tirreno*. Giornate Internazionali di Archeologia, 2. *Analecta Romana Instituti Danici*, Special issue.
- Newell, R. R., Kielman, D., Constandse-Westermann, T. S., van der Sanden, W. A. B., & Van Gijn, A. (1990). *An inquiry into the ethnic resolution of Mesolithic regional groups: The study of their decorative ornaments in time and space*. Leiden: E. J. Brill.
- Nieszery, N., & Brieni, L. (1993). Zur Trageweise des Spondylusschmucks in der Linearbandkeramik. *Archäologisches Korrespondenzblatt*, 23(4), 427–439.

- Nonza, A. (2000). Les techniques décoratives de la céramique du Néolithique ancien du site de Cala Giovanna Piano et de l'ilot de La Scola (Pianosa): Travaux experimentaux. In C. Tozzi & M. C. Weiss (Eds.), *Il primo popolamento olocenico dell'area corso-toscana* (pp. 167–176). Pisa: Edizioni ETS.
- Odetti, G. (1991). Saggio nei livelli neolitici della Grotta Pollera. *Rivista Ingaunia e Intemelia*, XLV, 1–4(1990), 107–143.
- Pearce, M. (2013). *Rethinking the north Italian Early Neolithic*. London: Accordia Research Institute.
- Pedrotti, A. (1998). Il Gruppo del Gaban e le manifestazioni dell'arte del Primo Neolitico. In A. Pessina & G. Muscio (Eds.), *Settemila anni fa il primo pane. Ambiente e culture delle società neolitiche* (pp. 125–131). Udine: Museo Friulano di Storia Naturale.
- Perlès, C. (2016). Modern reference collections of *Columbella rustica* from Greece. *The Arkeotek Journal*, 1. http://www.thearkeotekjournal.org/tdm/Arkeotek/fr/articles_originaux/4Perles.xml.
- Perlès, C. (2019). Cultural implications of uniformity in ornament assemblages: Palaeolithic and Mesolithic ornaments from Franchthi Cave, Greece. *PaleoAnthropology*, 2019, 196–207. doi: 10.4207/PA.2019.ART131.
- Perlès, C., & Pion, P. (2020). The *Cerastoderma* bead production at Franchthi (Greece): A case of apprenticeship?. In M. Mărgărit & A. Boroneanț (Eds.), *Beauty and the eye of the beholder. Personal adornments across the millennia* (pp. 223–245). Targoviște: Cetatea de Scaun Editions.
- Pessina, A. (1998). Aspetti culturali e problematiche del primo Neolitico dell'Italia settentrionale. In A. Pessina & G. Muscio (Eds.), *Settemila anni fa il primo pane. Ambiente e culture delle società neolitiche* (pp. 95–105). Udine: Museo Friulano di Storia Naturale.
- Pessina, A. (2002). Le facies a ceramica impressa dell'area medio-adriatica. In M. A. Fugazzola, A. Pessina, & V. Tiné (Eds.), *Le ceramiche impresse nel Neolitico antico. Italia e Mediterraneo* (Studi di Paleontologia I, pp. 117–129). Roma: Istituto Poligrafico e Zecca dello Stato.
- Pessina, A., & Tiné, V. (2008). *Archeologia del Neolitico. L'Italia tra VI e IV millennio a.C.* Roma: Carocci.
- Pétrequin, P., Cassen, S., Chevillot, C., Errera, M., Pailler, Y., Pétrequin, A.-M., ... Prodéo, F. (2015a). La production des anneaux-disques alpins pendant les VIe millénaires av. J.-C. et le Mont Viso. In P.-J. Rey & A. Dumont (Eds.), *L'homme et son environnement: Des lacs, des montagnes et des rivières. Bulles d'archéologie offertes à André Marguet* (pp. 259–302). Dijon: ARTEHIS Éditions. doi: 10.4000/books.artehis.5160.
- Pétrequin, P., Cassen, S., Chevillot, C., Cornen, G., Denaire, A., Duteil Y., ... Villes, A. (2015b). Bracelets en schiste et anneaux-disques en jadéite, en serpentinite ou en amphibolite. In A. Chancerel, J. Vaquer, & J.-J. Clayet-Merle (Eds.), *Signes de richesse, inégalités au Néolithique* (pp. 35–42). Paris: Musée national de la Préhistoire.
- Pétrequin, P., Cassen, S., Errera, M., Pailler, Y., Pétrequin, A.-M., Prodeo, F., & Sheridan, A. (2019). Disc-rings made from Alpine rocks, in the social imagination of Neolithic communities. In M. Maffi, L. Bronzoni, & P. Mazzi (Eds.), *Le questioni nostre paleontologiche più importanti... Trent'anni di tutela e ricerca preistorica in Emilia occidentale. Studi in onore di Maria Bernabò Brea* (pp. 137–150). Piacenza: ArcheoTravo.
- Puglisi, S. (1955). L'industria microlitica nei livelli a ceramica impressa di Coppa Nevigata. *Rivista di Scienze Preistoriche*, 10(1–4), 19–37.
- Radi, G. (1972). Tracce di un insediamento neolitico nell'isola di Lampedusa. *Atti della Società Toscana di Scienze Naturali* (Memorie, Serie B), LXXIX, 197–205.
- Radi, G. (1979). Resti di un villaggio neolitico a Villa Badessa (Pescara). *Atti della Società Toscana di Scienze Naturali* (Memorie, Serie B), LXXXVI, 405–414.
- Radi, G. (2003). Gli oggetti di ornamento. In G. Cremonesi & J. Guilaine (Eds.), *Torre Sabea: Un établissement du néolithique ancien en Salento* (pp. 209–217). Rome: École française de Rome.
- Radi, G., & Petrinelli Pannocchia, C. (2018). The beginning of the Neolithic era in Central Italy. *Quaternary International*, 470(B), 270–284. doi: 10.1016/j.quaint.2017.06.063.
- Radi, G., & Tozzi, C. (2009). La ceramica impressa e la cultura di Catignano in Abruzzo. In *De Méditerranée et d'ailleurs... Mélanges offerts à Jean Guilaine* (pp. 601–611). Toulouse: Archives D'écologie Préhistorique.
- Ribero, M. (2017). Anelloni litici italiani: Aggiornamenti e nuove proposte interpretative a quaranta anni dalle prime ricerche. *Rivista di Scienze Preistoriche*, LXVII, 111–144. doi: 10.32097/1004.
- Rigaud, S. (2011). *La parure: Traceur de la géographie culturelle et des dynamiques de peuplement au passage Mésolithique-Néolithique en Europe*. (PhD thesis). University of Bordeaux 1, Bordeaux. Retrieved from https://tel.archives-ouvertes.fr/tel-00668694/PDF/Rigaud_these2011.pdf.
- Rigaud, S. (2013). Les objets de parure associés au dépôt funéraire mésolithique de Große Ofnet: Implications pour la compréhension de l'organisation sociale des dernières sociétés de chasseurs-cueilleurs du Jura Souabe. *Anthropozoologica*, 48, 207–230.
- Rigaud, S., d'Errico, F., & Vanhaeren, M. (2015). Ornaments reveal resistance of north european cultures to the spread of farming. *PLoS One*, 10(4), e0121166. doi: 10.1371/journal.pone.0121166.
- Robb, J. (2007). *The early Mediterranean village. Agency, material culture, and social change in Neolithic Italy*. Cambridge: University Press.
- Simone Zoppi, L. (2004). La neolitizzazione nell'Oltrepò pavese. In M. Venturino Gambari (Ed.), *Alla conquista dell'Appennino. Le prime comunità delle valli Curone, Grue e Ossona* (pp. 89–94). Torino: Omega Edizioni.

- Starnini, E., & Voytek, B. (1997). New lights on old stones: The ground stone assemblage from the Bernabò Brea excavation at Arene Candide. In R. Maggi (Ed.), *Arene Candide: A functional and environmental assessment of the Holocene sequence (Excavations Bernabò Brea-Cardini 1940–1950)* (Memorie V, pp. 427–511). Roma: Istituto Italiano di Paleontologia Umana.
- Starnini, E., Biagi, P., & Mazzucco, N. (2018). The beginning of the Neolithic in the Po Plain (northern Italy): Problems and perspectives. *Quaternary International*, 470(Part B), 301–317. doi: 10.1016/j.quaint.2017.05.059.
- Starnini, E., Ghisotti, F., Girod, A., & Nisbet, R. (2000). Nuovi dati sul Neolitico antico della Pianura Padana centrale dal sito di Isorella (Brescia). In A. Pessina & G. Muscio (Eds.), *La Neolitizzazione tra Oriente e Occidente* (pp. 231–255). Udine: Museo Friulano di Storia Naturale.
- Starnini, E., D'Amico, C., Biagi, P., Ghedini, M., & Pitti, G. (2004). Strumenti in pietra levigata dalla Lombardia orientale: Aspetti archeometrici e culturali. *Bullettino di Paletnologia Italiana*, 95, 21–82.
- Taborin, Y. (1974). La parure en coquillage de l'Épipaléolithique au Bronze ancien en France. *Gallia Préhistoire*, 17(1), 101–179, and 17(2), 307–417. doi: 10.3406/galip.1974.1463 and 10.3406/galip.1974.1470.
- Tanda, G. (1977). Gli anelloni litici italiani. *Preistoria Alpina*, 13, 111–155.
- Tiné, S. (1983). *Passo di Corvo e la civiltà neolitica del Tavoliere*. Genova: SAGEP.
- Tiné, V. (2002). Le facies a ceramica impressa dell'Italia meridionale e della Sicilia. In M. A. Fugazzola, A. Pessina, & V. Tiné (Eds.), *Le ceramiche impresse nel Neolitico antico. Italia e Mediterraneo* (Studi di Paletnologia I, pp. 121–165). Roma: Istituto Poligrafico e Zecca dello Stato.
- Traversone, B. (1999). Le parures. In S. Tiné (Ed.), *Il Neolitico nella Caverna delle Arene Candide (scavi 1972–1977)* (Collezione di Monografie Preistoriche e Archeologiche, X, pp. 283–298, 518–533, 580). Bordighera: Istituto Internazionale di Studi Liguri.
- Tusa, S. (Ed.). (1997). *Prima Sicilia alle origini della società siciliana*. Palermo: Ediprint.
- Vanhaeren, M., & d'Errico, F. (2003). Le mobilier funéraire de la Dame de Saint-Germain-la-Rivière (Gironde) et l'origine paléolithique des inégalités. *Paleo*, 15, 195–238. doi: 10.4000/paleo.1293.
- White, R. (1992). Beyond art: Toward an understanding of the origin of material representation in Europe. *Annual Review of Anthropology*, 21, 537–564.
- Whittle, A. (1996). *Europe in the Neolithic: The creation of new worlds*. Cambridge: University Press.
- Wright, K., & Garrard, A. (2003). Social identities and the expansion of stone bead-making in Neolithic Western Asia: New evidence from Jordan. *Antiquity*, 77(296), 267–284. doi: 10.1017/S0003598X00092267.
- Wright, K., Critchley, P., Garrard, A., Baird, D., Bains, R., & Groom, S. (2008). Stone bead technologies and early craft specialization: Insights from two Neolithic sites in eastern Jordan. *Levant*, 40(2), 131–165. doi: 10.1179/175638008X348016.
- Zamagni, B. (2003). Gli oggetti d'ornamento. In C. Tozzi & B. Zamagni (Eds.), *Gli scavi nel villaggio neolitico di Catignano (1971–1980), Origines 21* (pp. 202–204). Firenze: Istituto Italiano di Preistoria e Protostoria.
- Zápotocká, M. (1984). Armringe aus Marmor und anderen Rohstoffen im jüngeren Neolithikum Böhmens und Mitteleuropas. *Památky Archeologické*, LXXV, 50–132.
- Zemour, A. (2011). Les Pratiques Funéraires au Début du Néolithique en Méditerranée Nord-Occidentale sont-elles Homogènes? In I. Sénépart, T. Perrin, E. Thirault, & S. Bonnardin (Eds.), *In Marges, frontières et transgressions* (pp. 251–264). Toulouse: Archives d'Écologie Préhistorique.
- Zemour, A., Binder, D., Bonnardin, S., D'Ovidio, A.-M., Goude, G., Gourichon, L., ... Sénépart, I. (2017). Laboratory excavation of a Neolithic Grave from Avignon-La Balance-Ilot P (France): Burial practices and garment reconstruction. *Journal of Field Archaeology*, 42(1), 54–68. doi: 10.1080/00934690.2016.1261584.