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Balkan Dialogues

Negotiating Identity between
Prehistory and the Present

Edited by
Maja Gori and Maria Ivanova



Balkan Dialogues

Negotiating Identity between
Prehistory and the Present

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and Maria Ivanova

First published 2017
by Routledge
2 Park Square, Milton Park, Abingdon, Oxon OX14 4RN

and by Routledge
711 Third Avenue, New York, NY 10017

*Routledge is an imprint of the Taylor & Francis Group,
an informa business*

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British Library Cataloguing-in-Publication Data

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

Library of Congress Cataloguing-in-Publication Data

Names: Gori, Maja, editor of compilation. | Ivanova, Mariya, editor of compilation.

Title: Balkan dialogues : negotiating identity between prehistory and the present / edited by Maja Gori and Maria Ivanova.

Description: Milton Park, Abingdon, Oxon ; New York, NY : Routledge, 2017. | Series: Routledge studies in archaeology; 14 | Includes bibliographical references and index.

Identifiers: LCCN 2016044695 | ISBN 9781138941137 (hardback : alkaline paper) | ISBN 9781315673875 (ebook)

Subjects: LCSH: Antiquities, Prehistoric—Balkan Peninsula. | Prehistoric peoples—Balkan Peninsula. | Group identity—Balkan Peninsula—History—To 1500. | Ethnicity—Balkan Peninsula—History—To 1500. | Spatial analysis (Statistics) in archaeology—Balkan Peninsula. | Social archaeology—Balkan Peninsula. | Ethnoarchaeology—Balkan Peninsula. | Balkan Peninsula—Antiquities. | Balkan Peninsula—Social life and customs.

Classification: LCC GN845.B28 B36 2017 | DDC 939.8—dc23
LC record available at <https://lccn.loc.gov/2016044695>

ISBN: 978-1-138-94113-7 (hbk)

ISBN: 978-1-315-67387-5 (ebk)

Typeset in Sabon
by Apex CoVantage, LLC

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7 Negotiating identities and exchanging values

Neolithic pottery production and circulation in Thessaly

Areti Pentedeka

Introduction

Thessaly, situated in the heart of the Greek mainland, stands as a landmark for our knowledge of the Neolithic period in the Aegean (covering the timespan from the 7th to the 4th millennium BCE – Andreou et al. 2001: 260, Table 1; Reingruber and Thissen 2009) (Fig. 7.1). Thessaly comprises a diverse landscape, combining mountain formations, flat plains, river valleys, lacustrine environments and coastland. It was a densely populated area during the Neolithic, the majority of settlements forming tells, others being extended, while cave habitation is also attested (Tsountas 1908; Wace and Thompson 1912; Miložčić 1960; Theocharis 1967; Theocharis 1973; Halstead 1984; Gallis 1992; Kyparissi-Apostolika 2000; Toufexis 2001, 2003; Reinders 2004; Toufexis 2014). A rich and rather uniform pottery production characterises the entire region throughout the Neolithic period, forming a robust typology that has heavily influenced our view of the Neolithic of Central and Northern Greece (Wace and Thompson 1912; Miložčić 1960; Hauptmann 1981; Mottier 1981; Kotsakis 1983; Demoule et al. 1988; Gallis 1992; Rondiri 2009).

For much of the 20th century research on the Thessalian Neolithic, pottery was regarded as an indicator for different cultural groups (e.g. Miložčić 1949); in the course of time, though, pottery was placed in a historically defined frame of productive, social and symbolic relations (Theocharis 1973; Chourmouziadis 1980, 1981). Henceforth, pottery was understood, as Kotsakis aptly argues, as “a multi-faceted artefact encapsulating multiple aspects of the Neolithic human practice and experience, e.g. identity component, relations of production, redistribution of food and ritual display, to name just a few” (Kotsakis 2002: 159, my translation).

Bearing this in mind, it could be argued that the typomorphological similarities observed in the Neolithic pottery repertoire of the entire Thessalian plain could stem from sets of connections, contacts and relations between the inhabitants of Thessaly, i.e. from networks of connectivity, communication and exchange in a cohesive social space (Kotsakis 1996: 169–170). Nevertheless, our understanding of pottery exchange regarding its extent,

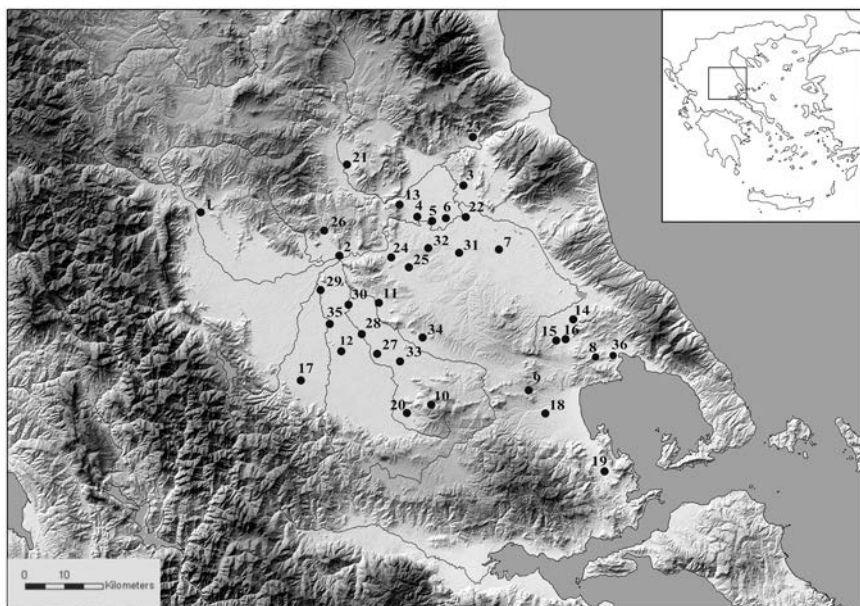


Figure 7.1 Map with the sites included in the study and mentioned in the text: 1. Theopetra Cave, 2. Platia Magoula Zarkou, 3. Makrychori 2, 4. Agia Sophia, 5. Otzaki, 6. Arapi, 7. Halki 1, 8. Sesklo, 9. Tsangli, 10. Achilleio, 11. Magoula Sykeon, 12. Orgozinos, 13. Magoula Tsalma (Tyrnavos 5, ATAE 21), 14. Hatzimissiotiki Magoula, 15. Agrokippiou Magoula, 16. Magoula Visviki, 17. Magoula Tsapocha/Syrmou, 18. Daoutza, 19. Kamara, 20. Koutroulou Magoula, 21. Mesochori 1, (ATAE 262), 22. Soufli Magoula (ATAE 35), 23. Gonnoi 1 (ATAE 120), 24. Kastro 1 (ATAE 9), 25. Rachoula 1 (ATAE 11), 26. Grizano 1 (ATAE 345), 27. Lefki Karditsas 1 (ATAE 478), 28. Ampelonas Karditsas 1 (ATAE 211), 29. Keramidi (ATAE 474), 30. Itea 2 (ATAE 477), 31. Nikaia 5 (ATAE 296), 32. Terpsithea 2 (ATAE 59), 33. Ypereia 1 (ATAE 173), 34. Chara 2 (ATAE 99), 35. Magoula Koskina (ATAE 458), 36. Dimini.

intensity and form is still limited. Until recently, only one large-scale archaeometric research programme had been conducted (Schneider et al. 1991), focusing on the chemical analysis (using X-ray fluorescence/XRF) of ca. 1,000 pottery samples (for the most part decorated surface finds dating mainly to Middle and Late Neolithic; analysis also included a large number of raw material samples, while scanning electron microscopy/SEM, X-ray diffraction/XRD and petrographic analysis was applied on selected samples). Among the many interesting conclusions of this study, of high importance is the identification of a specific production centre for the Late Neolithic grey-on-grey ware in the north-west of Thessaly (Grisano-Zarko area), which from there circulated in the rest of Thessaly and beyond. Based on these

results, Perlès (1992) argued in her so far unique review on systems of exchange for Neolithic Greece that only decorated fine wares were part of exchange practices, travelling over short distances and acting more or less as rare goods with a strong social/symbolic, rather than utilitarian, function. Despite later amendments towards more contextual, society- and technology-sensitive arguments (Perlès and Vitelli 1999; Perlès 2007, 2012), it is still widely accepted that only the highly elaborate finewares were exchanged. The present paper aims to question this notion based on new data resulting from a large analytical programme on stratified material from old and new excavations, including a re-examination of Schneider et al.'s sample set.

Exchange, value, identity: Manifestations and transformations in clay

But can the distinction of pottery function to either utilitarian or social/symbolic be so clear-cut? And do ceramic wares always participate in the same way and always bear the same meaning in every stage of their handling by people? In other words, are all the sets of connections established by pottery circulation equally intense and have they all developed as a result of the same cause? And, finally, are we entitled to talk about exchange networks (and not simply about distribution patterns) during the Neolithic with regard to such an abundant find as pottery?

Before attempting to answer these questions by presenting my research on the Neolithic pottery of Thessaly, I find it necessary to highlight specific aspects of the anthropological discourse on exchange, in order to facilitate the archaeological discussion that follows (for a detailed assessment and critique see Pentedeka 2008: 6–24). Having the Maussian gift (Mauss 1925) as a starting point, numerous works on exchange and the organisational tenets around its many manifestations (not necessarily connected to gift exchange) have since then appeared (Sahlins 1972; Weiner 1980; Gregory 1982; Munn 1986; Strathern 1988; Derrida 1992; Godelier 1996; Graeber 2001; Testart 2007, to name just a few). Among the most influential theoretical strands within the humanities is that of Pierre Bourdieu and his theory of practice (Bourdieu 1977, 1990); even though the issue of exchange is not discussed in detail in his works, his view is crucial for our understanding of the phenomenon. According to Bourdieu (Bourdieu 1977: 4–6, 14–16, 72–73, 1990: 53, 98–101, 103–108), the full truth of exchange lies in the time interval between the act of giving and counter-giving, the tempo of exchange: “. . . timing and choice of occasion for the same act – giving, giving in return, offering one's services, paying a visit, etc.- can have completely different meanings at different times . . . while almost all important exchanges . . . have their own particular moments . . .”(Bourdieu 1977: 5). The driving force of the mechanism of exchange is the sense of practice, or more generally speaking, the habitus, a disposition inscribed in the schemes of body and thought, which enables each agent to reproduce all the practices consistent

with the logic of challenge (gift) and response (counter-gift), by means of “countless inventions, which the stereotyped unfolding of a ritual would in no way demand” (Bourdieu 1977: 15). Exchange as a practice disguises the transaction, which a rational convention condenses to an instant, by extending it in time. In other words, exchange forms a unique ground for the shaping, maintaining or re-establishing of dominance relations, or, more broadly, of personal and collective identities (Bourdieu 1977: 179–183, 191–196, 1990: 117–118, 122–123).

Arjun Appadurai’s contribution (Appadurai 1986) to the discussion of value in the practice of exchange completely deconstructed the notion that gift and commodity exchange (as described by Mauss and Marx, respectively) are fundamentally opposed. Appadurai argues that the value of an object does not pre-exist (as in Marx’s labour theory of value), but is created within the framework of exchange, which is defined by culturally shaped perceptions and relations; therefore, any object can be exchanged or become a commodity (Appadurai 1986: 9). In this definition, all things are potential commodities and the situation in which a thing can be exchanged for another thing relates to the socially ascribed meaning at any phase within its (longer in duration) history or social life. Appadurai (1986: 13–15) highlights three components as essential for this situation; the first involves the temporal dimension affecting things and allowing for multiple entrances to and exits from the commodity situation in their biography, as discussed in Kopytoff (1986). The second component includes all the factors conducive to the exchangeability of a thing in any particular social and historical context, such as symbolic or moral classificatory systems; lastly, the third component encompasses the variety of social arenas, within or between cultural units, which set the framework within which the tempo and exchangeability of a thing transect and unfold.

The above, albeit in a compellingly summarised form, are considered here, within a paper discussing exchange of pottery in the Neolithic period, to accentuate exchange as a situation in which any object can shift to and from, and that this shift lies at the complex intersection of temporal, cultural and social factors. At the same time, exchange encompasses the change of and between hands (as Renfrew aptly underlines; Renfrew 1984: 86), and implies the movement of people and things as agents unfolding within an arena where social identities are performed, negotiated or ratified. In this fluctuating context, practice and timing are decisive formative factors of exchange as a social process where value is realised in praxis via agency (see also Graeber 2001); it becomes absorbed into individual identities to shape, maintain or re-establish relations between persons or communities in the public sphere.

The Neolithic communities of Thessaly shared a common material culture and used a rich pottery repertoire, which was fairly uniform throughout the region; this uniformity most probably expresses a common system of beliefs and values, a shared ethos. It is important to investigate the driving force of

this uniformity: is it the result of a shared technological tradition adopted for the local production of pottery at each site, or is it generated by broad and well-developed exchange networks, through which pottery, produced at specific centres, was circulating? The study of this phenomenon as expressed in pottery should follow a theoretically informed methodology examining production, exchange and consumption not as three different practices but in essence as one dynamic practice, taken step by step. The approach adopted here, sensitive to the basic theoretical tenets briefly outlined above, addresses pottery as the multifaceted expression of human practice in its three inter-related dimensions of production (i.e. pottery technology), exchange (circulation) and consumption (use, repair, re-use) and, to the extent possible, attempts a biographic consideration from the raw material selection to the final discard of the pot.

In this respect, exchange is archaeologically tangible through the detection of networks resulting from the distribution of artefacts or raw materials deriving from a specific and known source. In the case of pottery, what can be identified are the source and the final destination of the pottery, thus testifying to its circulation. Exchange, therefore, is inferred from the connectivity revealed by the movement of things and people in the landscape, exhibiting an inherent spatial dimension (Ingold 2000: 187–208, 2011: 145–155) which can be depicted as a network of interactions between people and things. Such networks are topologically composed of nodes and links (Knappett 2006: 242), and resemble a tangled mesh of interwoven and complexly knotted threads, where every thread is the social context of the action, and every knot a place (turning a network into a meshwork, according to Ingold 2007: 72–84). When applied to the archaeological record, they can be mapped with nodes being the sites (synthesis of persons and things) as well as the agents of exchange (in the tangible form of an object). The links are the connections developed among such nodes, rendering space a familiar landscape by denoting interaction among and between people and things, in our case pots: they “attach people because they circulate in their hands and define their social bond by their very circulation” to use Latour’s phrasing (Latour 1991: 89).

The identification of the source can be achieved only through the use of analytical techniques such as petrographic or chemical analyses. The characterisation of a production as local to a specific settlement, though, is not restricted to the identification of the local raw material sources. A local potting tradition is formed primarily by the potting technology adopted. It has been convincingly argued within material culture studies that technology is a way through which people give society a material dimension, thus rendering society durable; technology manifests the ideas, perceptions and symbolisms via which society comes into existence and reproduces itself (Latour 1991: 51–55, 79, 1993: 379–80; Latour and Lemonnier 1994: 15–16). Within this society-sensitive perspective, the study of technology benefited a lot from the *chaîne opératoire* concept (introduced by

Leroi-Gourhan [Leroi-Gourhan 1964]; for a thorough review see Roux 2016). The *chaîne opératoire* comprises sets of actions leading to the finished product; for each stage the craftspeople make a series of technological choices, rendering technology fluid, since it is exactly through these choices that technology is formed by, as much as it forms, human practice (Lemonnier 1993; van der Leeuw 1993; Sillar and Tite 2000). It is during and through the technological practice that the agents form and transform their individual and collective identities (Gosselain 1998; Dobres 1999, 2000: 127–163; Pfaffenberger 1999). What is of crucial importance here is the cultural context within which the technological practice is performed, because it is the society who ultimately chooses to preserve or diversify a given technological tradition. The formation of a local potting tradition can be studied via the reconstruction of the *chaîne opératoire* of the various pottery wares, and in particular of specific technological choices in all stages of pottery production (raw material selection, clay paste preparation, pot building and surface finishing, and firing). Technological knowledge can be as distinctive and informative regarding the structure and organisation of pottery exchange networks as the actual pottery products and their clay paste recipes.

Neolithic Thessaly: Research questions and methodology

The questions set at the beginning of the previous section motivated me to re-assess pottery exchange in Neolithic Thessaly, having as main objectives of my research a) the reconstruction of pottery exchange networks (in particular their structure and organisation), b) the assessment of the content of pottery exchange (whether all pottery wares under study are exchanged), and c) the clarification of the way and the extent to which each settlement participated in these networks.

All major wares characteristic for Middle and Late Neolithic were examined, including coarse, monochrome and decorated pottery. The pottery studied derives from 35 assemblages; of those, 18 are from stratified excavation contexts and seventeen are surface finds from surveys conducted by K. Gallis (Gallis 1992) and D. Theocharis (Rondiri 2009) (Table 7.1, Figure 7.1). The criteria for selecting the specific sites were geographical (coverage of both eastern and western Thessaly) and chronological (preference to sites presenting continuous habitation from Middle to Late Neolithic).

Detailed macroscopic examination, petrographic analysis and refring tests (under controlled laboratory conditions, at 900°C and 1050°C using a Naberthem L5/P furnace; Whitbread 1995: 390–391; Daszkiewicz and Schneider 2001) were applied on *ca.* 1000 pottery sherds, along with a limited number of figurines and building material. The samples selected represent all major wares and their variability in decoration and fabric (i.e. clay colour; core appearance; type, quantity and size of inclusions; hardness etc.). Additionally, 200 samples were analysed both petrographically and

Table 7.1 Summary table of information on the sites included in the study

<i>Site</i>	<i>Chronology</i>	<i>Wares examined</i>	<i>Number of samples</i>	<i>Reference</i>
Excavation Theopetra Cave	EN-LN	Coarse, Red monochrome, Red on white, Scraped, Scraped/protogrey, Grey (monochrome and painted), Black burnished, Matt-painted	91	Katsarou 2000; Kyparissi-Apostolika 2000
Platia Magoula Zarkou	MN-LN	Coarse, Red monochrome, Red on white, Red on dark, Scraped, Scraped/protogrey, Protogrey, Grey (monochrome and painted), Black burnished, Matt-painted	122 (109+CM:13)	Gallis 1982, 1987, 1996; Demoule et al. 1988
Makrychori 2	LN	Coarse, Protogrey, Grey (monochrome and painted), Black burnished, Matt-painted, Bichrome, Polychrome, Black on red	50 (16+CM:34)	Gallis 1985; Gallis 1987; Gallis 1996; Demoule et al. 1988
Agia Sophia	LN	Grey (monochrome and painted), Black burnished, Matt-painted	10	Miloječić et al. 1976
Otzaki	EN-LN	Coarse, Red monochrome, Red on white, Scraped, Scraped/protogrey, Grey (monochrome and painted), Black burnished, Matt-painted	74 (63+CM:11)	Hauptmann 1981; Mottier 1981
Arapi	LN	Grey (monochrome and painted), Black burnished, Matt-painted	19	Hauptmann and Miloječić 1969
Halki 1	MN-LN	Coarse, Red monochrome, Red on white, Scraped, Scraped/protogrey, Grey (monochrome and painted), Black burnished, Matt-painted	67	Toufexis 2003
Sesklo	EN-MN	Coarse, Red monochrome, Red on white, White on red, Scraped	82 (66+CM:16)	Kotsakis 1983, 2006; Maniatis et al. 1988
Tsangli	MN-LN	Coarse, Red monochrome, Red on white, Red on red, Scraped, Protogrey, Grey (monochrome and painted), Black burnished, Matt-painted	47 (46+CM:1)	Wace and Thompson 1912: 86–130
Achilleio	MN	Coarse, Red monochrome	10	Gimbutas et al. 1989

(Continued)

Table 7.1 (Continued)

<i>Site</i>	<i>Chronology</i>	<i>Wares examined</i>	<i>Number of samples</i>	<i>Reference</i>
Magoula Sykeon	MN-LN	Coarse, Red monochrome, Grey (monochrome and painted), Black burnished, Matt-painted	42	Hatzangelakis 1998; Hatzangelakis 2000
Orgozinos	LN	Coarse, Red monochrome, Grey (monochrome and painted), Black burnished, Matt-painted	30	Nikolaou et al. 2008
Hatzimissiotiki Magoula	MN-LN	Coarse, Red monochrome, Brown on cream	21	Grundmann 1937
Agropikiou Magoula	LN	Coarse, Red monochrome, Black burnished, Bichrome, Polychrome, Black on red	17	Theocharis 1973: 349
Magoula Visviki	EN/MN-LN	Coarse, Red monochrome, Red on white, Red on red, White on red, Black burnished, Matt-painted, Bichrome, Polychrome, Black on red, Brown on cream, Incised, Plastic decoration	100	Alram-Stern and Dousougli-Zachos 2015; Penteteka 2015
Magoula Tsapochoa/Symou	MN-LN	Coarse, Red monochrome, Red on white, Red on red, White on red, Scraped, Scraped/protogrey, Grey (monochrome and painted), Black burnished, Matt-painted, Brown on brown, Polychrome, Black on red, Brown on cream	60	Theocharis 1966: 252–253
Kamara	MN	Coarse, Red monochrome, Buff monochrome, Red on white, Red on red, White on red	55	Reinders et al. 2007
Kourtroulou Magoula	MN	Coarse, Red monochrome, Buff monochrome, Red on white, Red on red, Red on dark, White on red, Incised; figurines	59 (36 pottery+23 figurines)	Kyparissi-Apostolika 2006; Kyparissi-Apostolika and Hamilakis 2015; Penteteka et al. forthcoming
Surface survey Magoula Tsalma/Tyrnavos 5 (ATAE 21)	MN-LN	Coarse, Scraped, Grey decorated, Black burnished, Matt-painted, Polychrome, Black on red, Brown on cream	41 (35+CM:6)	Gallis 1992: 186
Daoutza	MN	Coarse, Red monochrome, Red on white, Protogrey	35	Rondiri 2009: 163–164

Mesochori 1 (ATAE 262)	EN-MN	Scraped	CM:2	Schneider et al. 1991; Gallis 1992: 151
Soufli Magoula (ATAE 35)	EN-LN	Coarse, Red on white, Scraped, Grey painted, Black burnished	CM:21	Schneider et al. 1991; Gallis 1992: 140–141
Gonnoi 1 (ATAE 120)	EN-LN	Coarse, Black burnished	CM:2	Schneider et al. 1991; Gallis 1992: 110–111
Nikaia 5 (ATAE 296)	EN-LN	Black Burnished	CM:1	Schneider et al. 1991; Gallis 1992: 161
Terpsithea 2 (ATAE 59)	LN	Grey painted	CM:1	Schneider et al. 1991; Gallis 1992: 184
Grizano 1 (ATAE 345)	EN-LN	Coarse, Scraped/protogrey, Grey painted, Matt-painted, Black on red	CM:6	Schneider et al. 1991
Lefki Karditsas 1 (ATAE 478)	LN	Grey painted	CM:1	Schneider et al. 1991
Ampelonas Karditsas 1 (ATAE 211)	LN	Grey painted	CM:1	Schneider et al. 1991
Keramidi (ATAE 474)	LN	Grey painted	CM:1	Schneider et al. 1991
Itea 2 (ATAE 477)	LN	Grey painted	CM:1	Schneider et al. 1991
Kastro 1 (ATAE 9)	LN	Grey painted	CM:1	Schneider et al. 1991; Gallis 1992: 128–130
Rachoula 1 (ATAE 11)	EN-LN	Grey painted	CM:1	Schneider et al. 1991; Gallis 1992: 176
Ypereia 1 (ATAE 173)	MN-LN	Scraped, Grey painted	CM:2	Schneider et al. 1991
Chara 2 (ATAE 99)	EN-LN	Grey painted	CM:1	Schneider et al. 1991; Gallis 1992: 192–194
Magoula Koskina (ATAE 458)	EN-LN	Protogrey	CM:1	Schneider et al. 1991

Note: CM: comparative material analysed by both the author and Schneider et al. 1991.

chemically, as they were part (*ca.* 20%) of the sample set analysed with XRF by Schneider et al. (1991) in the past; these samples served as comparative material and important link to published results of chemical analysis. A total of *ca.* 80 raw material samples (sands, sediments showing plasticity and rock fragments) were processed experimentally and thin-sectioned, for further control of the compositional attributes expected to characterise local pottery productions.

Petrographic analysis is considered to be the most suitable analytical technique applicable to archaeological ceramics for the investigation of both pottery technology and provenance issues. It enables the identification of the mineralogical composition of the pottery and its direct comparison with sediments deriving from geological formations in the vicinity of the site under study. In this way, the local pottery production is compositionally characterised, and, in combination with raw material prospection and chemical analysis, exchange can be further discussed. The detailed examination of raw materials from the vicinity of each site sheds light on the ancient perception of a given environment as a resource and a familiar terrain, revealing the range of alternatives the ancient potter had, before choosing a specific raw material (at the same time, though, it brings the movement of humans and things to light, revealing the lived-through landscape as a tangled mesh of personalised trails; Ingold 2011: 47). Moreover, petrographic analysis allows for the observation of various elements of manufacturing technology and surface treatment techniques, thus illuminating the choices ancient potters made within their social, cultural and natural environments (Whitbread 1995, 2001). Such an approach allows for inferences on technological traditions, the organisation of production (e.g. standardisation) and distribution of wares and fabrics, and ultimately some suggestions on the social role of ceramics in any given society.

Pottery networks in Neolithic Thessaly

The multilevel processing of the analytical results revealed that certain settlements had developed distinctive fabric recipes (Common Fabric Group, CFG; Table 7.2, Figure 7.2), usually ware-specific and characterised by a rather fixed *chaîne opératoire*. Further comparison with the survey pottery samples analysed by Schneider et al. (1991) and integration of their chemical analyses results and conclusions led to very interesting findings with regard to pottery circulation alongside local pottery manufacture (Pentedecka 2008: 177–210). In contrast to the widely accepted view that only decorated fine wares are exchanged, this study proved that pots of all wares, sizes or shapes seem to circulate, although with noticeably different intensity. The degree of intensity is inferred from the different scattering and the parallel activity of multiple networks, the participation in which was of variable degree and form for each settlement. Particular attributes characterising the *chaîne opératoire* of each of these fabric groups (such as unique

Table 7.2 Table summarising the archaeological and analytical features of CFG1–8

	CFG1	CFG2	CFG3	CFG4	CFG5	CFG6	CFG7	CFG8
Petrofabric	Gneiss and biotite/ chlorite schist fragments and mineral components (quartz, alkali feldspar esp. microcline, plagioclase, biotite/ chlorite)	Same as in CFG1, biotite in various stages of thermal deformation	Marls, quartz, feldspar (esp. microcline), not fully burnt-out organic material	Quartz-rich metamorphic fragments and mineral components (quartz, feldspar, epidote group minerals, amphibole of green pleochroism, titanite)	Biotite epidote amphibole schist fragments and mineral components (quartz, biotite, epidote, brown amphibole, alkali feldspar and plagioclase), quartz-rich metamorphic rock fragments, shale and phyllite fragments	Quartz, alkali feldspar and mica	Biotite schist (strong planar preferred orientation, lepidoblastic texture), phyllite and micritic limestone fragments, and mineral components (quartz, mica, alkali feldspars); plausible clay mix and tempering	The common feature between sites is the grog temper; at each site the grog-tempered samples comprise subgroups of already identified fabric groups of distinctive rock and mineral composition
Chemical group	(not analysed chemically)	3.2.1 (Schneider et al. 1991: 54–55)	3.2.1 (Schneider et al. 1991: 54–55)	3.4.5 (Schneider et al. 1991: 59 continued in p. 57 due to printing erratum)	3.4.1 (Schneider et al. 1991: 59)	3.1.4 (Schneider et al. 1991: 54, discussed in p. 16)	(not analysed chemically)	(not analysed chemically)
Original firing temperature	<850oC	900–950oC, in few occasions up to 1000oC	≤850oC	<850oC	≤850oC	≤850oC	<850oC	<850oC
Refring colour (1050oC; Munsell Colour Charts 2009)	dark red (2.5YR 4/4, 2.5YR 3/4, 2.5YR 3/6)	dark red (2.5YR 4/4, 2.5YR 3/4, 2.5YR 3/6)	red (2.5YR 5/6, 2.5YR 5/8, 2.5YR 4/6, 2.5YR 4/8)	dark red (2.5YR 4/4, 2.5YR 3/6)	dark red (2.5YR 4/4, 2.5YR 3/4, 2.5YR 3/6)	dark red (2.5YR 4/4, 2.5YR 3/4, 2.5YR 3/6) to red (2.5YR 5/6, 2.5YR 5/8, 2.5YR 4/6, 2.5YR 4/8)	light red-pinkish buff (10YR 8/3, 5YR 7/6, 2.5YR 6/6, 7.5YR 7/4, 2.5YR 5/6)	dark red-red-light red (2.5YR 3/6, 2.5YR 4/4, 2.5YR 5/6, 2.5YR 4/8, 2.5YR 6/6, 7.5YR 7/6)

(Continued)

Table 7.2 (Continued)

	CFG1	CFG2	CFG3	CFG4	CFG5	CFG6	CFG7	CFG8
Ware	At Platia Magoula Zarkou in all wares except Black burnished. At the other sites mainly in Scraped/Scraped/Protogrey wares, less commonly in Grey ware, rarely in Matt-painted ware.	At Platia Magoula Zarkou in all wares except coarseware and Black burnished. At the other sites mainly in Scraped/Protogrey, Grey wares (for the latter mainly monochrome and less frequently painted)	Grey decorated ware (grey-on-grey), less frequently in Grey monochrome and Protogrey wares	Black burnished (mainly undecorated)	Black burnished (mainly decorated)	Scraped ware, rarely in Red monochrome ware	At Halki 1 in Coarse, Red monochrome, Scraped, Red on white wares. At the other sites mainly in Red on White ware, rarely in Red monochrome and Scraped wares.	Mainly in Late Neolithic painted wares, esp. Bichrome and Polychrome
Shape	Ribbon-handle cup (for Scraped, Scraped/Protogrey, Protogrey and Grey wares)	Ribbon-handle cup (for Scraped, Scraped/Protogrey, Protogrey and Grey wares)	Ribbon-handle cup (for Protogrey, Grey painted and Grey monochrome wares)	Bowl	Bowl	Bowl (kylix)	Bowl	Bowl, fruitstand, jar
Provenance	Platia Magoula Zarkou	Platia Magoula Zarkou	Western Thessaly, Platia Magoula Zarkou	Tyrnavos area, Magoula Tsalma	Makrychori 2	Southeastern Thessaly (Tsangli?)	Halki 1	(South Thessaly)

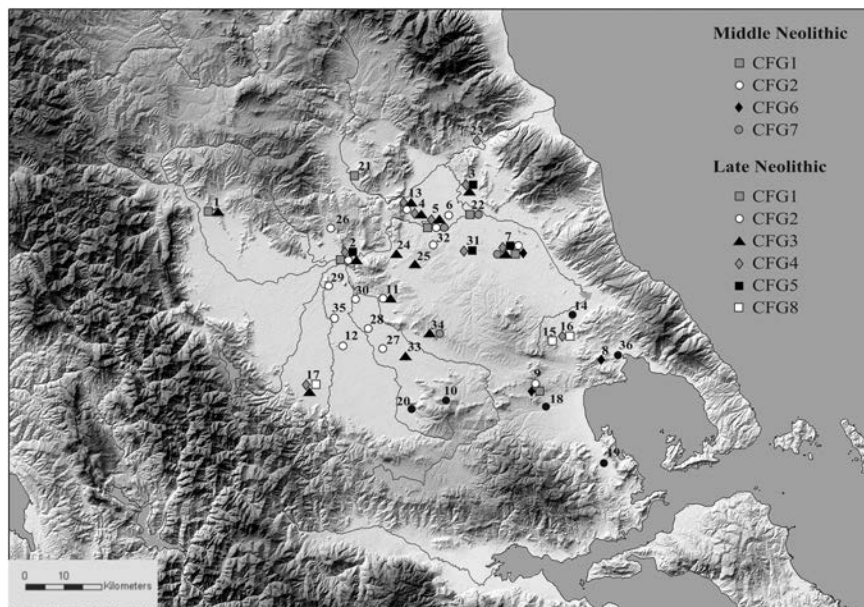


Figure 7.2 Distribution map for the common fabric groups (CFG) identified and their probable production centre (the sites are numbered as in Figure 1): CFG1: Platia Magoula Zarkou (Scraped and Grey on grey ware), CFG2: Platia Magoula Zarkou (Grey on grey ware), CFG3: Platia Magoula Zarkou (Grey on grey ware), CFG4: Magoula Tsalma (Black Burnished and Black on red ware), CFG5: Makrychori 2 (Black or red ware), CFG6: Tsangli? (Scraped ware), CFG7: Halki 1 (Red on white ware), CFG8: Grog fabric (Bichrome and Polychrome ware).

firing techniques or geographically confined sources of raw materials used) indicate the movement of pots rather than the movement of potters. Expressly, what is observed is not only the transmission of the specific technical knowledge of a particular potting tradition, having an impact on or being imitated when exercised in a different context; for the most part, it is the actual products of this tradition that are usually imported in small quantities from the production site. Therefore, the concept of the *chaîne opératoire* proved to be very useful not only in the reconstruction of pottery production, but also in the detection of structured circulation patterns and exchange networks in Neolithic Thessaly.

During the Middle Neolithic (MN; Fig. 7.3: 1–7), Red on white and Scraped wares present small-scale circulation with at least one discernible production centre for each, namely Halki 1 (CFG7) for Red on white ware, and Platia Magoula Zarkou (CFG1, CFG2) and possibly also Tsangli (CFG6), for Scraped ware. Red monochrome pottery shows some mobility,

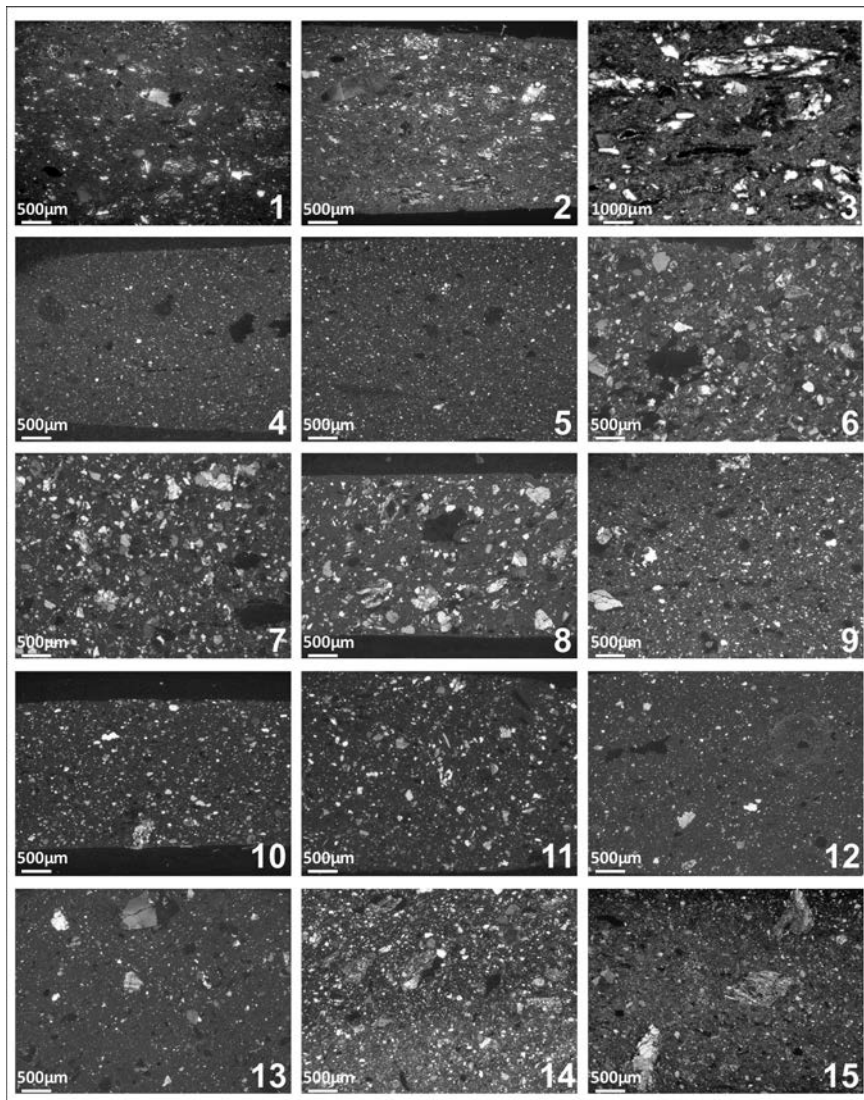


Figure 7.3 Microphotographs illustrating the main common fabric groups (CFG) identified within the Thessalian ceramic assemblages: 1–3. CFG7 (Red on white ware; 1. H11/1 from Halki 1, 2. OTZ11/8 from Otzaki, 3. 186 from Soufli Magoula), 4–5. CFG6 (Scraped ware; 4. TS10 from Tsangli, 5. SB40 from Sesklo), 6–8. CFG1 (Scraped; 6. PMZ23 from PMZarkou, 7. X25 from Halki 1; and Grey ware 8. OTZ47 from Otzaki), 9–11. CFG2 (Grey ware; 9. PMZ56 from PMZarkou, 10. SYK29 from Sykeon, 11. TS37 from Tsangli), 12–13. CFG3 (Grey ware; 12. PMZ57 from PMZarkou, 13. X41 from Halki 1), 14–15. CFG5 (Black burnished ware; 14. M3 from Makrychori 2, 15. 4014 from Soufli Magoula) (the sample numbers are given in the parenthesis, along with the assemblage within which they were found; samples 186 and 4014 are courtesy of Prof. G. Schneider; all microphotographs under crossed polars).

but in very low total numbers. Pottery circulation seems to intensify from the Late Neolithic (LN) onwards. During its first phase, multiple networks are established, in particular for Black burnished and Grey wares. For the latter, Platia Magoula Zarkou seems to be a major centre (CFG1, CFG2, CFG3; Fig. 7.3: 8–13), whereas production centres for Black burnished ware include Magoula Tsalma (CFG4; Figure 7.4: 1–2) and Makrychori 2 (CFG5; Fig. 7.3: 14–15). In the following phase, LN II, Magoula Tsalma is attested to be a major production centre for the Black on red ware (CFG4; Figure 7.4: 3). Hitsiou (Hitsiou 2003) has suggested Dimini as the centre for Brown on cream ware production, but recent research indicates the existence of at least one more centre, which cannot be securely located at present (Pentedeke 2015: 267–269). Therefore, production centres seem to be mostly ware-specific, with the exception of Platia Magoula Zarkou, which was active in the circulation of a number of wares throughout the Neolithic, and of Magoula Tsalma during the Late Neolithic.

Assessing the ways in which the discerned networks are structured, various patterns of settlement involvement can be identified, depending on the intensity, degree and form of participation for each settlement (Pentedeke 2008: 197–210). The links observed between particular settlements during the MN continue and intensify in the LN. This applies especially to the network of

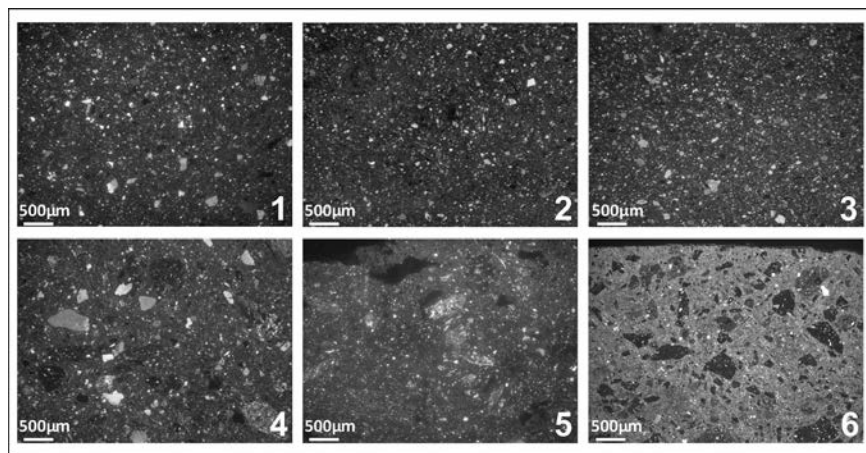


Figure 7.4 Microphotographs illustrating the main common fabric groups (CFG) identified within the Thessalian ceramic assemblages: 1–3. CFG4 (Black burnished ware; 1. TSAL11/22 from Mag. Tsalma, 2. 1123 from Gonnoi 1; and Black on red ware 3. MV78 from Visviki), 4–6. CFG8 (Grog-tempered fabric, Bichrome and Polychrome ware; 4. MV48 from Visviki, 5. AGR11/14 from Agrokypiou, 6. TSP11/3 from Tsapocha) (the sample numbers are given in the parenthesis, along with the assemblage within which they were found; sample 1123 is courtesy of Prof. G. Schneider; all microphotographs under crossed polars).

relations developed by the inhabitants of Platia Magoula Zarkou during the MN, which includes Theopetra Cave, Magoula Tsalma, Halki 1 and Tsangli. This network survives in the following period, experiencing a significant expansion by including many other settlements throughout Thessaly. In an overall assessment of all networks for both periods, the settlements Platia Magoula Zarkou, Magoula Tsalma, Makrychori 2, Tsangli and Halki 1 stand out as diachronically important nodes, although the degree and form of participation is variable for each settlement, resulting in three different patterns of settlement involvement in exchange networks. The first pattern includes the 'source' settlements, i.e. settlements that are active primarily as production centres for the networks they participate in. Platia Magoula Zarkou is the only settlement where this pattern is recognised and could be characterised as a diachronic 'source' settlement. The second pattern includes settlements which act as 'source' settlements in some of the networks they participate in, while in others they operate as 'recipient' settlements, demonstrating relatively balanced reciprocal relations. The most characteristic example of this pattern is Magoula Tsalma (to a smaller extent also Makrychori 2 and Tsangli). Finally, the third pattern concerns settlements that appear to act primarily as 'recipient' settlements in the networks they participate in, like Halki 1, which represents a diachronic 'recipient' settlement, being the only site from those so far examined that participates in almost all networks identified.

The parallel activity of different networks observed in pottery applies also to chipped stone technological know-how and raw material networks; it is of interest, though, that these networks are very differently structured to (although the co-exist and overlap with) those of pottery (Karimali 2001, 2006; Perlès 2007; for a comparative discussion see Pentedeka 2011). It should be emphasised, though, that the conditions of participation in or exclusion from any network (pottery or stone tools) are not formed on geographical terms of distance to the source; this means that we should not a priori assume that the journey of a pot, e.g. produced at Platia Magoula Zarkou and unearthed at Tsangli, was direct from the production to the recipient centre. At the same line, Halki 1 should not be considered to constitute some form of primitive market place, as the actual numbers of 'imported' pottery and the lack of robust contextual data (small scale rescue excavation) severely inhibits such an interpretation.

Meshworks of values

Taking into account all the above, it seems reasonable to argue that what is being inferred from this connectivity are not simple networks but a complex meshwork. The distinction between a net, from a meshwork is, according to Ingold, "the recognition that the lines of the meshwork are not connectors. They are the paths *along* which life is lived. And it is in the binding together of lines, not in the connecting of points, that the mesh is constituted" (Ingold

2011: 150–151). Exchange, as inferred from the movement of things and people in the landscape, exhibits the inherent spatial dimension within the entire meshwork; equally (if not more) important, though, is the internal temporal dimension which lies always behind this kind of interaction (vide supra discussion on Bourdieu and Appadurai). Exchange, therefore, can be understood as a form of structured connectivity reliant on what is given in return (be it material or immaterial) and when. But there are also other factors that shape the meshwork: “values on the one hand and the fluctuation of those values over time on the other. This history is all the more complex in that it will vary according to the type of values, and, to complicate things further, the history of each value will interfere with the fluctuations of all the others” (Latour 2013: 45).

What could these Neolithic values be? It should not be considered as a mere coincidence that the settlements standing out as diachronically important nodes are, with rare exceptions, inhabited for thousands of years, forming visible tells in the Thessalian plain. It has been suggested that tells are a clear mark of continuity and symbolic relation to the ancestors and provide prominent monuments as fixed places in the landscape (Kotsakis 1999). In this respect, tells act as landmarks of the communal ancestral past, while on the tells themselves the successive rebuilding of houses stresses the individual household continuity, gradually shifting away from reciprocal communality. This tension between the community as a whole and the individual household units is highlighted by both Kotsakis and Halstead; the formation of tells is considered to be a mechanism to restrain divisive conflicts, while stylistic homogeneity in tablewares is argued to be another such mechanism indicative of commensality which served to promote communal solidarity and cultivate social contacts (Kotsakis 1999, 2006; Halstead 2011). Indeed, a closer look at the pottery that is exchanged concerns mostly vessels for food/drink consumption and display, in particular small to medium-sized cups (Scraped and Grey wares) and carinated bowls (Black burnished and Black on red wares, to a smaller extent also for Bichrome and Polychrome wares), pointing to some sort of consumption practice, not necessarily the same for all pots (feasting can be excluded as a possibility due to the minimal quantity of the ‘imports’ identified in all assemblages). It is noteworthy that through the analysis it was shown that even Red monochrome pottery, considered to be a utilitarian ware with vessels of all shapes and sizes, can, at some point of its biography, become an object of exchange and materialise social relations in a different sphere of practice. These consumption practices cannot be further characterised; they plausibly point to some sort of rites of passage (e.g. on the event of an exogenous marriage, or the death of a relocated sibling, etc.), but are not related to feasting, since the small quantities of ‘imported’ pottery do not favour such an interpretation (Penttedeka 2008: Tables 1–5). The lack of reliable contextual information impedes any further characterisation of the consumption practices inferred, the identity of the persons involved, or more importantly, of the exact *tempo* and nature of

what was given in return. Nevertheless, we can at least argue that these practices relate strongly to the promotion and negotiation of social relationships and alliances, between settlements or individuals, on the basis of a shared system of values.

Identities in clay

Two case studies illustrate eloquently how the intertwined practices of pottery making, exchange and consumption enable the formation and negotiation of individual and collective identities. The first refers to the technological practice of grog tempering (crushed pottery) attested in the assemblages of Tsapocha, Visviki and Agrokypiou magoules, but also reported for Dimini, in relation primarily to Polychrome and Bichrome wares (CFG8; Hitsiou 2003: 152–153; Pentedeka 2015: 272). Grog is usually added to clay pastes already containing non-plastic inclusions, which relate to the geological formations found in the vicinity of the site and correspond to well-defined fabrics of each settlement (Fig. 7.4: 4–6). The Polychrome and Bichrome wares seem to be related with the formation of a grog-tempering tradition attested so far only in southern Thessaly during the LN; this tradition exemplifies the sharing of beliefs and ideas rather than the circulation of pots themselves. Interestingly, ethnographic studies suggest that grog-tempering can be symbolically charged, and its choice should be more significant for the producers as members of certain social groups (crushed pottery conceived as disembodied remains of the ancestors, thus when re-used it asserts powerful connections to them; e.g. Rainbird 1999). Such concepts comprise part of technological traditions, embedded in a society's system of beliefs, concepts and practices and transmitted through close social contacts, usually kin-based and often related to marriage networks (as in e.g. Gosselain 1998), possibly constituting a safety net working in times of need (e.g. loss of crops, excessive flooding episodes).

The second case study relates to Platia Magoula Zarkou, which appears to have been a diachronically important node (for further discussion see also Pentedeka 2011). Platia Magoula Zarkou was active in five different networks, for three of those acting as the source settlement. Already during the Middle Neolithic a network of relations seems to have been established among Platia Magoula Zarkou, Theopetra Cave, Otzaki, Halki 1 and Tsangli, focusing on Scraped ware manufactured in CFG1–2. This network survives in the following Late Neolithic Tsangli-Larissa phase, although it expands significantly to include 20 more settlements throughout Thessaly (and even beyond; Schneider et al. 1991: 24), this time related to Grey ware, of which 80% of the samples analysed proved to be manufactured in CFG1–3 (Pentedeka 2008: 201–203, fig. 7.3). These fabrics (CFG1–3) constitute three different recipes, or sets of technological choices identified for the manufacture of this ware, a variability not observable with the naked eye, as Grey pottery is characterised by extraordinary morphotypological uniformity. These observations have

significant implications for the interpretation of such nodes (*places*). The extensive networking of Platia Magoula Zarkou indicates that this nodal site took full advantage of its central location, in close proximity to the Peneios River and at an important crossing point between the eastern and western plains. The distribution of the different Grey ware fabrics is rather similar, covering more or less all of Thessaly. It seems reasonable to question the need for such recipe pluralism in the Grey ware production of Platia Magoula Zarkou, since networks overlap. Having accepted the strong social foundations of technology, it is difficult to accept that the inhabitants of Platia Magoula Zarkou were not aware of the difference between the products of different recipes, albeit the typological homogeneity of the ware. A working hypothesis could be that tensions within the community (between specific households?) were expressed through pottery technology, i.e. that some sort of identity negotiation was demonstrated through divergence, or even competition, in Grey ware manufacture and circulation. Therefore, the parallel activity of Grey ware circulation networks might express such tensions, along with maintaining existing contacts or seeking for new ones as a strategy for the creation of a dense social space. Whatever the case might be, the intense interaction of the Platia Magoula Zarkou inhabitants did not contribute to the continuation of the site's habitation. Platia Magoula Zarkou was abandoned after the initiating LN Tsangli-Larissa phase, as the Grey ware disappeared from the Thessalian ceramic assemblages of later LN phases.

Conclusions

The integrated approach adopted in this study attempted to bridge the notion of network and the anthropological discourse on exchange, value and technology (based mainly on the work of Bourdieu, Appadurai, Latour and Ingold) on one side, and the various forms of ceramic analysis (macro- and microscopic, elemental analysis) on the other. The concept of the *chaîne opératoire* proved to be very useful for the identification of a number of fabrics, usually ware-specific and associated with exchange networks, which were characterised by different organisation patterns and degree of site involvement. The connotations of these finds are significant for the unravelling of the complex relations between specific Neolithic settlements and the recognition of interregional diversification in Thessaly. Exchange as a form of networking constitutes a fluid frame of practice, where all kinds of pottery seem to convey values such as beliefs, needs and personal and group identities. These values do not remain unchanged through time but seem to be constantly renewed, negotiated and possibly transformed.

This system of values allowed for the expression and negotiation of identities of specific groups. Platia Magoula Zarkou illustrates an interesting case of such identity negotiation, as it comprises the main Grey ware production centre. Analysis indicated a multiplicity in clay paste recipes, for three different recipes (sets of technological choices) were in parallel use for the

manufacture of this ware, possibly expressing tensions within the community. Group identity seems to be also expressed via specific ceramic practices, e.g. grog tempering attested in southeastern Thessaly in relation primarily to Polychrome and Bichrome wares. This case illustrates a specific pottery tradition in south Thessaly that most probably highlights shared beliefs and ideas rather than the circulation of pots themselves. All the above contribute to the recognition of a number of fissures in the *prima facie* conceived uniformity of the material culture; more importantly, though, it highlights the complex relations developed between the Neolithic communities and the existence of interregional, diversified group identities within Thessaly.

Acknowledgements

The author would like to thank Univ.-Doz. Dr. E. Alram, Prof. K. Gallis, Prof. Y. Hamilakis, L. Hatzangelakis, Prof. K. Kotsakis, Dr A. Kyparissi-Apostolika, E. Nikolaou, Dr V. Rondiri, Prof. G. Schneider and G. Toufexis for entrusting me with the study of their material; Dr S. Valkaniotis for providing me with the map background for Figures 7.1 and 7.2; IF', IE', ΛΔ', S. Greece Palaeoanthropology-Speleology Ephorates and the Institute of Geology and Mineral Exploration for issuing the sampling permits. This study would not have been completed without the support of the following funding bodies: Aristotle University of Thessaloniki – Research Committee, Institute for Aegean Prehistory, The A.G. Leventis Foundation, Der Wissenschaftsfonds, Österreichische Akademie der Wissenschaften, The British Academy and Psychas Foundation.

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