The Anatolian Neolithic, one of the most fascinating episodes in the socio-economic history of the Near East, continues to be investigated in each of the four geographically distinct regions of Turkey. The Urfa-Diyarbakir steppe country watered by the Euphrates and Tigris river systems in southeast, the Konya-Aksaray plains in the southern Anatolian plateau, the Lakes District in west-central Anatolia, and the Marmara basin and Turkish Thrace in the northwest (Yakar 1991; 1994; Özdoan, M. 1999; Özdoan and Basgelen 1999).

The process referred to by some scholars as “Neolithization” or “Neolithic way of life” could be defined as a slow socio-economic course that evolved parallel to the climatic improvement felt during the early Holocene. As early as 10000 BP experiments with sedentarization started. The reflections of these experiments are hidden, among other records, in the subsistence related activities of the respective communities. In Anatolia, roughly delimited by the upper Tigris and lower Euphrates, the eastern Mediterranean, the eastern Aegean, the Marmara and the Black Sea, climatic conditions favorable to dry farming first transformed the eastern Taurus piedmont before spreading in other directions, including the southern Anatolian plateau. The climatic improvement that started with the early Holocene subsequently reached the Aegean coast and later encompassed the more northerly regions of western Anatolia.

Neolithization in Anatolia may have followed different tracks from its incipient stages. Therefore, it is logical to assume that its stabilization and progress may have followed a different pace in each region. For instance in Cappadocia in the central plateau there is a clear connection between a change in the natural environment and sedentism in the late ninth millennium BC. The start of a change from an arid steppe to grassland vegetation in ca 10800 BP was due to increased humidity, which eventually saw the emergence of farming villages (Woldring 2002:63).

Archaeologically often undetectable inter-communal problems to unfavorable changes in the natural environment could have slowed down this process. One should take into consideration that economic and health related demographic problems may have caused temporary reversals, interruptions and renewed beginnings in a different habitat.

The economic context of the beginnings of Neolithic process that eventually led to broad-spectrum farming in Anatolia is generally speaking well recorded in most regions of Anatolia, and especially in the south-central plateau (Büthenhuis 2002). In the southeast too, an integral part of Southwest Asia, a number of sites provide reasonably well preserved subsistence related documentation (Garrad 1999). These are: Hallan Çemi (Rosenberg 1999), Demirci, Çayönü (Özdoan, A. 1999), Nevali Çori (Hauptmann 1999), Göbekli Tepe (Schmidt 1998), Gürçütepe (Schmidt 1995), Çafar Höyük (Cauvin, et al. 1999), Mezraa Teleilat (Karul, Ayhan and Özdoan 2002). Taken together they illustrate the long process of development from incipient cultivation to broad-spectrum farming. Moreover, these sites shed important light on the internal and external dynamics that sparked the Neolithization in this part of Anatolia. Pinarbaşı, A‘ikli (Esin and Harmankaya 1999), Musular (Özbasaran 1999), Kösk Höyük (Öztan 2002), Çatalhöyük (Hodder 1999; 2003; Yakar 1991), Can Hassan III and I (French 1998; Yakar 1991), Erbaba (Yakar 1991), Suberde (Yakar 1991), Hacilar (Mellaart 1970), Höyük (Duru 1999), Bademaçaci (Duru 1999), Karuçuay (Duru 1994) are the principal sites of the southern Anatolian Plateau, including the Lakes District to its west. Yumuktepe-Mersin retains its importance as the representative site of the densely settled Cilician plain.

As for the presence of an Aceramic phase of the Neolithic in western Anatolia, there is as yet some meager evidence from sites such as Çalca in the mountainous region of Can Hasan of Çanakkale, and Mu‘lu Çe‘me and Tepetarla in the Bandırma plain (Özdoan and Gatsov 1998).

Orman Fidanligi, İlipinar, Menteşe Höyük, Fikirtepe, and Pendik are the main prehistoric sites that provide a rather limited insight into the northwest Anatolian Neolithization process.

Additional sites such as Keçiçayır and Kabakli are believed to represent the Aceramic phase of the Neolithic period in the Eskişehir province (Efe 1996:217). The location of most of these sites in high terrain away from alluvial plains indicates that their inhabitants were more involved in hunting and gathering rather than cultivation of food plants or animals (Özdoan 1997:18; Özdoan and Gatsov 1998). Together with Hoca Çe‘me and A‘aşlı Pınar in Turkish Thrace, they illustrate the nature and intensity of cultural and economic interaction between Anatolia and the southern Balkans ever since the sixth millennium BC.

In Southeastern Anatolia, as in the rest of the “Fertile Crescent” the beginning of the Neolithization process saw its expression in the appearance of sedentary or semi-sedentary communities as early as in the late ninth/ early eighth
millennium BC (Solecki and Solecki 1991; Yakar 1991). Floral and faunal records from Early Neolithic sites in the southern Anatolian plateau and southeast Anatolia reflect a certain but not fundamental local diversity in subsistence practices prior to the appearance of fully-fledged farming economies. Initially, these basically hunter-gatherer semi-sedentary/ sedentary communities derived their group-based subsistence requirements from hunting and gathering a wide variety of animals and wild plants. They also knew to supplement their food stores by undertaking small-scale cultivation of pulses, as was the case for instance at Aşıklı Höyük, Çayönü and Cafer Höyük (Cauvin, et al. 1999:101).

Early agricultural villages in Anatolia were usually established on or close to hydromorphic soils and not on free-draining drier terrains. Having the capacity to retain water these are particularly suitable for cereal agriculture since they allow crops to grow particularly in environments exposed to the Mediterranean climate of warm, wet winters and hot, dry summers (Harris 1996:558). Neolithic sites in the Bésehir-Sugla and Konya Basins demonstrate that they were all located on alluvial deposits, at the margins of fans and seasonal lakes. As already pointed out above, these locations were no doubt selected by agriculturalists because of water retentive soils. In many parts of the Balkans too, regional archaeological investigations show a consistent correlation between the distribution of early Neolithic sites and floodplains, river and lake margins.1 It is also possible that the earliest systems of small scale and locally intensive cultivation in the southeast Europe, as in the early stages of farming in Anatolia, seasonal horticulture most likely preceded cereal agriculture.2

As far as the archaeological survey evidence goes, in Greece and in the southern Balkans, areas that saw the emergence of agricultural villages did not produce evidence that could be indicative of a Late Mesolithic/Epipaleolithic population substratum. This picture could still change, but in the meantime, those supporting the demic-diffusion approach in explaining the spread of farming from East to West often emphasize it.

The cultural diversity encountered in the four geo-cultural regions of Anatolia suggests that their respective Neolithic communities, particularly those living in the southeast were not isolated or entirely self-contained. In fact, recent archaeological investigations support the view that, ethno-culturally speaking, the Neolithic society of Anatolia was not a homogenous entity. The same may be presumed for societies that inhabited the geographical expanse surrounding Anatolia.

Regarding the postulated movements of Neolithic farmers from the East towards the West, I believe that in the distant past too village communities that were successful in maintaining a steady demographic and economic growth over generations would not have undertaken large-scale migrations unless some sort of a crisis would have forced them to do so. There are no indications at Neolithic centers with seemingly uninterrupted settlement sequence such as Catalhöyük, nor in the palaeoenvironmental records of the Konya plain (Kuzucuoğlu 2002) that suggest a major demographic or environment instigated crisis in the south-central plateau. Naturally, under certain socio-economic conflict and stress situations not visible in archaeological records, communities, or groups detached from them, would have moved out in search of new habitats to resettle. However, to presume that such movements would have followed a single directional path leading from socio-economically/ culturally to less developed regions, could lead to misconceptions in evaluating the process that led to the Neolithization of the Balkans and the rest of southeastern Europe.

Colonization of the southern Balkans by Anatolian farmers may be presumed if it can be demonstrated that the dissemination of agriculture was in conjunction with spiritually significant new artistic expressions, introduction of pottery, architecture, and burial traditions, of Anatolian origin. Even within the semi continent of Anatolia, a comparison between the Aceramic Neolithic material culture assemblages from the western and central “Fertile Crescent” settlements and those of the southern Anatolian plateau (e.g. Hallan Çemi, Demirci, Çayönü, Nevali Çorî, Göbekli Tepe, Gürçü Tepe, Cafer Höyük versus settlements such as A’ıkli Höyük or Can Hassan III), shows some outstanding differences in social organization, production techniques and in the artistic expressions of spiritual concepts. Moving in the direction of northwest Anatolia, archaeological records from Demirichöyük, Fındık Kayabaği, Orman Fidanlıği, İliminar, Menteş’e Höyük, Fikirtepe, Pendik indicate that despite varying forms and intensity of interaction with the central Anatolian Neolithic farmers, the latter did not have at least initially an outstanding cultural influence over their northern neighbors in the Marmara basin. In view of the rather varied cultural entities so far recorded in Anatolia, one wonders if the emergence of farming communities in the Balkans should be exclusively attributed to a westward displacement of central Anatolian farmers. In view of the relatively late appearance of farming communities in the northwest, it is doubtful that the area extending from the Marmara basin to the Troad could be considered a parent or staging area that initiated the Neolithization of the Balkans. Yarımburç cave in eastern Thrace, is so far the only site that produced evidence for the existence of a Fikirtepe culture affiliated community involved in farming (Özdoğan, Miyake and Özbasaran 1991).

As for hunter-gatherer communities of the early Fikirtepe culture phase that sparsely inhabited the southeastern Marmara littoral, it is highly doubtful that they could not have played a decisive role in the diffusion of farming in a westerly direction. Their fishing, mollusk collecting, hunting and foraging activities, as well as their settlement pattern, does not indicate a society in an advance stage of cultivation.3 The occupation sequence revealed at the mound of İliminar west of Lake Iznik provides a good insight into the cultural development during the sixth millennium BC (Roodenberg 1995; 1999b). The stratified pre-EBA remains at this site combined with those from other well-known and partly contemporary settlements such as Fikirtepe (Özdoğan 1999:212-217), Pendik (Özdoğan 1983), Mentese (Roodenberg 1999a) and Demiricöhöyük (Seether 1987), in a sense reflect the cultural and economic inclinations of late prehistoric communities in northwest Anatolia. For instance, the inhabitants of Fikirtepe-type sites in the eastern Marmara coast, although they seem to have embraced farming probably from their southern neighbors, their principal subsistence activities was based on foraging and hunting (Thissen 1999:38; Özdoğan 1983). The type and simplicity of their domestic architecture reflect a socio-economic conservatism no doubt derived from their Late Eipipaleolithic roots in the region. Despite some differences in subsistence economies, certain material culture parallels, in certain type of ce-
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...matics in particular exist between Ilipinar and cluster of Fikirtepe culture sites on the Eastern Marmara coast (Thissen 1999:32). Pots with four vertically pierced knob handles and pots with two horizontal lugs (Thissen 1999:Fig.2:2-3 and 1, 4) occur at both Fikirtepe and Ilipinar. Thissen believes that pots with vertically pierced knob handles were used in the cooking of pulses such as lentils and bitter vetch, which both appear to have been major food stuffs at early Ilipinar. Pulses after an initial cooking-stage, require only a limited supply of heat during cooking, just enough to keep boiling. The possibility of regulating the distance between fire and pot by means of strings, so as to control the degree of intensity, makes pots with pierced knob handles well adjusted in this respect. The two handled pots, on the other hand, could have been directly placed over the fire, the large handles providing easy grip when lifting them from it (Thissen 1999:32). The inferred structural relationship in the dominant cooking pots between Iznik and the Eastern Marmara coast is present also in at least at two sites situated further south and southeast; Mentese Höyük, Marmaracik and Yenisehir II in the Yenisehir basin and Demircihöyük.

There is no absolute certainty the founders of the first farming villages in northwestern Anatolia were of central or west-central Anatolian origin. At Ilipinar, the first village (Phase X) was founded at the beginning of the sixth millennium BC (Roodenberg 1995; 1999b). The economy of the inhabitants was fully agricultural, and among the domestic species sheep and goat were dominant (Thissen 1999:30).

In the six phases following the Phase X village although no visible signs of disruptions in the settlement activity have been observed, some demographic and ethno-cultural changes during the nearly 600 years of occupation (ca 24 generations) are well marked in the material culture. During the first 12 generations of occupation at Ilipinar, freestanding single room houses in average measuring ca. 30m² were constructed in “post-wall” architectural tradition. In addition to these post-wall houses with gable-shaped roofs of reed, the presence of a few mud-slab constructions in the early phases of the village leaves no doubt that these two rather dissimilar building traditions coexisted. The post-wall architecture and the fact that in phase X the dead were buried as primary burials outside the houses, a tradition rather alien to contemporary central Anatolian communities, raise the possibility that the original inhabitants of this village or at least some of them may have been Balkan affiliated. Indeed, the ethno-cultural origin of the founders of the village is not entirely clear. When considering only the architectural characteristics and mortuary practices recorded in Phase X, it is hard to say that they were of central Anatolian affiliation. Generally speaking, they rather give the impression of sharing affinities with ethno-cultural entities that inhabited a more northwesterly territory extending beyond the Sea of Marmara and delimited in the east by the Porsuk valley. By this, it is not implied that the founders of the village arrived directly from the Balkans. Presuming that the initial settlers were not of central Anatolia affiliation, we may assume that soon after the foundation of the village the gradual process of acculturation within the existing ethno-cultural environment would have started. The time that elapsed for this process to complete would have depended on the nature of relations either with the indigenous inhabitants or with already acculturated neighboring groups. The fact that in architecture and burial mode, the so-called non-Anatolian characteristics were maintained for a few generations indicates that the process of acculturation may have been rather slow. Anthropological models indicate that in some migrations, the migrating split-off groups eventually fuse with local groups (Yakar 2003:12). In such cases, the speed and rate of acculturation would have depended on the social structure and size of the split-off intrusive group. A minimum of 25 kin related persons could be sufficient to form a short-term viable nucleus for an endogamous community. In the medium or long-term, small communities numbering less than 100 persons would have faced difficulties in maintaining endogamy. A shortage of potential marriage partners within an endogamous group naturally necessitates marital exchange with other communities (Fix 1999:210-211).

Thissen’s evaluation of Ilipinar archaeological records provides a different identity for the founders of this village. Thissen believes that “despite the wide divergences between the Konya area and the Marmara basin in the settlement pattern, building methods and stone industry, the underlying concepts as apparent in the manufacture, appearance and use of pottery of both areas relate the Anatolian northwest to the Central Plateau. This selective parallelism in material culture is then either a function of the observed discrepancy in time between both regions, or else directly related to the specific material culture variable itself, viz. pottery, to its producers, and to patterns of tradition and to know-how involved. The same selection would preclude migration from the Plateau to the Northwest, but it might reflect exogamous marriage practices. Simultaneously, the transmission out of the Plateau of knowledge concerning farming was possibly another parallel feature of culture contact between Çatalhöyük and the Mesolithic population further north.” (1999).

To conclude, he proposes that the first farming villages in the Eskihir Basin such as Demircihöyük and Findik Kayabası were the result of Mesolithic culture contact with the Konya area or, more probably, given the large intervening area, were themselves settled from villages lying between the Konya and Eskisehir basins (Thissen 1999:38). The establishment of the three early farming sites in the Yenişehir plain was linked to the Eskişehir plain although presently available data preclude any further assessment. Thissen is in the opinion that the settlement of Ilipinar was settled by non-locals, perhaps by farmers moving north from the Yenişehir basin. Moreover, according to Thissen, there is no evidence that the initial settlers were hunter-gatherers.

During phases VII-VI to VA (ca. 5700-5500 BC) at Ilipinar, the village architecture shows changes not only in plan but also in construction materials; mud-brick architecture replacing the post-wall and mud-slab constructions (Roodenberg 1999b: 195). The use of mud-bricks allowed the construction of larger houses with internal division. The question is should we attribute the introduction of mud-bricks and the new type of houses appearing in the second quarter of the sixth millennium BC to a influx of central Anatolians into this region, or simply to internal socio-economic development?

In the final phase of the prehistoric village (VB), there are undisputable indications of changes both in architecture and ceramic assemblages. The semi-subterranean architecture of this phase bears no resemblance to phase VA houses. Moreover, the black or dark burnished rippled pottery dated to the Karanovo III period point to intrusive elements perhaps arriving from the Balkans. Past migration models lead us to assume that the territorial distance factor between geographically sepa-
rated communities would not have brought about a total cessation of social contacts between them. Therefore, we may presume that additional groups could have been occasionally drawn to territories already populated by their ethno-cultural affiliates during earlier migrations. Such population intrusions in archaeological records could be further substantiated when a link between cultural transformations and human induced changes in subsistence economy and dietary practices can be demonstrated. At Ilipinar as at Hoca Çentepe in Thrace, the animal bone records suggest that goat and sheep were initially preferred to cattle (Buitenhuis 1995). At Ilipinar following the establishment of the village, in phase IX there seems to have been a shift in preference in meat consumption; at this time pigs were favored. In Ilipinar phase VB, there occurred another change in the animal husbandry; cattle were preferred to pigs. In the flora assemblage, it is not clear if the absence of field pea and naked barley at Ilipinar as opposed to the presence of flax (van Zeist and van Rooyen 1995:162-165) reflects ethno-cultural preferences in the local diet.

In addition to Ilipinar, Mentese Höyük further south in the Yenisehir basin provides a glimpse of a relatively similar development of a farming community from an advanced stage of the Neolithic onwards. Stratum 3 at this site which is correlated tentatively with Ilipinar Phase X is the earliest occupation, and according to the depth of the occupation level it may have been founded slightly earlier than Ilipinar.4

The earliest among the 8 burials recovered from Mentese Höyük, from the Late Neolithic/Early Chalcolithic levels, are dated to Ilipinar VA period (Alpaslan-Roodenberg and Maat 1999). The primary flexed burials were found lying on their right side. Two of the burials where accompanied with a pot, and one child burial produced the remains of a necklace. Traces of wooden planking under an adult female skeleton is remarkable. The individuals of all age groups showed carious teeth. Since dental attrition and caries rate in a population depend on dietary factors, one may assume the reason here consumed considerable quantities of soft and sticky carbohydrate sources such as cereals (Alpaslan-Roodenberg and Maat 1999:42).

Despite the wide divergence between the Konya area and the Marmara Basin in the settlement pattern, building methods, mortuary practices and some aspects of the stone industry, the underlying concepts as apparent in the manufacture, appearance and use of pottery of both areas is considered as relating somehow the Anatolian northwest to the central plateau. According to Thissen, this selective parallelism in material culture could be either a function of the observed discrepancy in time between the two regions, or reflects a variant of the specific assemblage. The same selection would, in Thissen’s view preclude migration from the plateau to the northwest, but it might reflect exogamous marriage practices (1999:30).

Simultaneously, the transmission out of the plateau of knowledge concerning farming was possibly another parallel feature of culture contact between the Neolithic farmers and the hunter-gatherers in the northwest.

The foundation of Ilipinar roughly coincides in time with the Early Chalcolithic Hacilar V-III phase in the Lakes Distric, the beginnings of the Middle Neolithic Sesklo culture which was based on two centuries long village life in Thessaly, and Anza and Vršnik Neolithic farming settlements in eastern Macedonia. In the Giannitsa plain of Greek Macedonia, farmers were already cultivating their land for a number of generations.

Among the excavated Neolithic villages in Anatolia, those that were inhabited during certain phases of the Neolithic period, and sometimes not continuously, are more numerous than settlements with long and uninterrupted occupations. This is indicative of recurring mobility among sedentary communities as in other parts of the Near East. Naturally, among the groups who subsisted mainly from foraging and hunting, random mobility would have been a phenomenon causing little socio-economic repercussions, if at all. On the other hand, one would expect communities subsisting mainly from farming to be less prone to mobility, except perhaps those who maintained more than one settlement to pursue a broad-spectrum surplus yielding subsistence economy. The evidence from Thrace substantiates this view. The preliminary results of a field survey which studied the settlement pattern and mobility of prehistoric settlements in the Edirne province suggest that the prehistoric villages in the region were not long-term permanent (Erdogu 1999). According to Erdogu, the survey findings indicate that the abandonment and reoccupation of settlements are dispersed either over a large landscape unit( extensive mobility), such as the Tunca River, or over small and almost identical landscape units(restricted mobility), such as Ortakçi-Kavaklı and Yumurta Tepe, but are not overlapping settlements.5

The ongoing debate on the gradual spread of farming from East to West cannot be entirely detached from entrenched diffusionist or indigenist views.6

Given the information explosion and ever-increasing specialization, the mastery of even a small sub-discipline is extremely difficult in our time. Consequently, as Blumler expressed it “one of the more intractable problems in interdisciplinary research is transdisciplinary communication (Blumler 1996:25). He further states the obvious that it is becoming increasingly difficult to stay abreast of developments outside one’s own sub-field, and almost unavoidably, complexities are neglected while theories become out of date.

Of the two main models of the Neolithization process in Southeast Europe and Europe which strongly dominate current debate, the first is motivated by research into the genetic mapping of present-day Europe. In the opinion of its followers, genetic mapping supports the theory of demic-diffusion as responsible for the spread of the “Neolithic package” from East to West. This would have been a quick and smooth process in the form of a mass migration of population. The promoters of this model argue that if agriculture spread by means of cultural diffusion, it would not have affected the gene distribution in Europe. However, if it spread entirely as a result of a demic diffusion, the European gene pools would contain or be dominated by genes from Southwestern Asia. Whereas a mixture of cultural and demic diffusions would have probably generated a gradient pointing in the direction of migratory movement. In other words, the genes of original farmers would decrease proportionally as one proceeds from Southwestern Asia toward Europe (Ammerman and Cavalli-Sforza 1984:85).7

The results of another study on genes, this time dealing with the female side of the picture suggest that the ancestors of the great majority of modern lineages in Europe would have migrated from the Middle East much earlier than the estimated 7500 BP, most likely in the Upper Paleolithic period.8

The second model, defined as the “availability” model, does not entirely oppose the demic-diffusion view. It transposes the
idea of existing frontiers between foragers and farmers and their co-existence for certain periods of time. This model proposes a combination of limited colonization in Southeast Europe and the active participation of foragers interacting with farmers in the process of Neolithization. New breeding networks for the continuous spread of agriculture would have been the outcome of such a process (Zvelebil 1986; 1995:116-120; Borzic 1999: 46).9

It is important to note that the rate at which genetic differentiation proceeds is inversely proportional to the size of populations and also on the migration rate between neighboring regions which is accepted at 4% per generation. Under these conditions, it takes between 120 to 150 generation or ca. 3000 years for the variation between gene frequencies to rise to the desired level. With some exceptions, neighboring populations usually have gene values that are similar.

As for “wave of advance” model, it is still considered relevant as is also supported by the genetic pattern records. The physical expansion of the agricultural frontier towards Europe through the colonization of Neolithic farmers from the Near East, at a postulated annual rate of 1 km, is supposed to have had a dramatic effect on the European gene pool (Ammerman and Cavalli-Sforza 1984: 60-84, Cavalli-Sforza 1996). However, referring to this model simply in terms of annual distance that could be covered by farming communities runs the risk of misleading. Obviously, offshoots of demographically fast expanding exogenous agro-pastoral communities would have on occasions felt the need to form new satellite villages preferably in areas not to distant from their root village and in an environment they were acquainted with.

There are some scholars who believe that diseases could have had an impact upon the emergence of agriculture as well (Groube 1996). Warming temperatures activated many dormant parasites. Coastal changes, swamp formations with the rising sea levels created ideal conditions for anopheline mosquitoes, the vector of vivax malaria would have take its toll on hunter-gatherers. After Africa, Southwest Asia and the Mediterranean region too would have witnessed increasingly frequent epidemics of malaria. Stable endemic malaria (the least destructive form) would have taken longer to develop, requiring not only relatively high host densities near the saline swamps but also uniform temperatures (Groube 1996:123). In addition, it is assumed that perhaps less fatal but more numerous and fast spreading viral and bacterial diseases could have caused demographic crisis in certain locations unrelated to resource limitations. So at least in theory, the solution would have been to increase reproduction by settling down in a new healthier location and switch to farming, in order to reduce the time of birth intervals.

The “indigenist” model, which I support as an additional plausibility, allows us to presume that local hunter-gatherer groups, particularly those already in the early stages of sedentarization, would have been quite capable of experimenting with the cultivation of endogenous food plants in or near their natural habitats. The need to increase or at least control the supply levels of food plants would have been a choice dictated by various considerations, and not necessarily by shortages in wild food plants or games. Population growth is considered to take place separately for farmers and hunter-gatherers according to logistic models where the parameters defining the initial growth rate and density level at saturation may differ for two populations, for farmers believed to be higher. The transition from hunting and foraging to experiments with selective cultivation may have been a long. It is logical to assume that experiments with cultivation started when communities felt the need to intervene in order to increase/supplement their undomesticated food plant stocks. Considering the differences in the chronological setting of village communities involved in the incipient stages of agriculture in the “Fertile Crescent”, the entrenched concept of “isochronous line of agro-cultural expansion” from the East, proposed over two decades ago by Ammerman and Cavalli-Sforza (1984:58-62, fig.4.5), should be reassessed with regard to the Balkans and the rest of southeast Europe.

The results of genetic studies do not really explain independently the reasons that bands of hunters and gatherers from the Middle East, some perhaps experimenting with the cultivation of certain wild food plants, found necessary or appealing in the 13th millennium BP to cross the Mediterranean at length in order to reach the Iberian Peninsula!

Since models of farming that existed in Anatolia, in Greece or Macedonia including Thrace in the sixth millennium BC varied in organizational and production complexity, the type of farming villages that emerged in the southern Balkans for instance could provide the direction and distance of the local hunter-gatherers interaction with agro-pastoral communities. Unfortunately, contacts of this nature rarely surface in archaeological records. Therefore, Neolithic and Mesolithic artifact assemblages are treated as culturally and sometimes chronologically unbridgeable separate entities. However, it could be postulated that through mutually beneficial contacts with farmers, hunter-gatherers could have become familiarized with the advantages as well as the disadvantages of this food production strategy that required a different mode of settlement and social organization.

The Lepenki-Vir Late Mesolithic/Epipaleolithic culture in the Danube Gorges provides one of the best-documented examples of the nature of long-term forager-farmer interaction. Hunter-gatherer groups continued to reside in the region for several hundred years after the appearance of the local Early Neolithic and still did not adopt farming practices they encountered during their short as well as long distance expeditions (Budja 1999:134). It is very likely that as a result of these expeditions, they did adopt the production and/or use of pottery.10

The continued interaction between the two groups may have convinced the local hunter-gatherer groups to adopt certain social and eventually dietary practices of the farming communities inhabiting areas outside their region (Chapman 1993:115; Budja 1999:134; Bonsall, et al. 1997:85-87). Stable isotopic (carbon and nitrogen isotopes) and dental evidence collected from Lepenski Vir, Vlasic and Schela Caldovei burials suggest that Mesolithic people in the Iron Gates region had high protein diets mainly derived from riverine food sources (Bonsall, et al. 1997:85). This diet based largely on fish appears to have contributed to the healthy physical nature of the Mesolithic communities. Osteological data indicate that Mesolithic people were tall, physically robust and generally in good health. Nevertheless, there are significant differences between the isotopic signals of Mesolithic males and females buried at Vlasic and Lepenski Vir, indicating differences in overall diet. These differences could indicate that in such small...
groups, women for the formation of new families may have been acquired from other communities, not excluding the farmers (Bonsall, et al. 1997:85). The fact that farmers suffer more from tooth decay than hunter-gatherers, should also serve as a guide in establishing the beginning of the introduction of terrestrial food into the diet of the Balkan population.

Nevertheless, it is important to stress that among the Neolithic population at Lepenski Vir there are no significant differences between males and females. The shift in the dietary pattern occurred at Lepenski Vir between ca 7600 and 7300 BP (or in the second half of the seventh millennium cal BC). Collagen samples from burials post-dating the 7300 BP suggest the intake of significantly higher proportions of terrestrial foods. This change may reflect the introduction of stock raising and/or cultivation in the Iron Gates. If this was the case, then one may presume that the transition from Late Mesolithic to Neolithic at Lepenski Vir was not characterized by a wholesale shift in subsistence from foraging to farming; the earliest Neolithic inhabitants of the site continued to obtain a significant proportion of their dietary protein from riverine resources.

Nikolov, referring to the question of interruptions in the development of the Neolithic and later period in Thrace, states that there is much internal continuity (2003) The Neolithic pottery repertory from Tell Karanovo (Nikolov 1998) reflects continuous dynamic development of artifactual assemblages in northeastern Thrace, with continuity and innovations co-existing. A more notable change is observed at the transition between the Karanovo I and II periods, when the admixture of paste change, and the red slipped and painted pottery disappear as a technological group. All other elements, however, continue to exist unchanged. Therefore, one may suppose that external contacts did not bring about demonstrable cultural or demographic changes throughout the Neolithic sequence.11

Nikolov is persuaded that the origin of the Early Neolithic painted pottery cultures in the central Balkans should be sought in the south and especially in southwest Anatolia (2003:40).

As corroborative evidence supporting this, he emphasizes the typological correlation between the regional ceramic assemblages within the wide geographical arch extending from the southeastern Aegean islands to the Carpathian basin. In his reconstruction, the valleys of the Mesta and Struma were used for the introduction/distribution of Anatolian elements into the central parts of the Balkans (Nikolov 1989).

In addition to Nikolov and others before him, the possible origins of the Karanovo I culture in Thrace has also been investigated by Nikolova (1998).12

She proposes a number of possibilities. Her first assumption is ‘‘autochthonous development from the monochromic pottery along with synchronous cultural contacts’’. The second explanatory model, similar to her first assumption does not preclude the possibility of ‘‘the appearance of the Balkans of migrating groups from western Anatolia.’’ Then comes the possibility of ‘‘a mass migration of Anatolian people into the Balkans and the occupation of the areas that remained free after the initial monochromic stage of migration’’ (1998:107). The problem in my view is that none of the migration hypotheses can be substantiated by archaeological evidence beyond any doubt. In fact, even Nikolova admits that her hypotheses ‘‘are based mainly on a lack of archaeological evidence of the earliest Neolithic in Bulgarian Thrace’’ (1998:113).

This theory brings us to the site of Hoca Çeșme situated on the Maritsa estuary is often referred to as undisputable proof that the origin of farming in Neolithic Thrace (and in southeast Europe as well) should be sought in western Anatolia. Some of the cultural and subsistence related records of the initial settlers at this site leave no doubt that this small community was already involved in farming prior to the emergence of the Karanovo I cultural horizon. The first two occupations (Phases 4-3) revealed a village of small round houses of stone or stone and timber construction and surrounded by a massive stone enclosure wall. The village layout and architectural characteristics do not point in a particular direction of inspiration. On the other hand the monochrome ceramic vessels with their particular typology and technology, the lithics and bone tools do point in the direction of the Lakes District in Anatolia. The fact that from the start, the villagers felt the need to surround their village with massive wall suggests that they did not feel totally secured. Is it possible that hunter-gatherers inhabited this part of the Aegean Thrace? Perhaps the enclosure wall was against the intrusion of small sea faring groups. In Phase 2, the layout and character of the village assumed a character encountered in the Thracian inland, but regardless the enclosure wall remained in use. Houses were now rectangular in plan with walls made of wattle-and-daub. Together with this new style in architecture, appeared red slipped and white painted vessels-typical of Thracian inland (ÖZdoan 1998). A clay figurine fragment presumably in Anatolian style recovered at Makri on the Aegean coast of Thrace and dated to late Karanovo I (Efstratou 1993:fig.10C) suggests some sort of interaction with communities in the eastern Aegean.

The distribution pattern of certain types of Balkan pottery could provide some indications of population movements following the emergence of the early farming communities in the Balkans. The painted Early Neolithic pottery in Thrace is distributed from west to east and reaches the Tundza (Tunca) and Maritsa (Meriç) valleys with a certain delay in comparison to the Balkan zone. Compared to northeast Bulgaria, this ware group lasted longer in the western provinces. It disappeared gradually this time starting in the west. As for the dark Neolithic pottery, whose origin is sought in the Circumpontic zone (Nikolov 1998), it appears first in the northeastern parts of northern Thrace where it outlives its western counterparts (Nikolov 2003:42). The gradual expansion of this ware group in northern Thrace is not related according to Nikolov, to ethnic and demographic changes (2003:42).

In addressing farming related socio-economic changes in southeastern Europe in the second half of the seventh millennium BC, it is necessary to refer to different and sometimes contemporary trends in domestic architecture such as pit-huts and surface-level structures (Bailey 1999). Such trends may reflect the simultaneous existence of two different types of subsistence economy and their respective social organization. The round and oval pit-huts come from late seventh and early sixth millennia campsites like villages with no particular planning (e.g. Divostin in Serbia, Usoe in northeastern Bulgaria). In fact, at both sites they lack a clear pattern of spatial relationship. It is stipulated that the people who inhabited such campsites, maintaining a subsistence strategy of earlier times were probably kin-related members of small rather mobile communities. As for the internally divided surface-level rectilinear structures on the other hand (e.g. from Divostin in Serbia and Ovcharovo-
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Gorata in northeastern Bulgaria) they reflect a more complex socio-economic organization found among sedentary farming communities (Bailey 1999).

In the Carpathian basin, traces of Early Neolithic occupation have been found at very different locations, ranging from marshes that have been occasionally flooded in the lowlands of the Carpathian basin (Borie 1999:fig.25) to cave occupations in the central Balkan region. Continuity with the past is often reflected in the mortuary practices of Neolithic communities, as at Lepinski Vir, Padina, Vlasac, Topole-Baë. Moreover, the variety of rituals practiced indicates localized beliefs maintained from earlier times. In other words, the lack of uniformity in the expression of beliefs suggests that rituals were not transplanted as a result of demic-diffusions. One of the double burials at Topole-Baë in Vojvodina, dated to a time segment of 7300-6800 cal BC, seems to connect the first users of pottery at this site with their local forebears (Borie 1999:65, n.6, fig.28). The age of this skeleton indicates the same practice of relation to ancestral traces seen at Lepenski Vir, Padina or Vlasac.¹⁴

In conclusion, I would not exclude the possibility that hunter-gatherer groups in the Balkans, as in the Near East, would have been capable of choosing different options, in coping with demography and/or environment related economic stress situations. Ethnographic studies show that fertility of hunter-gatherers is low in comparison with that of farmers. Typically hunter-gatherers have a spacing of four years on average between successive births and a completed fertility of five children. With the mortality rates that are prevalent among hunter-gatherers, births and death tend to balance one another so that such mobile populations are basically stationary from demographic point of view (Howell 1979; Lee 1972). The shift to sedentism with agriculture removes this constraint and makes it possible to shorten the spacing between births to about an interval of 2.5 years and thus have a larger number of offspring (Ammerman and Cavalli-Sforza 1984:65-66).

Regarding migratory movements by hunter-gatherers, one may assume that those occupying favorable locations for broad spectrum subsistence activities, including foraging for wild pulses and cereals would not have moved out so readily even under certain demographic or socio-economic stress situations. As suggested by Hillman, an obvious solution would have been to try to increase yields from local stands of key staples (1996:192-193). Acquiring such staples through the exchange mechanism with those already pursuing farming would have been an option.

In short, for hunter-gatherers options for changes entailing shifts in location and subsistence economy would have included: a) a temporary shift from broad to narrow spectrum exploitation, and if necessary in a different ecological niche, b) shifting from narrow to broad-spectrum exploitation, c) decreasing mobility and thus preferring permanent settlement to seasonal ones. The first two options could have resulted in the establishment of dispersed and seasonally inhabited villages, with some perhaps occupied for most part of the year. We may reasonably assume that the first option too could have eventually led to a population stabilization sometimes followed by an accelerated increase among the exogenous communities. A population increase could have resulted in one of the following economic strategies: a) broad-spectrum exploitation in an optimal zone, b) a shift to a marginal zone. Such a move would have required a larger measure of mobility. But at the same time would have allowed for a variety of economic activities; from selective exploitation of animal and plant resources to trading in specialized commodities, c) sedentism in an optimal zone would have stabilized the subsistence economy at least for a few generations without recourse to cultivation on condition that the wild life and vegetation were not over-exploited. Decreasing wild food resources reaching critically low levels would have promoted cultivation and domestication as the most logical alternative for most sedentarized hunter-gatherers. Naturally the choice and success of this economic strategy would have depended on a number of interlinked preconditions, namely; the choice of settlement location, the measure of social complexity, a demography with a majority of healthy youngsters and eventually an economic organization with emphasis on resource management and surplus production.

For the Balkans, one aspect of the spread of early farming that requires further attention is the interaction between hunter-gatherer and farming populations. In a sufficiently large area two populations occupying slightly different ecological niches could have co-existed, and inevitably interacted (Ammerman and Cavalli-Sforza 1984:16-17). Such interaction could have resulted in a number of developments such as acculturation, mutualism, and so on. The process of acculturation involves the transition from one type of economy and set of customs to another, in other words hunter-gatherers eventually becoming farmers. On the negative side of interaction one cannot rule out ethno-cultural friction, or even the spread of disease, say from sedentary farmers to more mobile and isolated communities of hunter-gatherers.

The mechanisms responsible for the spread of agriculture can hardly be explained in terms of its origins alone. To understand this process other issues should be tackled, including the structures that emerged from its continuing spread. Until rather recently, agricultural spread was discernible only indirectly, through various components of material culture in conjunction with pertinent plant and animal remains. Largely still in theory at least, it is possible the spread of plants and animals directly through their molecular composition (Jones, et al. 1996:96). Of particular interest in this respect is the survival of ancient DNA in these tissues, as they are in humans. In the meantime wheat DNA results are more reliable when studying specimens no older than 3300 BP.

Finally, it is difficult to construe a situation for the Balkans that hunter-gatherer groups were separated from farming communities by clear-cut territorial and social boundaries. Among them, those who mainly subsisted on food sources derived from rivers, lakes and sea would not have been very envious of farmers working hard cultivating the land to grow cereals and pulses. On the other hand, they would not have hesitated to do so under hypothetical circumstances described above. Similar to the dissemination of raw materials, or regionally developed specialized lithic or other technologies, the introduction of certain species of food plant and animals too could simply point to interaction between ethno-culturally diverse groups and not necessarily to colonization, except for archaeologically substantiated examples, as in the case of Hoca Çesme in Thrace.

The early Neolithic site distribution in Anatolia and southeastern Europe demonstrate that seed-crop agriculture began in both regions as a small-scale activity that focused on hydro-morphic soils, and would have involved the cultivation of not
continuous but small patches of fields. Moreover, the prehistoric site of Pinçarai in the Konya plain suggest a pattern of food plant exploitation during the Early Neolithic, said to be characterized by a tradition of diversification and mobility. The territorial dispersion of food resources and their seasonal exploitations must have been at the core of this mobility of hunter-gatherers, which in central Anatolia seems to have persisted into later Neolithic periods.

This subsistence mode would not have been exclusive to central Anatolia. In fact it can be postulated that it existed in the regions further west and across the Aegean that enjoyed rather similar environmental conditions. The Thessalian floodplain in Greece may have been a primary or secondary parent area in the Neolithization process which took place in the Balkans. Judging by the gradual increase in the number and average size of sites in the Larissa Basin during the Early Neolithic, population growth is assumed to have been low until the later phases of this period, when the number of sites increased rapidly beyond the floodplain - a process that, according to van Andel and Runnels may have led to agricultural colonization of southern Balkans north of Thessaly (1995:497). This explanation although appealing proposes a chronologically untenable late start for the south Balkan Neolithic. For the Balkans, the more likely model in my opinion is the one which incorporates multi-directional small-scale migratory movements from northwest Anatolia, northern Greece and the eastern Aegean (probably not before the late seventh or early sixth millennium BC), and economic co-existence between local farmers, herders and hunter-gatherers.

Notes

1 For more discussion on Early Neolithic site locations see also van Andel and Runnels 1995.
2 See also Sherratt 1980:313-316.
3 For the Fikirtepe culture and related sites see Özdoğan 1983; 1997:19-23.
4 It is small mound ca 100 m in diameter with a height of 4 m and was occupied during the Late Neolithic/Early Chalcolithic period (Roodenberg 1999a).
5 For reasons of mobility among Neolithic communities see Whittle 1997.
6 On current views on the subject, see also Budja 1999:119.
7 The genetic pattern records produced by DNA from the Y(male) chromosomes (Cavalli-Sforza and Minch 1997) leads to the conviction, as pointed out by Budja (1999:121), that the major component of the European gene pool might have derived from Near Eastern Neolithic farmers rather than indigenous Mesolithic foragers. These studies based on the Y-chromosome and mitochondrial DNA variations in human populations propose two demic-diffusion events separated in time.
8 The investigations concentrated on the mitochondrial DNA genetic gradients based on five major lineage groups with different internal diversities and divergence times. In other words, this gene pool is based on the results of phylogenetic and diversity analysis of the mitochondrial DNA sequence variation in the control region of Europe ad the Middle East (Richards et al. 1996).
9 According to Boriz this model is not necessarily applicable to Southeast Europe (1999:46).
10 For the modes of exchange see (Voytek and Tringham 1989, Radovanovic and Voytek 1997:21).
11 At least four transformations of the Neolithic assemblages could be differentiated in Northern Thrace: The Karanovo variant with six stages of development is characteristic in the northeastern part of the Thrace.

The Kazanlik variant has four stages of development. The Kapitan Dimitriev variant has four stages of development and covers the western part of Northern Thrace. Although there is not enough evidence to demonstrate, a variant with three stages of transformation may have existed in the Eastern Rhodope area (Nikolov 2003:40).
12 She investigated the Neolithic sites in the upper Stryama valley in western Thrace (1998:107-113).
13 The nearest sites of Karanovo I culture to Hoca Çeşme are Krumovgrad and Kardjali in the East Rhodope area. According to Stefanova two sherds similar to the ones from the Hoca Çeşme phases I-II were found at Krumovgrad (1998:2:2-3).
14 Some dated graves from Padna give results that put the absolute age of the human remains associated with the stone construction at the end of the 10th millennium cal BC (Borie 1999:57).

BIBLIOGRAPHY

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ANNEX 1

INTERVIEW WITH PROFESSOR JAK YAKAR

Available online at http://en.journey.bg/news/?&ntype=1&year=2007&news=3688
(Date: 20-11-2007)

In March 2007 Professor Jak Yakar visited Salt Lake City receiving the Marija Gimbutas lecture grant – an initiative of the International Institute of Anthropology, Salt Lake City, which was accomplished in 2007 in collaboration with the Middle East Center at the University of Utah. After his lecture on Ethnoarchaeology in Anatolia, Professor Jak Yakar was also a special guest of the Bulgarians in Utah and their Friends at Belvedere, Salt Lake Downtown. During the discussion about the role of folklore in the everydayness of different cultures we learned that Professor Jak Yakar had Balkan roots in his genealogy. Details and his understanding of prehistoric archaeology follow below.

L. Nikolova: Professor Yakar, first of all I would like to thank you for coming to Utah as an academic guest of the University of Utah and the International Institute of Anthropology. The lecture at the University of Utah and the following seminar were exciting. We learned that ethnoarchaeology was a subject involving your student interests and later field experience. Your studies always show that you are more interested how the people lived in Prehistory than what typology they reproduced of the material culture. How do you feel yourself as a specialist – more archaeologist or prehistoric cultural anthropologist?

J. Yakar: Regarding your question, I would like to elaborate. My field of interest is pre-classical Anatolian archaeology. In other words, my research involves the ancient Anatolian society from its prehistoric beginnings to the end of the Middle Iron Age. I believe that modern archaeology as an interdisciplinary and multi-dimensional scientific research field is increasingly successful in investigating various social, economic and spiritual aspects of prehistoric cultures, as well as those pertaining to the Anatolian society of early historical times. Naturally, dealing with the latter, textual data from local and non-local sources do help considerably in clarifying the historical and cultural background of various Anatolian ethnicities and polities. Since I strongly believe in the importance of multi-disciplinary collective research in archaeological field projects, including ethnography and ethno-history, I define myself as an archaeologist interested in investigating, among other things, the possible reasons for cultural variations among some past contemporary communities inhabiting environments sharing the same geographic and climatic characteristics.

L.N: What is your new book about?

J.Y: It is titled: Reflections of Ancient Anatolian Society in Archaeology: From the Emergence of Villages to the Formation of City States- from the tenth to the end of the third millennia BC. It should be out by mid-2008.

L.N: How do you like the USA and how do you remember Utah?

J.Y: I like the USA ever since 1965, when I started my graduate studies at Brandeis University in Massachusetts. I believe despite all criticism at home and abroad, it is the only country in the world with equal opportunities to all regardless of race, religion and color. I can understand why people do not spare any effort to make it their home. Especially the socially, ethnically and economically oppressed that keep coming to the USA from lesser democracies. I don’t think Utah was in my itinerary until I heard from you again some years ago. I could not say no to your invitation to give lecture at the University of Utah. I am very glad I came. I very much enjoyed my stay, meeting your colleagues, friends and students. It gave me the rare opportunity to see another facet of the multi-cultural American Society.

L.N: Tell us something about your Balkan genealogy roots?

J.Y: I only know that my father was born in Strumitsa(Macedonia) and came to Turkey at the age of 6 in 1912. His father who fought at the head of a militia on the side of the Ottomans against the invading armies was by that time a wanted man with a price on his head. He fled his farmstead on horseback taking his son and rode to the Port of Salonika. According to what he told me I was 6 years old at the time) his plan was to sail to New York. He was dressed like a Greek priest in order not to be recognized and had to hide my father inside his long coat. But seeing his picture on a wanted poster at the port and at the same time seeing two approaching Bulgarian soldiers, he panicked and boarded the first ship on port. So instead of arriving in New York, he ended up in Izmir! Once there, and with things cooling down, he brought his wife and young daughter over as planned beforehand. Although they too must have been surprised that the destination was not the USA but Turkey!

L.N: Do you believe in global archaeology and how do you see the future of global archaeology?

J.Y: Global archaeology is a fact as far as sharing knowledge relating to dating methods, excavation and survey techniques, and various processing procedures necessitating the use of laboratories and computer systems. We learn a good deal from each other without getting involved too much in each others respective projects. I think things would remain the way they are now. However, more effort should be made separating politics and nationalism from influencing archaeological research and results, whether it is in the Middle East, Near East or the Balkans. One way of doing this is joint projects and the exchange of temporary exhibits regardless of national borders and political considerations.

L.N: What is the future of archaeology as a profession and social practice?

J.Y: It is going from bad to worse.