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Overview of the Neolithic Landscape Research and the off-Site Land use in Greece

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Abstract- The last three decades have produced a wide range of methodological developments in the study of landscapes. The landscape during the Neolithic has been influenced by the interactions of water and human land use. This paper aims to present an overview of the research about the Neolithic off-site land use in Greece, based on old and new data and techniques. Our focus is on the well-known Neolithic record of Thessaly and Macedonia and also the Peloponnese and Attica with decidedly lowest density of Neolithic sites and elsewhere. Land use changes and landscape processes are influenced by multiple bio-physical and socioeconomic factors in a multi-scale system. This paper will answer questions such as: What sorts of activities can be identified? What about the off-site land use intensity? Land use changes should be analysed in isolation or with accounting for both on-site and off-site effects on landscape processes.

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OVERVIEWOFTHENEOLITHICLANDSCAPERESEARCHANDTHEOFFSITELANDUSEINGREECE

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Overview of the Neolithic Landscape Research And The off-Site Land Use in Greece

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I. Introduction

The aim of this paper is to provide an overview of the main interpretative issues and methodological developments in the landscape research bringing together data from the Greek Neolithic record. The main reason for tackling this topic is the numerous of new data that has been collected over the last three decades. This study is a synthesizing research with a regional and diachronic approach from the Early Neolithic to the Final Neolithic period. Many questions and concerns arise when we discuss the interaction between human and the landscape. The landscape is the physical "space" of living and a "place" with meanings and contributions to societal identity. It is the stage of human action and it reflects past activities. This paper focuses on the landscape as a key topic of archaeological research, on the intensive and extensive forms of off-site land use, and on the subsistence strategies of Greek Neolithic groups.

II. Landscape A Key Topic of Archaeological Research

The European Landscape Convention defines landscape as "an area, as perceived by people, whose character is the result of the action and interaction of natural and/or human factors" (Council of Europe 2000).

Landscape is amazing, fascinating, "attractive, important and ambiguous term" (Meining 1979:1), especially significant for the Neolithic period in Greece. Landscape is a human geographical notion rooted in different disciplines, including archaeology, history, geography, anthropology, and several natural sciences. (Cosgrove, 1984, 1: 269; Fairclough 2008 : 409; Relph 1976: 122) The most important contemporary directions in past landscape research, include settlement archaeology, phenomenological landscape archaeology, landscape biography and path dependency. (Karro, Mägi and Palang 2014: 6).

Since the 1960s the concept of landscape has inspired a great array of different archaeologies.The landscapes have been conceptualized, primarily, as the natural environments determining human behavior or as a scene to human action, drawing on environmental archaeology and using models from the earth sciences as well as cultural ecology. (Kluiving and Guttmann eds., 2012: 9) Several processual perspectives characterize much contemporary research. The theoretical directions of many modern studies have more and more incorporated post processual orientations focusing on social agency and symbolic issues. In combination with enhanced theoretical sophistication, methodological refinements have considerably increased our understanding of the Neolithic. Progress in other disciplines also has very much benefited archaeology, confirming the need for true interdisciplinary collaboration. Particularly, chronological improvements have allowed for better dating of specific entities, sites, and even individual artifacts or ecofacts. The revolution in data recovery has allowed for the retrieval of higher-resolution information. This is notably important in relation to plant remains. Residue analysis from ground stone and other artifacts has provided considerable new insights into specific economic and social patterns. Also, genetic studies of both faunal and floral remains have allowed for a lot more précis comprehension of processes involved in domestication. Especially, DNA studies are opening up exciting new perspectives relating to specific domesticates and their spread. (Bollongino, Burger 2007: 165-187) Similar genetic analyses on human

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remains promise considerable insight into population movement and biological investigations. (Bentley et alii 2003; Papathanasiou 2005: 377-390; Pinhasi and Stock eds. 2011; Triantaphyllou 1999: 128-135; 2002: 829-846; 2004: 613-24) The incorporation of geomorphic analyses into regional models and environmental reconstructions also has resulted in a better understanding of the Neolithic and how land use practices have changed the environment. This more and more includes the use of GIS for modeling settlement behavior. (Alexakis, Astaras, Sarris, Vouzaxakis 2008)

Field-methods aim studying the landscape at a higher resolution than before. The surveys of the decade of 1980s aimed to study the landscape along the route of settlement patterns reconstructions, and explore the changes in population density and land use (example surveys: Megalopolis; Nemea; Pylos Bintliff and Gaffney 1988). All projects in a multidisciplinary level and intensive approach were on revealing hidden rural landscapes. From the 90s the projects to a real interdisciplinary framework of synthetic data analysis aimed in diachronic collections of material. Theoretical and methodological discussions of the 70s and 80s have guided archaeological landscape research till now. The systematic sampling, multi-stage designs, and the relationships of surface-subsurface as well as site-offsite material are discussed (Barker and Lloyd 1991; Bintliff and Snodgrass 1988a; Bowden et al.1991; Dunnell andSimek 1995; Schofield 1991a), cultural-ecological approaches are applied, and a socio-economic interpretative framework is used. Site Catchment Analysis and Thiessen polygons methods have been used in order to explore land resources on a micro and macro-regional level (Bintliff et al. 1988), but also site hierarchies (Moody 1987).

Landscape studies seek to understand the site definition (Dunnell 1992); the discovery of a very complex surface record and the big number of pottery concentrations not easily understood (Bevan and Conolly 2003); the definition of sites in the formation of the surface record (Foxhall 2001; Osborne 2001; Pettegrew 2001); the set of criteria for defining sites (Gaffney et al.1991; Gaffney 2000; Gallant 1986; Plog 1978; Schofield 1991b); a better understanding of the plough zone and the archaeological material recoverable through intensive survey (Ammerman 1985; Odell and Cowan 1987; Reynolds 1982; Shennan 1985). Very interesting in the modern survey is the cooperation with other disciplines from the human and the natural sciences in intensive survey techniques (Argolid; Methana; Boeotia; Laconia; Phaistos; Nikopolis; Kythera; Sphakiaetc). In particular geomorphology (Ammerman 1981) as tool for the reconstruction of past landscapes and their changes, as a study of the surface morphology gives information on water sources, distance to the sea, vegetation and land use, degradation of the landscape and human impact on the environment; Soil studies are used to study land use and subsistence, to identify raw material sources, to reveal humanity's impact on the environment and assess the state of the surface record (Morris 2002; van Andel et al. 1997); Palaeofaunal, palaeobotanical and palynological analyses on sediments for the reconstruction of vegetation and climate are relevant to subsistence studies and an indispensable tool for the understanding of past landscapes (Bailey 1997).

The extensive number of studies during recent years and the abundance of significant new results meant that the choices by me were not very easy or self-evident. It is impossible to describe in detail or discuss the quite extensive archaeological material we have today from the Greek Neolithic; I have chosen to discuss fundamental research perspectives concerning the off-site land use and the subsistence strategies and reconstruct the landscape from the early Neolithic until the Final Neolithic period.

III. Biographies Of Land Use

Greece is a country with very diverse conditions. In the seventh millennium BC, Neolithic people in Greece selected particular places in the landscape and erected structures with long term occupation close to springs, streams and rivers. (Papathanasopoulos ed. 1996; Bintliff 2012) These places were centers of activities where the people with structured way interacted with the other people, animals and the landscape (Bailey 2000). These were the settings for the majority of activities and tasks in a daily, seasonal, annual rotation. (Mlekuz 2010: 196)

The settlements and the houses as places where time and space meet and fuse, give meaning to the cycle of the social life.

It is important to underline the role of the geographical factors in the spread of Neolithic settlements (Perlès 2001). Topography, climate, and soils favored concentrated but isolated groups of settlements in certain regions, with a much thinner cover elsewhere. (Bintliff 2012: 50) Thus, early farmers in Greece preferred occupy areas as open woodland with a semi-arid climate, most comparable in these where the domestication of plants and animals was first accomplished. The vast lowlands of Thessaly, Macedonia, and Thrace reveal unparalleled densities of early farming sites, while the rest of Mainland Greece has until today given more scattered, lower-density Neolithic settlement patterns, and finally the Cyclades have no settlement until the Final Neolithic period.

IV. Settlements

The nucleated tell village with scattered farms and hamlets of non –tell type are the dominated form of the Greek Neolithic settlements. (Bintliff 2012: 52)

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On the late nineteenth and early twentieth century a numerous of artificial mounds, the "tells", "magoulas" or "toumbas", attracted the fieldworkers. The tells dominated in the fertile plains and low hill lands of Northeast Greece. The eminent Greek archaeologist Tsountas (Tsountas 1908: 17-26), the British Wace and Thompson (Wace and Thompson 1912: 4-5) focused the research on the Plains of Thessaly, and the British scholar Heurtley in Macedonia and revealed that these tells-villages were inhabited in the Greek Neolithic. Excavations during the 1950s revealed stratigraphic sequences at the magoula of Argissa, Otzaki, Arapi, Agia Sofia and Pefkakia, which created a diachronic system for regional Neolithic chronologies (Milojčić 1960).

The other form, the flat settlements with relatively short-term occupation and extensive open spaces (e.g. Makriyalos, Stavroupolis and Promachonas-Topolnitsa) are characterized by their large size, up to more than 50 ha and the hiatuses represented at each site (Grammenos 1991; Aslanis 1992; Andreou and al. 2001). They are amidst a small number of tells (e.g. Dikili Tash, Makri and Sitagroi). The striking feature is the several phases of occupation (e.g. Eftstratiou and al. 1998; Koukouli-Chrysanthaki and al. 1996; Treuil and Tsirtsoni 2000).

There is also evidence of complex settlements, tell and flat site (e.g. Galini, NeaMakri) (Toufexis 2005; Pantelidou-Gofa 1991). At Sesklo, in Thessaly, Theocharis recognized an external horizontal settlement around the tell fortified by a stone wall, perhaps represented a complex, "acropolis" and "polis", settlement structure (Theocharis1973: 68, fig. 178). Sesklo has long served as a reference point for research of settlement structure and relative chronology (Tsountas 1908; Theocharis 1973: 68; Kotsakis 2006) and Makrychori. Bailey argues that the association between the tells and the externals non- tells features could be demonstrated as a southeastern European phenomenon. (Bailey1999, 2000:175, fig. 5.8). Geophysical surveys and large –scale excavations have revealed numerous examples showing this "symbiosis" in south –east Europe, including Paliambela (Kontogiorgos 2010).

Moreover, there is evidence for a lake settlement of Dispilio in Macedonia (Hournouziadis 2002) and the lakeside tell Palioskala (Toufexis 2006). In southern mainland Greece and the Aegean Islands the villages tend to be more scattered, small to medium sized up to 1 ha and less long-lived (e.g. Alram-Stern 2005, Cavanagh and Crouwel 2002: 121-158, Davis 2001, Papadopoulos and Malamidou 2002). In western Greece Neolithic habitation levels have been revealed all over the region (e.g. Stratouli 2005, Wiseman and Zachos 2003).

Enclosure walls and ditches from the Early Neolithic appear together with the settlements and continue through the Neolithic. Probably they demarcated the community and acted symbolically (Demoule and Perlès 1993).

There is also evidence of caves occupation and rock shelters (e.g. Franchthi, Alepotrypa).

The tell settlements were created over generations by the remains of the houses overlapped, reworked and incorporated into new buildings. The flat settlements with relatively short-term occupation and extensive open spaces marked for the "sense of ephemerality" (Thissen 2005) the destruction and the displacement of houses, as with most flat sites known in Balkans.

Intensive survey and rescue excavations have registered increasing numbers of flat sites, often 6-20 ha but in some cases as much as 50-100 ha dramatically contrasted to the typical Thessalian tell of 1-3 ha. (Andreouand Kotsakis 1994; Kotsakis 1999)

V. The Off-Site Land Use

Land is the basic resource of human society. The term off-site is used to describe archaeological output outside the area which is regarded as the site or settlement, like ditches, wells and other less detectable archaeological remains.

It should be clear from the discussion of the ideas of Foley and his off-site archaeology, that there is no difference in importance between site and off-site and that both are indications of early prehistoric land use which have to be researched with the same intensity. (Cherry 1983; Cherry 2003; Foley 1981; Gallant 1986; Given 2003; Terrenato 2000; Van Leusen 2002) Land use is the use actually made on any parcel land. The study of the approaches of land use includes Malthusian and Marxian approaches, besides, it deals with von Thünen model of land use intensity (central? city, horticulture and dairying, commercial woodland, intensive arable, extensive arable, livestock rearing). (Wringley 2004)

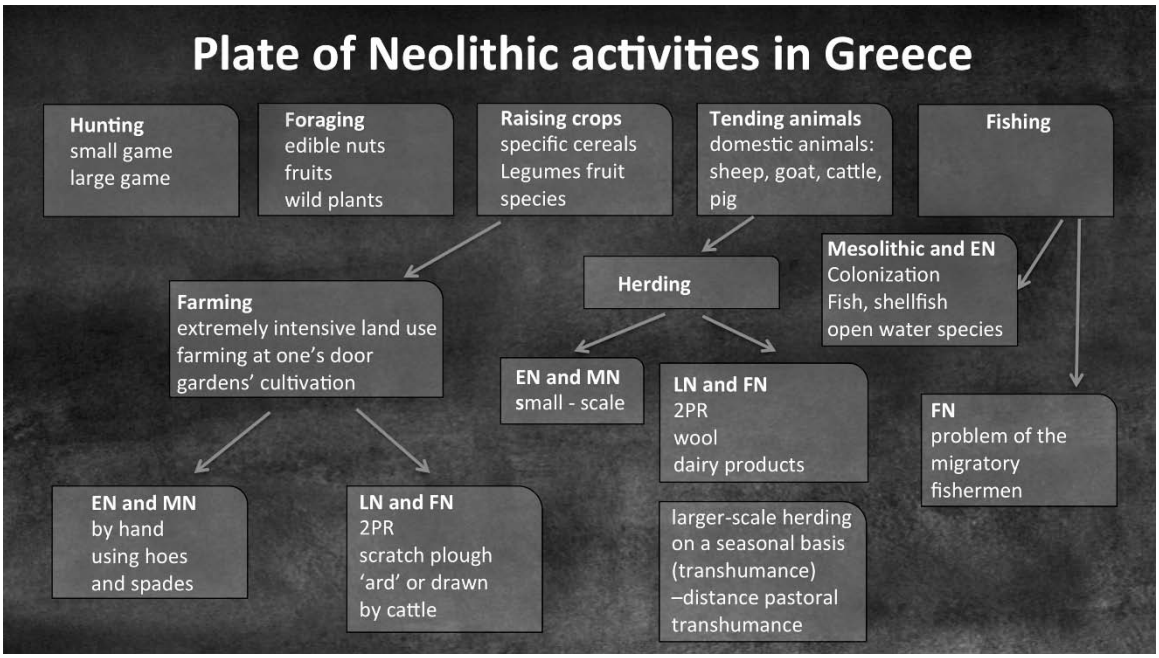
In a case study in Thessaly, where is the well known Neolithic record, more than a hundred Early Neolithic and as many Middle Neolithic sites have been identified most of which were on average 2.5 kilometers apart. The Thiessen polygon (analysis suggests territory packing. (Perlès 2001: 140)All the Early Neolithic villages in the Eastern Plain and Central Hill could have originated in a single pioneer colonizing village, by the process of continual social fission, within a relatively short period of time (on the basis of demographic models used by Ammermann and Cavalli Sforza, 1984) . The majority of the tells are closely clustered, but their distribution spreads regularly across different environments with little respect for their boundaries. (Alexakis, Astaras, Sarris, Vouzaxakis 2008: fig. 1)In Eastern Thessaly almost half the sites do not lie on the Plain at all but in the central Revenia hill land. The small

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size of Thessalian tell territories (average radius is 1.25 kilometers), meant that farming was almost at one's door, allowing extremely intensive land use, and a territory 450 hectars of exploitable fields that feed a mixed farming community of some 200 people. (Bintliff 2012) The cross-cultural study of agropastoral nucleated settlements, particularly that form of territorial investigation called Catchment Analysis(Vita-Finzi and Higgs 1970) has prompted the suggestion that such communities tend to restrict their exploited territory to a maximum radius of about one hour or 5 kilometers in flat terrain. The successive generations of settlements would have territorial radii 5.5, 3.5, 2.5, and 1.72 kilometers. (Kotsakis 2004: 56) The flat sites follow patches of highly fertile soil and consist from the remains of shifting houses and fields, may be fertilized from the spreading of household rubbish onto the cultivation zone, as in the Langadas Basin of Macedonia and with many similarities in South-Central Greece, near Tanagra. (Bintliff et alii2006) The land use is radial on easily worked soils in the Macedonian tells, but the flat sites appear to "burn up" a small part of the land and then move on to a fresher patch and high quality soil. Moreover, the nature of suitable farming land encouraged networks of smaller and larger sites of Middle Neolithic in Nemea as well as in Tanagra. Also, a Middle Neolithic flat settlement well integrated into regional exchange systems at Kouphovouno near Sparta. But the best known flat site is Makriyalos in Macedonia (Pappa and Besios 1999; Kotsakis 2007) with two occupation sectors used at the Late Neolithic, demarcated by ditches defining ones of shifting habitation. The remains of animal bone and pottery debris probably indicate a large – scale community feasting. (Pappa, Halstead, Kotsakis, Urem-Kotsou, 2004) Also, in the Late Neolithic I and II is considered as a period during which caves were being extensively used attributed by certain scholars to specialized economic practices.

These changes can be observed in the use and meaning of material culture and in the significance of landscape, where a phase of colonization of marginal environments is observed, a further expansion to upland landscapes as well as to seascapes (Mavridis et al. 2013). It is also a period when caves, even in arid or semi arid regions such as Lakonia, were used as parts of wider settlement systems (Mavridis et al. 2013). Some caves are considered as upland, even though they do not lie so far away from the coast. What seems to be changing then is that, in opposition to earlier phases, the agrios becomes important again in relation to the domus (for the earlier phases of the Neolithic, see Hodder 1990).

Table 1: Neolithic activities in Greece



According von den Driesch 1987; Cantuel et al. 2008; Halstead 1994, 1996, 2000, 2006;Valamoti et al. 2009; Bogaard 2004a, 2004b; Jones 2005; Kotsakis 1999; Johnston 2005, Sherratt 1980, 1981, 1997; Efstratiou et al. 2006; Perlès 2001; Ntinou and Badal 2000; Tsartsidou, Efstratiou et al. 2009; Willis 1994; van Andel et al. 1990; Isaakidou 2006, 2008; Shampson 2006; Evans and Renfrew 1968.

*Early Neolithic: EN
Middle Neolithic:MN
Late Neolithic: LN
Final Neolithic: FN

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The main economic activities of Neolithic communities were growing crops and raising animals, but also hunting, foraging and fishing. Harris (1996) summarizes the transitional stages from gathering of wild plants to the cultivation of domestic plants: a) Harvesting of wild plants, b)Cultivation of wild plants and, c)Cultivation of domesticated plants-namely agriculture.

The specific cereals such as emmer, einkorn and barley and legumes as bitter vetch, grass pea and chickpea (Valamoti and Kotsakis 2007) and domestic animals such as sheep, goat, cattle and pig and differ from site to site (Halstead 1996). The quantity of charred plant remains and bones is important and I believe as Ingold that "growing crops and raising animals are not just ways of producing food; they are forms of life…" (Ingold 1996, 24)

The gardens' cultivation was a widespread form of crop production in Greece as well as in Neolithic Europe. (Bogaard 2004 a; 2004b; 2005). This cultivation requires working on plots, tilling, protecting crops from animals and mainly bringing together people, animals and gardens (Halstead 1996; 2006) and means the relation between gardens and settlements. (Jones 2005). The remains of middens which were spread on gardens included burnt cereal processing waste rich in phytoliths burned bone fish remains and coprolites and burnt animal foddel, bedding, dung.

On the tells gardens were located outside the settlement. On the flat sites gardens probably located in the interior of the settlement between the houses (Kotsakis 1999: 73) played an active part in the negotiation of social identity within households (Kotsakis 1999; Johnston 2005). We remark many similarities with the Ancestral Pueblo people Waffle gardens. They employ small depressions surrounded by earthen walls to maintain moisture. (Varien 2015)

Until the Late Neolithic phases, farming was carried out by hand, using hoes and spades. This is a har job to accomplish in soils dry for much of the year. Johnson and Perlès present their opinion to clear the contrast based on Sherratt's earlier models (Sherratt 1980, 1981), between Northern plains such as these of Thessaly and the Southern Mainland, as well as the Peloponnese, where hamlets locations to limited sectors of the landscape where fertile soils near springs, lakes or marshes (Johnson 1996, Perlès 2001) The latter villages were few and far between, opposite to those of densely –inhabited Thessaly and similar northern plains.

In the Late and Final Neolithic the agro pastoral conditions changed dramatically. Sherratt supports that the fifth and fourth millennia BC took place a second diffusion of agricultural skills. In his "Secondary Products Revolution" (2PR), stresses that two important improvements to farming and herding arose in the Near East and diffused through contact, and rapidly, across Europe. (Sherratt 1981) Firstly is the innovation of a scratch plough or "ard" drawn by cattle for the farmers so that to prepare their fields more fast and over a larger area using more drier soils even without high water tables. (Halstead 1995b). Also, this innovation helped the farmers in more arid landscapes to move to semi-wetland sectors and open up cultivation on the good but until then dry soils the so-called "interfluves" (between springs, lakes and rivers).

Secondly is the broader use of domestic animals mainly for wool and dairy products. The domestic economy specialized in larger-scale herding encouraging settlement in low agriculturally favorable landscape zones which were more ideal for grazing on a seasonal basis (transhumance). The data support the development of long-distance pastoral transhumance, into the high Greek mountains from the Late Neolithic (Efstratiou and al. 2006), highlighting the radical economic changes.

On the Late Neolithic Europe as a whole and certainly in Greece observed an increasing of the settlements and an expansion into new zones of the landscape. This is the time of the first large-scale colonization of the Cyclades (Davis 1992) and of the expansion of the people in southern Mainland, on Crete (Branigan 1999), and even in Thessaly (Demoule and Perlès 1993), and also into the uplands through the Mainland.

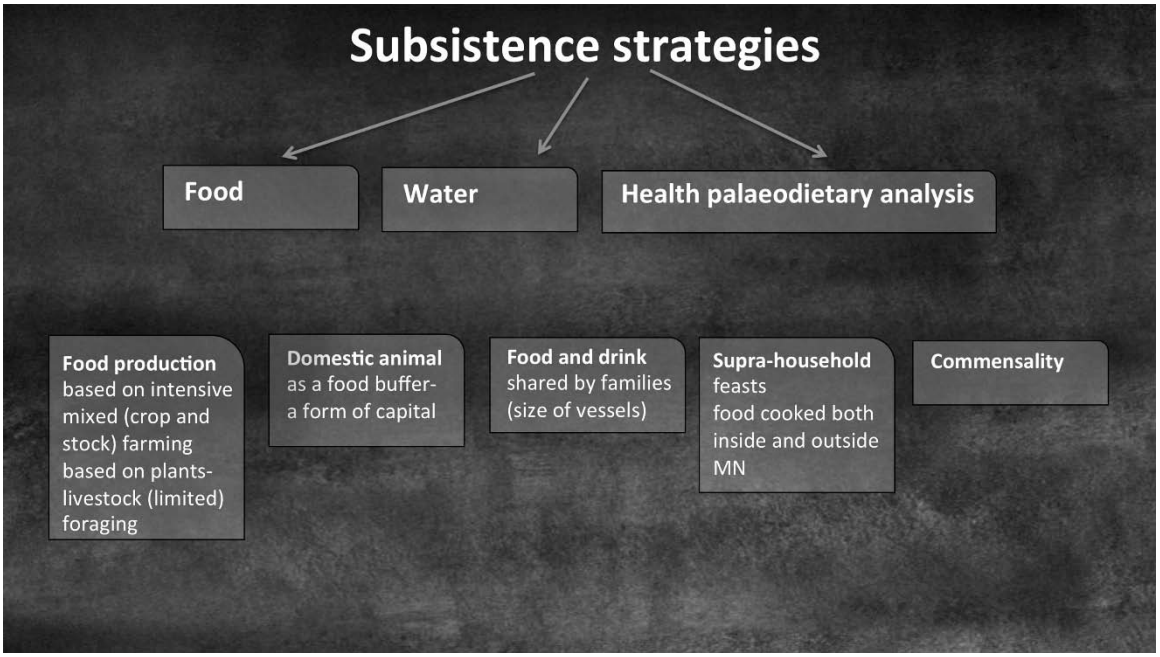
Moreover, the local emphasis on cattle –rearing insinuates that the first development of dairying was with cows rather than sheep and goats. The faunal analysis of domestic animals at different places in Neolithic Europe, including Knossos (Issaakidou 2006, Tomkins 2004, Halstead 2006a) demonstrates knowledge, but limited use of animal traction for carts and of dairying in the earlier Neolithic.

In Final Neolithic and in Bronze Age period appeared large-scale changes to these practices. In the Late Neolithic many caves used and that could means a rise in pastoralism, while Demoule and Perlèssupport that the caves are also taken into use for burial and ritual (Demoule and Perlès 1993).

The problem of the migratory fishermen is a large topic for discussion. The Final Neolithic Saliagos (Cyclades) is a full Neolithic economy, where fish and shellfish were accompanied by a range of domestic plants and animals (Bintliff 2012: 66, Evans and Renfrew1968), while Phtelia (Cyclades) reveals no important fish remains (Sampson 2006). According Sampson Mesolithic and Early Neolithic colonization of the Sporades reveals a great interest in fishing and shellfish, as well as in the open water species. The survival of fish is a problem for archaeology.

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Table 2: Neolithic Subsistence strategies in Greece



According Halstead 1995, 2000, 2004, 2008; Dietler 2001; Mithen et al. 2011, Bintliff 2012; Papathanasiou 1999, 2001, 2005; Papathanassopoulos 1971, 1996; Angel 1966; Buikstra and Ubelaker 1994; Larsen1997.
*Early Neolithic: EN
Middle Neolithic:MN
Late Neolithic: LN
Final Neolithic: FN

The subsistence is not a new subject. Many publications have been dedicated to it in the past, in studying food production. How people produced their food in the past and how food production was organized in the past is one of the main question in archaeology. The framework for the possibilities for food production is formed by the landscape with its relief, soil types, soil fertility and water levels. Tools were used to process food. The simple querns, mortars, and pestles were employed to crush hard grains before cooking, to break the shells of nuts, and to pulp berries and powder herbs.

The subsistence strategies of Greek Neolithic populations were based on intensive mixed farming based on plants because the livestock was less stable food source and the reduce reliance on foraging (Halstead 2000, 2008). A viable breeding population requires at least 100 sheep, 20 cattle, 100 pigs (Bintliff 2012: 65). The domestic animals as a food buffer against failures in the cereal and pulse economy could lead to stock becoming a form of "capital" (Bintliff 2012: 65) In Late Neolithic households turned to more competitive accumulation. (Halstead 1992) 'The herding and breeding of village stock as a collective, where individuals or few families take responsibility for moving herds to water and pasture on a daily basis' (Perlès 2001). Cattle statistics at Late Neolithic Makriyalos suggest their breeding for secondary products (Collins and Halstead in Halstead 1999a).

Eating is a central routine. It is obvious that the consumption of food is not neutral (Douglas 1996; Gosden and Hather 1999). Food is clearly not just a matter of satisfying the needs of the body. The way in which resources are looked after and brought to the point of consumption is a social matter. Food itself may be consumed in very different ways, either very privately among the immediate group, as among the Dobou in the western Pacific (Bloch and Parry 1982, 28) or very publicly in different sorts of feasts (Hayden 1995). The fact that food was cooked both inside and outside Middle Neolithic houses implies that it was shared between neighbors which would have promoted community solidarity. In the communal longhouses of north-west Amazonia, food preparation is privately done within constituent families, but eating is public and collective.

Sometimes this commensality must have had a formal or ceremonial character, hence the fine pottery, and Halstead believes that the feasts will have served 'to mobilize additional agricultural labor, to negotiate and affirm social relationships at both an intra- and inter-settlement level, and to convert agricultural surpluses into symbolic capital in the context of social competition'.

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Also, the water is important ingredient for successful agriculture and ensured the survival of small crops in tiny fields and gardens and for herds on a daily basis.

It is evident that the health of Early Neolithic populations after an inter-site comparison in specific period had allow indications. Stable isotope analysis indicates that the earliest sample had adequate diet and protein intake as compared to the later populations.

The palaeodietary analysis is very important and informative for the very poor southern European isotopic record for this period, and a valuable evidence for a swift and complete shift from foraging to farming. (Pinhasi et al. 2011)An increase in population size and density, as well as constraint viable subsistence and descending communal cohesion (Halstead 2008, Kotsakis 1999) created the conditions for violence but as a sporadic event. (Pinhasi et al. 2011) Subsistence represents the base of all human behavior. Subsistence includes the means of human survival and a potent source of meaning and metaphors.

VI. Conclusion - Discussion

In conclusion, I talk about the domestication not only of plants and animals, but also of the landscape, with an assumption that with the advent of the Neolithic nothing was "natural" anymore.

I note that it is difficult to comprehend the different ways of daily, seasonal and annual live without evidence. In addition, I note that not all periods or areas are equally well represented by archaeo botanical or zooarchaeo logical remains. For example, although approximately 79 sites from Greece are represented by archaeo botanical remains (e.g. Hansen 2000, Megaloudi 2006), those with many samples, retrieved by flotation and fully published, come mainly from northern Greece (Valamoti 2009).

I strongly emphasize the concept of the taskspace as one that allows us to talk about dwelling in the land where tasks are the constitutive acts of dwelling. Taskscape for this reason seems to recognize the creation of the landscape as it was occupied, a creation that was drawn out through time in such a way that our understanding of it cannot be expressed in one moment, but must trace the threads of movement and the temporal rythms played out as people traversed the land. (Ingold 1993; 1996; 2000)

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