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## Synthetic report

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**Individual research project title:** Moving Beyond the “Primitive Communism”: Prehistoric Foundations of Social Inequality

### 1. INTRODUCTION

#### 1.1. Social evolution and archeology: a few landmarks

From the remote Antiquity to the Enlightenment's philosophers, the issue of social inequality incited deep reflections long before the advent of modern social sciences. Most of those thoughts regarding the nature and the function of inequality were carrying, however, a weighty ethical load (Lenski 2002). Lacking an accurate documentary support from the past, they also relied heavily on the direct observation of 'human nature', as manifest in their contemporary historical circumstances. Consequently, inequality was naturalized either as a result of the humans' need to cooperate according to their various innate abilities, or more frequently as the outcome of their equally innate selfishness and anti-social propensities (Todorov 2009). Naturally, these premises were forged in highly complex social contexts, in which various forms of deep inequality were already present for many millennia. They were also

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built upon the spontaneous concept of 'eternal' human nature, essentially good or rather evil, but nonetheless unchanging through time.

The modern humanities and social sciences, most born in the twentieth century, initially took as granted most of these ancient philosophical premises. For instance, sociology remained for decades divided among functionalists and conflictualists. While the former defined inequality as naturally connected to the very existence of social systems, the latter rather stressed the permanent competition between the divergent interests of various social actors (Hollis 2001: 92-155).

The increasing authority of evolutionary thinking eventually changed the settings of this debate. Although still defending opposing theoretical barricades, a growing number of anthropologists, philosophers or economists (A. Comte, H. Spencer, L. H. Morgan, E. Tylor, Fr. Engels, and K. Marx) gradually abandoned the idea of some 'eternal' social issues and adopted a more historically-oriented perspective. As their main purpose was the explanation of the Western Europe's political and cultural ascendant over other cultures, their reading of the evolution of social inequality became synonymous to the explanation of mankind's itinerary towards an increasing social complexity.

Built on the Scandinavian 'three-age system' and also strongly influenced by the perspectives promoted by British evolutionary anthropologists (Trigger 1989; Gosden 1999), prehistoric archeology emerged from this fertile evolutionary matrix. Soon after the materialization of the proper methods for studying past material culture (stratigraphy, typology, chorology), archeology took a key position in forging the social-evolutionary narrative. As the seminal work of V. G. Childe (1966, 1967) shows, interwar archaeology was already prepared to tackle the issue of evolving social complexity. Removing the traditional obsession for chrono-cultural matters, the radiocarbon 'revolution' further eased archeology's new focus on social-evolutionary and allowed for increasingly elaborated theoretical frameworks.

Post-war world experienced, however, crucial cultural, economic and political changes, which in turn affected the course of prehistoric archeology as a whole. An important outcome was the concentration of the interest for social evolution in several paradigmatic circles and their neglect in many others.

For the first case, the 'imperialist' (cf. Trigger 1984) Soviet and North-American archaeologies provide the best examples. Neo-evolutionary typologies, generally reducing the social evolution to the succession between band, tribe, chiefdom, and state (e.g. Service 1962; Sahlins 1968, 1972; Johnson and Earl 1987; see also Chapman 2003 for a review) proliferated in the first case. Soviet archeology generally focused on supporting the type-succession of socio-economic formations introduced by F. Engels (1920), in a speculative and often redundant manner (cf. Klejn 1981). Most European research traditions, including the German (Härke 1991; Sommer 2002) and French archaeologies (Ferdrière 1981; Cleuziou et al. 1991; Audouze 1999; Coudart 1999) took a different, empirically-grounded course. A similar pattern, occasionally mixed with Marxist influences, such as the case of Spanish (Vasquez Varela and Risch 1991, Chapman 2003), Italian (Guidi 2002), Greek (Kotsakis 1991) or Eastern European countries (Klejn 1981; Kobylinski 1991; Neustupný 1991; Laslowsky and Siklodi 1991; Anghelinu 2003) is documented all over Europe.

In such a context, the huge popularity gained by the American neo-evolutionary schemes is less surprising (Chapman 2003). They also provided the main focus of discontent for the early advocates of post-modern movement in archeology, emerging in the early '80's (e.g. Hodder 1986; Shanks and Tilley 1987). Criticizing the scientism, the post-cross-cultural generalizations and the ethnocentric perspective of previous stadial schemes, the new 'post-processual' movement argued for more contextually-based approaches. Unfortunately, much like in the case of cultural anthropology, the post-modern 'de-construction' did not lead to any solid reconstruction (Troc 2006), but rather to a huge amount of rigorously contextualized data, usually difficult to gather in a synthetic picture. It is worth noticing that the post-processual movement also fortified the already strong 'Anglo-Saxon' character of social debates

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in archeology. Among the traditions left outside this mainstream, Romanian archeology provides a most typical example.

## 1.2. The research on social evolution in Romanian archaeology

Although quite typical for the continental European tradition, the theoretical and methodological course of the Romanian prehistoric archeology, largely discussed elsewhere (Anghelinu 2003, 2006, 2007), display nevertheless some unusual features. Strongly attracted by French (for Paleolithic) and German (for later prehistory) research models early in the twentieth century, Romanian archeology has always exhibited a sturdy empirical stance, which survived and actually grew during the Communist era. Several explanations can account for this outcome. The most likely causes can be connected to archeology's lack of epistemological and academic identity, coupled to the hostility manifested by many practitioners towards the 'dialectical materialism'. Political and theoretical isolation also played a vital part and eventually led to the sheer theoretical naivety and methodological mannerism still powerful today. Naturally, the consequences brought by this peculiar history of research for the investigation of social evolution were severe.

In interwar times, Romanian prehistoric archeology focused on drawing the chronological and chorological boundaries of archeological 'cultures', mainly on typological grounds (e.g. Andrieșescu 1912; Nestor 1932; Nicolăescu-Plopîor 1938, Moroian 1938; Daicoviciu 1945; Dumitrescu 1993). For such an objective, an oversimplistic paleosocial scheme, the 'folk premise' (cf. Anghelinu 2005) sufficed in the case of prehistoric agricultural societies, much like the trust in the uniformity of human sociality served the research of Paleolithic material cultures (Anghelinu 2006). While the first premise help translating real or imagined ethnographical realities (conservatism, normative behavior, folk art and crafts) in order to revive the Neolithic villages' life (e.g. Andrieșescu 1912), small bands of 'eternal' humans were thought to have been roaming across Pleistocene tundra. Once postulated, the actual content of prehistoric social life became impossible to approach as a scientific topic. Naturally, the issue of social inequality disappeared behind the trust in the patriarchal, solidary, highly-integrated and peaceful character of all prehistoric groups.

The new Soviet-inspired dogma, while definitely aggressive in its intentions (e.g. Roller 1950) failed in stimulating the social research in Romanian archeology. Albeit entirely built on a theory of social evolution, the 'dialectical materialism' proved too rigid to allow a true valorization of the Marxist socio-economic determinism. As a rule, Romanian archeologists preferred to adjust the superficial reading of their empirical dataset in order to fit the official dogma. While in the case of Paleolithic research, most Marxist premises were rather easily integrated into the previously flimsy evolutionary framework (e.g. Nicolăescu-Plopîor 1954, 1957), the Neolithic research experienced some harder times with the matriarchate/patriarchate issue (e.g. Dumitrescu 1968). Thus, never fought against or ever seriously documented, Marxist premises were left floating into an empty theoretical space, quite remote from the actual topics (that is, culture-history) followed by most practitioners (e.g. Daicoviciu 1965).

The concept of 'primitive communism' deserves a special mentioning here. The notion refers to a global state of social evolution, normally characterized by the absence of individual property over the 'production means' and in which people themselves were the main 'productive forces'. The collective property offered the main correlate for the lack of any form of consistent social inequality. Overtly inspired by Western political economy, this perspective plainly equals the political and economic inequality, but also postulates the birth of the former very late in human history, in the time when social classes appeared, sometimes in the Iron Age. Egalitarianism and collective property thus offered the basic framework for most prehistoric societies, in spite of the quite early archeological detection of various forms of social preeminence (e.g. the Neolithic 'patriarchate', Dumitrescu and Vulpe 1988) or inter-communities hierarchies (e.g. Monah and Cucu 1985).

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The attempts to avoid all economic and social underpinnings of the 'primitive communism', which amongst others favored the politically safe focus on typological analyses, may also explain the disinterest for past socio-economic systems altogether. Thus, the culture-history revival in Romania went simply against systemic thinking and natural sciences' influence, increasingly popular in the world's archeology from '60's on (see Angheliniu 2003).

Given the absence of any consistent theoretical challenge, the 'primitive communism', though rarely if ever explicitly invoked, retained its function as an all-encompassing umbrella many years after 1989 (e.g. Petrescu-Dâmbovița et al. 1995; Comișia 1997). However, the deepening of empiricism and the ignorance towards social issues is much more typical particularly in the case of Paleolithic research (e.g. Păunescu 2001). In the very few cases when the social organization is explicitly approached, the Marxist concept is again revived, this time in an overtly negative manner. For instance, far from reflecting economic states, the Neolithic social life appears rather connected to the spiritual realm (e.g. Monah 2001). This counterview also brings a prudent social reading, basically reduced to the association between cultural and social complexity. Such prudence is definitely less connected to the presumably weak empirical support, and more to the increasingly acute awareness regarding the fragility of the available theoretical apparatus.

The present project was specifically designed to fill in these theoretical and empirical gaps. In exploring the concepts, methods and examples required for a better social reading of the prehistoric social dynamics, I have also tried to go beyond and avoid any useless polemic with the shadow of 'primitive communism'. My objectives were, first, a clearer definition of the underpinnings of human social life; secondly, the identification of several landmarks in the long-term prehistoric social evolution; thirdly, the drawing of a regional sketch of social evolution based on the data offered by the Romanian prehistoric research. All objectives were successfully accomplished, although given the quality of the available empirical support the third issue definitely asks for a better assessment through future researches.

## 2. Theoretical and methodological grounds

An aspect often ignored by many Romanian archeologists, the building of an explicit theoretical framework appears as a natural duty for any scientific approach. A clear set of premises allow a better understanding of the author's stance, a better demarcation of the limits inherent to any approach and an easier evaluation of the main results. Given the huge dimension of the topic selected here, only several principles were selected, which helped me in leaving aside some of the empirical details.

### 2.1. A few principles

My approach was built on a powerful faith in the psychic, somatic and genetic unity of mankind, directly proved in my opinion starting at least with the Middle Pleistocene. This principle allowed a certain 'banalization' of social evolution, too often burdened by prejudices regarding the 'primitivism' or 'immature' nature of prehistoric social arrangements (cf. Stoczkowski 2001; Gamble 2007). I consider the human social life as always occurring in finite social spaces (Foley and Lee 1996) and in saturated, inner-coherent cultural matrices. I also tried to avoid the somehow opposite, but more idealistic trap of primitivism (or 'the myth of mythical thinking', cf. Veyne 1998), which often reduces the prehistoric life to the irrational realms of magic and superstition.

This is not to say that I have attempted at minimalizing the importance of symbolic realm (cf. Eliade 1999). Quite the opposite is true, as I have granted culture, as a network of arbitrary significations, a key causal role, as important as the genetic propensities, economic or demographic forces, normally acting beyond individual control. In fact, a crucial conclusion of our approach stands precisely in the early emergence and the unusual authority of cultural norms in all human matters.

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This anthropological position was further enlarged by an uniformitarian stance, for which similar causes asked for similar responses. I found a great number of uniformities in both social and cultural expressions, which may be explained through recurrent causal mechanisms, which often lay beyond individual control and often beyond social actors' consciousness. I considered these redundancies as the outcome of the extended cultural and biological co-evolution of the human species (Boyd and Richerson 2005). The same principle allowed me a critical and limited use of ethnographic analogies in explaining some prehistoric contexts.

Another important premise regards the cumulative nature of cultural evolution, coupled with the inherent variability entailed by this process. While the growth of cultural and social complexity appears as a powerful trend, many factors also acting cumulatively may actually act in favor of 'simpler' functional balances.

I am totally aware that my perspective, which relies heavily on the unity of human nature and overtly stresses the increase in social and cultural complexity, stands in sharp contrast to the current preferences of post-modern archeology. However, I found a 'traditional' scientific perspective more truthful than the wobbly commandments of archaeological fashions.

## 2.2. Foundations of human social life

Most theories on social evolution are built on the premise that egalitarianism stands for an initial state of 'natural' simplicity (cf. Flanagan 1989); consequently, they are further looking for the first archeological signs or inequality. An important corollary of this postulate is that, given their malleability in relation to their social environment, humans have no inner 'nature' (cf. Ames 2010). Our research stressed precisely the opposite: there is a (highly social) human nature, equally predisposed to egalitarian relationships and domination; egalitarianism itself is a form of 'social engineering'.

Painting the human sociality is obviously a daunting task. I have chosen to stress only several features, which were divided, for the sake of simplicity, under biological, sociological and cultural headings. Their interaction in real social life is obviously complex and permanent.

The human social life and consequently the seeds of inequality are rooted in a deep biological inheritance. In fact, authors of diverse theoretical backgrounds (e.g. Ames 2010; Eibl-Eibesfeld 1998; Maschner and Patton 1996; Morin 1999; Trigger 2003) have taken the basic features of human sociality (competitive propensities, conspicuous consumption, prestige seeking etc.) as biologically-based. Hominids inherited many features from their phylogenetic ancestors: life duration, late maturity, long inter-birth intervals etc. Ecologically, these features are generally correlated with a predictable environmental niche. Ethologically, they involve a low rate of juvenile mortality, stable local populations, intense intraspecific competition, territorial behavior, and limited food sharing (Clark 1997). Furthermore, as many animals living in groups, our ancestors have already had mechanisms for solving social conflicts (isolation, cliques, spontaneous alliances, strategic, group fission). Genetically, the tendencies towards domination are usually balanced by a penchant to obey existing hierarchies, always needed for group integration (Eibl-Eibesfeld, 1998, p. 95-116).

However, in the light of their derived features, humans immediately appear as very unusual animals (Morin 1999). The main characteristics of the 'human adaptive complex' are: a long life duration and a big brain; three-generational intra-transfer of resources, with an important support from the non-reproductive generation; an extended period of juvenile dependence; long-term association between males and females and the common provisioning of offspring; a high level of cooperation between relatives and non-relatives; generally, egalitarian relationships (Kaplan et al. 2009; Foley and Gamble 2009). These features appear as the outcome of the human predatory niche, based on intensive acquisition of multiple competences, a late production of an own caloric surplus, a high complementarity in resource acquisition and risk reduction, but also the absence of defendable economic resources.

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Humans are also highly contradictory; our hiper-sociality is doubled by a strong tendency towards hierarchy and domination, and also by a high level of intraspecific violence. In fact, most of the features above, particularly those involving cooperation and altruism are rather the results of a dual-inheritance, in which cultural transmission, group selection and some unique mechanisms for social control (e.g. altruistic or moral punishment of non-cooperators) must have played a crucial role (Boehm 1999; Boyd and Richerson 2005). Apart from older behavioral acquisitions (preference for stable domination, reciprocity-based arrangements and food sharing) humans also developed a sense of belonging to larger groups, a 'tribal' instinct (Richerson and Boyd 2001). The conflict between these biological propensities and the divergences between individual/familial and larger group interests help explaining the structural instability of all known social arrangements.

This structural instability of social life is thus a prominent landmark in discussing the emergence of hierarchies. Social life is not an option, but a given. No initial 'social contract' can be therefore imagined. The more popular theory of rational choice appears as equally unrealistic. With evolution as the cumulative outcome of rather vaguely directed choices, human rational behavior can only be understood in its social matrix, as an ability to manipulate arbitrary classificatory schemes, concepts or values. In this particular point, several sociological and anthropological observations help expanding our image on human sociality.

Both disciplines repeatedly stressed the unique capacity of human individuals in naturalizing as vocations the social roles ascribed to them by larger groups. Humans easily identify with the metaphors, values and fictions of their groups (Douglas 2002; Durkheim 1995), often on the expense of their own interests (Boyd and Richerson 2005) and frequently self-mystifying their own motivations (Elster 2004). Various psychological palliatives and post-factum rationalizations are used in reducing the cognitive dissonance resulted (Elster 2004; Todorov 2009). The very perpetuation of social norms and values can only be accomplished through a collective mystification of pragmatic interests, a fact clearly visible in the 'economy of gift' (Bourdieu 2000; Mauss 1997). Ritual behavior provides an equally eloquent example. Inciting, instructing and convincing beyond rational agreement, this emotionally-based behavior built on ambiguity (Kertzer 2002) further enhances the group preeminence over individual.

The peculiarities of cultural learning add more to the picture. Humans' total dependence on learning, coupled with their unique ability to imitate (Tehrani and Riede, n.d.) offer new means for an active assimilation of group norms. Culture is normally transmitted as information packages, which are usually too large for an effective, rational individual control (Richerson and Boyd 2005). Adaptive information is often assimilated together with maladaptive norms (Boyd and Richerson 2005). The culturally built environment further creates a medium in which for instance, a preeminent status in cultural transmission (e.g. intellectual elites) may successfully replace the biological success.

Summing up, both society and culture stand as autonomous realities able to motivate (Chase 2006) behaviors and attitudes contradictory to biology's concerns, though the latter offers a crucial component of human sociality. Virtually all scientific disciplines suggest a strong human tendency towards the toleration and escalation of social hierarchies. Following this tendency into deep prehistory requires nevertheless several additional methodological means.

### 2.3. Measuring social inequality: methodological remarks

As many recent syntheses show (Earle and Johnson 2000; Chapman 2003; Trigger 2003; Pluciennik 2005; Ames 2007; Rousseau 2006; Hayden 2008; Marcus 2008; Shennan 2008; Douglas Price and Feinman 2010), the relationships between ecology, economy and social evolution are far more complex than once thought. Moreover, the correspondence between power, privileges and material possessions varies according to the symbolic codes of each culture (Drennan et al. 2010). As the distinction between 'corporate' and 'network' organizations (Feinman and Price 2010; Hayden 1995) or the concept of 'heterarchy' (Crumley 1995; Hayden 2008: 17-18) suggests, there is also a

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horizontal dimension of inequality. While the vertical hierarchy is usually visible in many archaeological contexts (elaborated funerary behavior, impressive architecture, differentiated domestic inventories etc.), involving a rather diffuse sharing of power and material possessions the latter raise serious issues for an archeological recognition. Moreover, whilst most archeological means for measuring inequality work decently well in the case of sedentary societies, they become soon insufficient in the particular case of hunter-gatherers. Their mobility limits both the actual use and the preservation of these material expressions; an observation which suggests that Paleolithic egalitarianism was likely exaggerated. My methodology was therefore designed to deal with these insufficiencies affecting the archeological access to Paleolithic and Mesolithic social landscapes. The following work-around solutions were found:

- Reconstructing the 'frames of possibility', that is, an integrated use of anthropological, ecological, technological and economic data available for each major cultural subdivision. For this particular purpose, several inter-related concepts, i.e. the eco-cultural niche modeling, resource management strategies (Kuijt and Prentiss 2009), adaptive tactics (Bettinger 2009) or socio-technical systems (Pfaffenberger 1992) were used. The complexity of environmental adaptation acted as a proxy for estimating demographic magnitude and the general format of the social networks involved.
- General observations on the structure and complexity of material culture. For instance, the degree of formalization in lithic technology offered a proxy not only for functional specialization and gender division of labor, but also for the existence of some competence-based hierarchies.
- A systematic use of conventional landmarks of social stratification (funerary behavior, exotics accumulation etc.) whenever possible.
- A careful use of ethnographical analogies in all cases in which similar adaptive tactics and well preserved archaeological contexts recommended it.

The previous means, which helped building a comprehensive picture of prehistoric social evolution, also allowed a standardized treatment of the social inequality issue, which will be presented further. For brevity reasons, the various data originating from archaeological contexts in Romania are integrated in each subchapter.

### 3. Macro-models of prehistoric social evolution

#### 3.1. The foundation of the 'human adaptive complex': the Lower Paleolithic

The anthropological features and cerebral capacity of the first hominids certainly justify the preference displayed by many paleoanthropologists for analogies with primates' life in imagining the first human societies, at least in terms of organization, demography, subsistence and sexual behavior (Clark 1997; Foley and Lee 1996). The flexibility, complexity and longevity of their social relationships provide useful proxies for understanding the early human sociality.

However, early hominids displayed a cerebral organization already superior to all other primates, which in turn suggests a timely intermingling between social and biological realms (Foley and Lee 1996). A significant increase in cerebral mass is connected to the emergence of the genus *Homo*. However, big brains are energetically costly (Snodgrass et al. 2009), suggesting that some important changes had already taken place in both economic and social life.

Meat diet is a likely candidate for this early encephalization. Important changes in alimentation (i.e. meat acquisition) are supported by the somatic mutations noticed in the case of *Homo ergaster* (Mann 2000). However, as Mode 1 and 2 technologies show, hunting of large herbivores was not regularly practiced. A consistent reliance on vegetal foods (Rayne Pickering 2006; Sponheimer and Dufour 2009) and a rather modest status in the predatory

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guild likely characterized most of the Lower Paleolithic (Brantingham 1998), which in turn stresses other important causes for cerebralization.

The particular development of parietal, frontal and temporal lobes (that is, areas connected to cognition, categorization, symbolization and speech) suggest an early 'encephalization' of behavior. Briefly put, intelligence and the complexity of social life evolved together, the gradual brain increase standing for a snowballing complexity in the social realm (Aiello and Dunbar 1993; Dunbar 1996). Controlling and manipulating an increasing number of social relations amplified the selective pressure for the emergence of a 'Machiavellian intelligence' (Byrne 1996) and led to a unique tolerance for the co-presence of potential competitors and to the equally unusual sharing of emotional states and intentionality (Burkart et al. 2009).

In the lack of alternatives, most available models of early hominid sociality had to rely on the biology of reproduction. The starting point of human social evolution seems to have been the community (*sensu* Foley 2001) of first tool-makers (Gowlett 2008). These highly social primates were capable of maintaining a tolerable regime of stable domination (Runciman 2001: 238), in groups of several dozens of individuals of both sexes (Clark 1997). For some scholars, these groups consisted in stable alliances of related males, with females moving between them (e.g. Foley and Lee 1996; Gowlett 2008). Others consider the alternative model, with circulating males providing protection and food provisioning (Powers and Watts 1996; Knight 2008). Savannah's dispersed resources provide the ecological foundations of both proposals.

The divergences are nevertheless important (Gowlett 1997). While the first model suggests an early emergence of stable male-female relations, gravitating around recognized paternity (Foley 2001; Foley and Lee 1996; Gowlett 2008), the second postulates a collective female resistance and a group based form of a food-sex exchange (Hawkes 1996; Knight 2008; Powers and Watts 1996). An early division of activities in *Homo erectus* is actually supported by important changes in the female reproductive physiology and visible in the general reduction of sexual dimorphism (McHenry 1996). The huge niche extension initiated by the *Homo erectus* grade (Gowlett 2008; Roebroeks 2006) argues for a changed subsistence base and novel social structures and makes the hypothesis of an early emergence of pair relationships very likely (Clark 1997; Kaplan et al. 2000).

Most authors agree on the stability of this social configuration (Foley 2001, but see also Gowlett 2008), lasting at least to the emergence of *Homo heidelbergensis* grade. The stable (Clark 1997) eco-cultural niche occupied by these hominids reinforces this hypothesis. The first expansion initiated by *Homo erectus* followed ecological context close to the original savannah (Gamble 1999; Finlayson 2005; Roebroeks 2006). The recent hypothesis stressing a rather regular use of aquatic resources (Verhaegen and Munro 2011) argues in the same direction.

Some important changes related in the Middle Pleistocene Eurasia to the emergence of *Homo heidelbergensis* suggest that strong selective pressures were nevertheless at work all along. The new anthropological grade brought the colonization of temperate landscapes, increased territorial ranges, hunting (or aggressive recovery) of large herbivores (Echassoux 2009; Villa and Lenoir 2009) and technological changes (Shick and Toth 2001; Roebroeks 2006). The brain capacity of *H. heidelbergensis* (1200 cubic cm) is sensibly close to the modern human average. Fire control (Alperson-Afil and Goren-Inbar 2006), food-sharing and child rearing in these environments imply an elaborated social coordination, psychological inhibitory mechanism and a planning depth (Dubreuil 2010), which cannot be easily distinguished from their modern counterparts.

The successful solving of social coordination games provides several clues regarding the social configuration involved. The latter likely stood in small subsistence groups connected through exogamous circulation of one sex in larger reproductive groups. In such a demographic context, food-sharing among relatives and tit-for-tat strategies allowed for an easy to monitor reciprocity (Binmore 2001). The ethological propensity towards transitory alliances provided the essential mechanism for discouraging free-riders and for the stabilization of an *in nuce* egalitarian

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formula (Marlowe 2005; Runciman 2005). The collective control over hierarchical tendencies and the changing biological priorities allowed nevertheless for various primacies based on age or sex. Highly beneficial, costly to guard and even more costly to challenge, egalitarianism became an actively reinforced social norm.

### 3.2. An unusual eco-cultural niche: the Middle Paleolithic

Though often veiled by the allegedly revolutionary changes brought by the Upper Paleolithic the Middle Paleolithic (200-40 ka uncal. BP) has nevertheless to be associated with some important somatic and cultural innovations: superior cerebral configurations (*Homo sapiens neanderthalensis*, *Homo sapiens sapiens*); extension of territorial ranges, including the colonization of mountain and colder environments (Hopkinson 2007); various habitat structures (Speth 2006); a more complex extractive technology (Pawlik and Thissen 2011); the use of mineral colorants and pendants (Soressi and d'Errico 2007); first documented burials (Pettitt 2002). Despite all these changes, few evidences support radical changes in the social sphere. The explanation of this apparent stasis is to be connected to the eco-cultural niche occupied by both Neanderthals and modern humans for most of the Middle Paleolithic duration.

Neanderthals appear as an endemic, European ecotype of the *Homo sapiens* grade (Finlayson 2005). Despite older claims, their robust morphology, already stabilized around 200 ka BP, is not especially adapted to cold climate (Serangeli and Bolus 2009; Soffer 2009), although they occasionally lived in harsh environments (Gaudzinski and Roebroeks 2000; Hoffecker 2009).

The balance between Neanderthal societies and their environment is quite unusual. A huge energetic needed by their anatomy (Macdonald et al. 2009) correlates well with their focus towards the systematic hunting of medium or large herbivores (Patou-Mathis 2000; Bocherens et al. 2005). Surprisingly however, their extractive technology is rather expedient and apparently insensible to changing ecological contexts (Kuhn and Stiner 2001; Stiner and Kuhn 2009; Bocquet-Appel and Tuffreau 2009). There are serious grounds to infer a very low group demography (Davies and Underdown 2006) and a high residential mobility (Stiner and Kuhn 2009; Macdonald et al. 2009), generally connected to the exploitation of rather heterogeneous landscapes (Soffer 2009). The necessarily small subsistence units asked for more consistent regional networks, needed for reproductive interactions. This demographic packaging did not apparently change the inner fragility of the Neanderthal lifestyle, still unable to effectively resist to severe climatic changes (Boone 2002; Pennington 2001). The low rate of cumulative change and the redundancy of their adaptive solutions further emphasize this demographic instability (Premo and Kuhn 2010; Hopkinson 2011).

For some scholars (e.g. Soffer 1994, 2009), the permanent mobility and the short life cycle (Trinkaus and Thomson 1987; Trinkaus 1995) suggested an economically autonomous life of woman and children. This hypothesis, however, is clearly refuted by energetics and bone chemistry studies. Moreover, plenty of archaeological evidence proves the movement of hunted game into encampments. A consistent support from behalf of men (*contra* Mithen 1996; Pettitt 2000) seemed to have been the rule, which also included old or handicapped individuals (Trinkaus and Shipman 1993).

Another model (Kuhn and Stiner 2006, Stiner and Kuhn 2009) suggests that adults of both sexes and children were equally involved in herbivore hunting. With robusticity levels indeed high (Trinkaus 1983), few morphological or archeological clues support a gender division of labor among sexes (Kuhn and Stiner 2006; Soffer 1994, 2009). However, the very subsistence base of Neanderthal societies suggests that this invisibility has rather taphonomic explanations.

The funerary behavior resumed to primary burials in domestic spaces and involved both sexes and all ages (Pettitt 2002). Certain symbolic associations are recommended by the systematic use of caves and ochre. The well-documented (Valensi et al. 2011), though few cases of cannibalism are enigmatic, as no difference was noticed

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between the cannibalized human remains and the hunted fauna. Occasionally violent inter-group encounters and/or symbolic practices provide the most likely explanations.

The small Neanderthal groups were certainly composed of related individuals, but the sex involved in exogamic circulation is presently unknown. However, the high mobility and subsistence base suggests that men were easily adopted in new bands. The lack or rarity of symbols potentially marking the individual group affiliation suggests the absence of extended social networks (Gamble 1999). However, the regular presence of ochre in both domestic and burial contexts points to the marking of age or social status.

Summing up, both the 'frames of possibility' and the archeological evidences argue for the continuation of the social model already present in the case of *H. heidelbergensis*, dominated by food sharing, egalitarian relations and fluid hierarchies based on age and sex. A similar model applies to modern humans' groups already present in Africa and Middle East. Their technology, patterns and mobility and funerary practices are indistinguishable from their Neanderthal counterparts. Several transitory episodes of increasing cultural complexity (McBrearty and Brooks 2000) do not threaten this conclusion, which in turn entails that the Upper Paleolithic emergence is missing any neurobiological underpinning.

### 3.3. The extension of social life: the Upper Paleolithic

The African tropical belt seems to have stimulated first the exploration of a new eco-cultural niche during the second half of the Upper Pleistocene (Finlayson 2005; Kuhn and Stiner 2006; Richerson et al. 2009). The new niche expanded worldwide through exaptation; in Eurasia it is known as Upper Paleolithic and often seen as a 'revolution' (Mellars and Stringer 1993, but see McBrearty and Brooks 2000; Straus 2009). Several major innovations are connected to this allegedly revolutionary event: a highly standardized, functionally molded and diverse lithic and organic technology; a regular use of adornment objects and elaborated art; large exchange networks; burials with rich inventories; complex living structures. They all witness an important restructuring of the related social networks.

Notwithstanding, these innovations are far from being synchronous or adopted in all contexts. In fact, the crystallization of the Upper Paleolithic need to be seen as a process extended along the gradual colonization of the temperate and cold environments, in the shaky climatic context recorded between 50 ka BP and the Last Glacial Maximum (26-20 ka BP) (Van Andel and Davies 2003; Finlayson 2004; Camps and Szmids 2009).

The symbolic codification of group identity and the wide circulation of people and ideas are already documented in the Aurignacian (Vanhaeren and d'Errico 2005). Although contested on occasions (Straus 2009), the homogeneity of this technocomplex is surprising (Mellars 2007), and despite the lack of historical analogies, has a strong equivalent in the Gravettian pan-European spread (Mussi et al. 2000). Both technocomplexes display a focus on microlithic technology, organic industries, and logistical mobility. The Gravettian in particular brings an effective hunting of gregarious herbivores, storing facilities (Binford 1993), a more marked gender division of labor (Kvavadze et al. 2009; Soffer 2009), logistic mobility including aggregation settlements with favorite burial grounds (Gamble 1999; Mussi 2001), and burials with exceptional inventory (Mussi 2000; Bader 2004) suggesting the birth of local elites.

Pushing human groups towards Southern and Eastern refugia (Foley and Gamble 2009) the Last Glacial Maximum ruined the Gravettian unity. The reactions to increasingly stressful environments lead to the emergence of more regionally-based traditions and adaptive tactics: Solutrean, Magdalenian, Epigravettian (Borziac 2008; Otte and Noiret 2003; Zubrow et al. 2010).

The Upper Paleolithic displays several common themes. The territorial range increase (as proved by the raw material transfer) and a new focus on extractive technology (composite tools and weapons) (Bar-Yosef 2002; Churchill and Rhodes 2009) point to new socio-technical systems. The effectiveness of the related adaptive tactics is directly proved by the healthy and robust populations (Holt and Formicola 2008), increased longevity and a significant

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reduction of infantile mortality (Caspari and Lee 2004). The expansion of subsistence base regularly including low rank (e.g. vegetal) or aquatic resources argue in the same direction (Lalueza et al. 1996; Kuhn and Stiner 2001; Stiner and Munro 2002; Richards 2009).

Apparently, the technological innovations and the demographic vitality of the Upper Paleolithic populations made possible the escape from social proximity, the emergence of a 'global diaspora' (Gamble 1998), the escalation of ethno-stylistic identities (Vanhaeren and D'Errico 2006) and the rise of institutionalized social inequality (Owens and Hayden 1997; Hayden 2008; Vanhaeren and D'Errico 2005; Zilhão 2005).

For some authors the effectiveness of hunting technology, the seasonality of temperate and cold environments, coupled with the poverty of vegetal resources allowed a deviation of women's work towards the domestic space much earlier and even helped rising a male-based domination (Bender 1989). However, while there is little doubt that the increasing specialization of hunting put men in a favorable position and favored a virilocal social framework, the male domination is debatable. The 'sexual load' of material culture, already present in the Aurignacian and increasingly marked in the Gravettian art is obvious. 68% of human representations in the French parietal art dated to Gravettian are pregnant women (Duhard 1993), not to mention the female figurines scattered across Atlantic and Ural. While their meaning remain obvious, at minimum they point to a symbolic gender dichotomization. However, the vital importance of female economic contribution in cold environments and the similar funerary treatment of both sexes in the Gravettian sample argue against such a simplistic male domination.

For some authors, the involvement of women and children in parietal art, presumably in initiation contexts (Owens and Hayden 1997; Van Gelder and Sharpe 2009), together with other clues, like the exceptionally rich funerary contexts (Mussi 2001; Bader 2004; Vanhaeren and d'Errico 2005), rather suggests the rise of transegalitarian societies (de Beaune 1995; Owens and Hayden 1997; Hayden 2008). Several lines of evidence ranging from the formalization of burial inventory and adornments (Taborin 2000) to the high-performance lithic technology (Julien 2006) support both the existence of explicit social norms and a hierarchy of competence inside the Upper Paleolithic societies. Ethnographically, the emergence of stratified societies is usually correlated to a high demography, a low mobility, a local affluence (Hayden 2008), occasionally coupled with temporary ecological crises (Arnold 1993, Prentiss et al. 2007). The combination of these circumstances might have been frequent during the Upper Paleolithic. However, arguments to the contrary also exist. Initiation rituals are not necessarily the work of a formal hierarchy and they often stress egalitarianism (Clastres 1995). Heterarchy and sequential hierarchies, which both allow a horizontal repartition of competences and a temporary delegated authority can also explain the formalization recorded in material culture or the economically complex adaptation (Runciman 2001). Moreover, the good quality subsistence was achieved, in Gravettian times at least, precisely through increasing mobility (Roebroeks et al 2000). In the same time, private consumption or accumulation is not yet documented.

Nevertheless, some exceptional funerary contexts (Sungir, Brno II, Arene Candide, Saint-Germain-la-Rivière, La Madeleine) challenge this high mobility/egalitarian picture (Anghelinu 2011 submitted). At least three of them display exotics accumulation or work investments that strengthen the case for a hereditary status: the triple burial at Sungir (Bader 2004), the female in Saint-Germain and the Epipaleolithic buried children at La Madeleine (Vanhaeren and d'Errico 2005). While most Upper Paleolithic contexts document a rather high individual integration, egalitarian relations and competence-based hierarchies, these burials point to successful circumventions of these norms. The deviation of the corporate groups' work or some preeminent positions in exchange circuits were not, however, durable or even possible, particularly in less seasonal environments. The extension of social life through mobility was not particularly friendly to the escalation of social hierarchies. There are actually more grounds to infer an elaborated ideological reinforcement of egalitarian rules. The swift erosion of inequality islands in the face of egalitarian norms, most likely occurring in times of crisis, explains their floating appearance. A similar case can be made for most Mesolithic societies.

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### 3.4. Between worlds: the Mesolithic societies

The Holocene is generally a time dedicated to eco-cultural niche expansion and to demographical reorganization of previously occupied territories. The Holocene climate differs markedly from the Pleistocene one because of the increase noticed in carbon dioxide production between 15 and 12 ka BP, which led to a massive increase in plant productivity and resistance (Bettinger 2001: 148). Mentioning these changes suffice in emphasizing the important environmental differences (cf. Spikins 2008; Bailey 2008; Dolukhanov 2008) separating the Mesolithic hunter-gatherers from their Paleolithic counterparts. A more stable and warmer environment stimulated an increased dependence on vegetal and aquatic resources, which in turn opened the door to profound social changes. The augmentation of women' economic contribution is one of them. However, not all of changes happened at once or in a linear manner.

A full repertory of the Mesolithic cultural adaptations is beyond the scope of this report. Comprehensive syntheses are already accessible (e.g. Zvelebil 1986; Bonsall 1989; Philibert 2002; Bailey and Spikins 2008 etc.). I will therefore confine my approach to most significant changes.

The Mesolithic brings first an intensification of economic exploitation of more limited ecological niches, which is to be correlated with important, though not revolutionary technological innovations. In several cases, this trend is further deepened through the focus on resource processing, introducing the adoption of agriculture. Microlithic tools, trap hunting, fishing technology are actually adjustments of Pleistocene technologies (Philibert 2002). However, the Holocene socio-technical systems invest more in maintenance than performance; they also rely on the innovative technology of bow and arrow, which in turn entailed huge consequences, particularly for the social organization of hunting activity and violence escalation (Bettinger 2001).

The degree of complexity reached by Mesolithic societies is fiercely debated for decades. It is generally admitted that most communities inhabiting the forested landscapes of Europe, from Great Britain (Tolan-Smith 2008) to Russia (Dolukhanov 2008), but also some in the Mediterranean area (Pluciennik 2008), displayed many Paleolithic-like (low demography, high mobility, similar subsistence base – Bailey 2008; Philibert 2002; Valdeyron 2008; Spikins 2008). The obvious changes experienced by local demographic networks (Whallon 2006) did not apparently led to noticeable changes in what social inequality is concerned.

Quite different seems to be the case of Baltic and Scandinavian coastal societies or of some river adapted communities, such as Schela Cladovei - Lepenski Vir, whose adaptation to seasonally productive environments and better processing technology allowed important social changes: local population increase and mobility reduction leading to 'mega-sites', territorial behavior, cemeteries, escalation of inter-group violence etc. (O'Shea and Zvelebil 1984; Rowley-Conwy 2001; Zvelebil 2008; Bonsall 2008). All these features are ethnographically proved to correlate well with social complexity and stratification (Prentiss et al. 2007).

Heavily inspired by the American North-Pacific complex hunter-gatherers, some authors see some Baltic Mesolithic societies as clearly transegalitarian. Heterarchy or 'house societies' (corporate households), in which some population segments offered mainly the work force for upper lineages, was also inferred for the Middle East Natufian (e.g. Hayden 2008). For the latter example, local affluence, sedentism, resource storage and a high demography (ranging between 50 to 300 persons per settlement) provide convincing arguments. Differential burial inventories, the secondary treatment of skulls, communal edifices and abundant presence of exotics further argue for a corporate organization (Bar-Yosef 2001; Hayden 2008: 108-116; Price and Bar-Yosef 2010).

Other authors preferred a more prudent reading of archaeological data, separating the complexity of adaptation from the emergence of social stratification (e.g. Belfer-Cohen 1995; Bettinger 2001; Zvelebil 2008), or stressed the ideological reinforcement of egalitarian norms (Kuijt 1996). The latter is well expressed in the Schela Cladovei – Lepenski Vir case, where despite successful economic adaptation, clear signs of social inequality are actually

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missing. The pressure experienced by egalitarian mechanisms and the growing importance of the familial household as a production and consumption space, provide a parsimonious explanation for the diachronic changes noticed during the entire period. This tension is suggested by the disarticulation practices which actually dominate the Mesolithic funerary contexts (Spikins 2004; Jochim 2008).

A different case can be made for the Baltic Mesolithic, an important, albeit disputed candidate for early forms of social stratification (O'Shea and Zvelebil 1984; Jacobs 1995). While in northern areas such as Siberia, the egalitarian ideological frame survived until late in historic times, the gradual erosion of this social norm is nevertheless visible (Zvelebil 2008). With work progressively associated to individual investment (e.g. seafaring equipment), a growing number of resources left the redistribution circuits to become objects of accumulation and exchange. The elders' control over lineages through alliances and exchange offered premises for an increasing social dependence of younger generations.

Ritual knowledge offered the best means for justifying these changes, thus putting certain persons (i.e. shamans) in the best position to benefit from them, particularly in times of crisis, when their moral authority matters the most (Clastres 1995; Zvelebil 2008: 51-52). This ideological dimension certainly played an important part in the adoption of agriculture. The early presence of domestic animals in many Mesolithic contexts (Jeunesse 2001) already announces the crucial ideological change separating foragers from farmers.

Summing up, the Mesolithic brought crucial and often underestimated social changes. Most were made possible, but not determined by the Holocene climate change. Their roots are to be looked for in earlier Pleistocene contexts. In some Eurasian areas, local affluence and superior processing technology allow for sedentism, territorial behavior and preferential access to resources, stretching the egalitarian rules to the point of breaking. They did not, however, lose their force, and were recurrently activated even in those contexts in which corporate households developed into key social units.

### 3.5. A new social world? The birth of Neolithic

A vast array of models has been proposed in order to explain the adoption of agriculture, unanimously accepted as a major step for the cultural and social evolution of the entire mankind. I will obviously focus in the following on the most convincing scenarios.

The Neolithic 'revolution', a term forged by V. G. Childe (1966, 1967), is often seen as a practical and symbolic triumph of human Reason over Nature (cf. Gamble 2007). However, much like the Upper Paleolithic 'revolution', Neolithic's emergence was actually grounded on a series of much older acquisitions. It also entailed huge variations of rhythm and content (Barker 2006). Apart from the obvious benefits it brought, at least in demographical terms (Boquet-Appel and Bar-Yosef 2008), it had also involved important losses in terms of comfort, individual freedom vs. work or general health (Boone 2002; Hershkovits and Gopher 2008; Wittwer-Backofen and Tomo 2008; Zvelebil and Pettitt 2008). There are therefore serious grounds to see the adoption of productive economy as a partially undesired outcome of foragers' societies aiming at preserving rather than changing their lifestyle.

This realization came, however, only in the last decades and owed a lot to the work of British and American processual school in the Middle East (Binford 1968; Flannery 1973; Higgs and Jarman 1972; Cohen 1977). Their main conclusion was that the adoption of farming was an extended process, which can be basically reduced to the changing balance between population and resources. In this reading the prosperous existence of broad-subsistence early Holocene foragers was compromised by a continual demographic growth, which asked for subsistence intensification through integrating secondary or tertiary ranked resources (e.g. cereals).

The '80's brought important changes to this economist model, mostly forged by the early advocates of the post-processual school. New models stressing the arbitrary role of cultural choices and previous social structures appeared (e.g. Bender 1978; Hodder 1982; see Hayden 2008 for a recent standpoint).

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The current range of models for the adoption of farming can actually be organized in four families: 'push', 'pull', 'social' (cf. Barker 2006: 36-38), roughly describing the proposals above, and the most recent, cognitive-symbolic. The latter stressed the ideological mutations separating foragers from farmers and implicitly the emergence of an original agricultural *Weltanschauung* (e.g. Hodder 1990; Whittle 1996; Cauvin 2000; Barnard 2007). However, despite the general agreement on the importance of ideological changes for the adoption of the new way of life, the actual succession and content of this symbolic revolution is highly debated.

It is worth reminding that the adoption of agriculture is currently happening in many places worldwide (e.g. Africa). Most anthropological models for this transformation mirror (and actually inspired) the debates in archeology. Although based on limited time-sections and often involving rather extreme societal types (egalitarian foragers like San Bushmen, shepherds with iron tool like Bantu), they are nevertheless telling for the changes involved in the adoption of farming. They appear complex and certainly entail important conceptual changes, like the symbolic appropriation of, and differentiation, from nature; a propensity for material accumulation; ideological reframing or kinship relations (i.e. ancestors' cult); theist religious ideas and magic focused on relatives on enemies (Barnard 2007; Barker 2006; Ingold 1986; Sahlins 1972). However, it is worth stressing that although contrasting, these worldviews can also be complementarily housed in the same cultural frame (Barker 2006: 406-407). There are archeological reasons to believe that this was the case in many contact situations.

The better known situation in Levant allow for a brief synthesis of main causes for agriculture's adoption (Zeder 2009): the presence of previous demographical agglomerations, at least in times of affluence, limiting residential forager mobility or fission; a gradual familiarization with several wild species, especially suited for domestication; rational searching for solutions in times of ecological stress; the existence of social structures able to stimulate food production, storage and exchange; particular cultural values built on domestic resources; a new mythological view on humans' place in Universe. Each aspect likely gained a contextual weight. Failures, drawback and preservation of mixt subsistence are definitely documented in both Natufian and Pre-pottery Neolithic's case (Price and Bar-Yosef 2010). It is, nevertheless, unwise to reduce the adoption of farming to a single dominant cause: nor Middle East (Barker 2006), neither other areas, like Central America (Marcus and Flannery 2004) support such preeminence.

In order to follow deeply the early social implications of productive economy, I will focus again on the information coming from 'classical' area in Levant, as gathered in several solid syntheses (Barker 2006; Zeder 2009; Price and Bar Yosef 2010). In this particular case, the classical landmarks of inequality (funerary patterns, domestic spaces, monumental architecture, exotics etc.) are highly visible.

The Pre-pottery Neolithic A covers the first Holocene millennium (9.500-8.500 BC). It surely brought the cultivation of cereals and pulses and the domestication of sheep and goats. Fruit trees, hunting and fishing nevertheless provided an important subsistence support. The settlements size grows ten times compared to Natufian times, reaching to 2.5 hectares. High demography (300 to 4000 persons per settlement, sedentism (200 to 400 years habitation/settlement) and storage are documented. All these changes indicate the co-presence of a reproductively viable group. Endogamy and matrilocality are highly likely in this context. Public edifices (Jericho, Mureybet III, Jerf el-Ahmar etc.) or collective semi-subterraneous house suggesting storage function point to corporate kinship groups, although the size of individual houses is generally small. Exotics (obsidian, shells, and chlorite) distribution is differentiated. Skull collection and reburial stress the growing concern with ancestors and family identity. All data suggest and increasing stress on egalitarian mechanisms as sharing in favor of private consumption. However, integrating collective ideology possibly connected to religious elite is still visible in the building of monumental places like Göbekli Tepe (Schmidt 2001).

The Pre-pottery Neolithic B (8.500-6.500 BC) brings a sharper distinction among groups in terms of material culture. Differences in the domestic architecture become obvious, like at Çayönü (Turkey). Settlements' size grows to

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12 hectares in some cases and tells appear. A stable social life focused on ceremonial centers (big settlements, caves) emerges. Estimations of 1000 to 2000 persons per settlement point to unprecedented human aggregations. Significantly, storage facilities grindstones and hearths are invariably located inside individual houses, obviously transformed into the main unit of production and consumption. While various burial places suggest stable hierarchical principles, exotics also focus in selected households. Skulls covered in clay and other paraphernalia further stress the existence of elite connected to the ancestors' cult. However, the absence of highly individualized burials still point to the still notable authority of communal values.

Summing up, the changes above show a growing complexity based on the increasing economic autonomy of the individual household, nevertheless balanced by a sense of community. By justifying accumulation and controlling the exchange circuits, the lineages' elite were most likely responsible for both trends. They are only partially contradictory: stressing through communal architecture an increasingly fictional collectivity, they built up frames for a new sociality, in which hereditary positions fixed persons for life into the birth status. Bone chemistry suggests that this ideological preeminence went quite far.

In spite of a deeply entrenched view, the economic importance of women's work and the possible crystallization of matrilineal descent did not automatically lead to a higher status for females. Physical stress on their bones is telling (Hershkowitz and Gopher 2008), while most feminine representations are at best ambiguous. However, as bull sacrifices and hundreds of zoomorphic and anthropomorphic statuettes clearly show it, a new mythology of domestic fertility is codified quite fast. Reducing their presence to the myth of a 'Mother Goddess' is nevertheless at best unwise: most feminine statuettes were found buried or abandoned among domestic residues. More practical rationales (e.g. frequency and risk involved in pregnancy) can also be envisioned for their presence (Richerson 2008).

It would be naïve to generalize these transformations to all Neolithic communities. Their demic expansion or acculturation impact encountered diverse ecological and social contexts. Actually, a cyclic picture of economic success and demographical growth, balanced by significant subsequent reduction was documented (Dubouloz 2008). In fact, in the very space of origin, a life in modest villages succeeded the Pre-pottery Neolithic B (Özdögan 2008). In the rest of foragers world, dislocation, attraction, assimilation or millennial-long living alongside in additional niches is well documented (Zvelebil 2008). Quite often, long periods of familiarization with the Neolithic package were followed by a swift and total transformation (Barker 2006).

The social changes involved were obviously not linear either. The case of linear pottery culture is eloquent. The demographic support of this cultural phenomenon in Central Europe stood in local foragers (Zvelebil and Pettitt 2008). The funerary patterns appear differentiated on gender and age (with men displaying the richest inventories). A patriarchal frame (Shennan 2008), together with personal prestige seems to have been dominating this Neolithic culture, at least initially (Jeunesse 1997). However, the pattern changes as gradual colonization put some pioneers in a better position for claiming of land ownership. Inequality between families grown as demography went up. Large scale conflicts flourished and fortifications appeared (Shennan 2008). Similar trends are documented all over Europe, including Romania (e.g. Ursulescu 2001).

To conclude, the social inheritance of the Neolithic added an important, but not necessarily the last, chapter in the emergence of human sociality. It brought a restrained mobility, a concentric organization of social world, an ideological break in relation to the natural world and especially demographic aggregations of previously unknown size. Humans had to get use to the constant presence of strangers and the 'tribal instinct' deepened (Richerson and Boyd 2001). New forms of identity (i.e. ethnic) emerged. Monitoring others became increasingly difficult, therefore power and initiative was regularly delegated to a stable hierarchy, in which personal qualities like generosity or sharing were simply replaced by material wealth or lineage position. Psychological mechanisms for dissonance reduction, like the fiction of leader's competence or good-will (Binmore 2001), became a new norm in dealing with a

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busy social landscape. In the same time, the immediate family became the essential matrix for individual identity and psychological comfort.

Despite huge regional variations, the competitive success of large hierarchical groups proved irresistible for the egalitarian alternatives: centralization, urban agglomeration and states' emergence were the most visible consequences (Drennan and Peterson 2008).

#### 4. Final remarks

Humans are social animals long before being cultural animals. For ethological reasons typical to primate social life, humans' penchant towards hierarchy toleration and escalation should be seen as biologically rooted. In a chronically unstable climate, the evolution of Pleistocene humanity oriented towards the amplification of the costly, but highly effective adaptive means provided by culture, here minimally understood as a package of information allowing for fast tracking environmental changes. Culture became a key selective actor involved in further adaptations and caused crucial changes of human biology and social predispositions.

One of the first cultural creations was precisely the original social matrix combining a high intra-group level of cooperation, food-sharing and limited individual domination, usually acknowledged as egalitarianism. Initially confined to small, kin related groups, the egalitarian matrix expanded during the Late Pleistocene towards larger groups. Several mechanisms (reciprocity, group selection, collective pressure and moral punishment) can account for this extension. Egalitarianism was (and still is) nevertheless destined to remain limited to small groups, as humans lack both the biological and the practical possibility of monitoring an indefinite number of social relations. This said, the Pleistocene demography, mobility and economy lacking any or worth-defendable surplus offered the basic conditions needed for conserving and deepening through ideological reinforcement the egalitarian ethos. In its essence, egalitarianism emphasizes collectivity's primacy over isolated individual. However, contrary to a deeply entrenched view, it does not suppose the absence of labor division and various social hierarchies. Quite the contrary seems true: sharing competence and authority to sequential hierarchies based on personal experience and prestige makes egalitarianism an effective, complex and dynamic form of social organization, requiring not only coordination, but also an active social control.

For most of the Pleistocene, there are no archaeological evidences for successful challenges against egalitarian rules. For visibility reasons, but also because of the catalysis brought about by a new adaptive niche, first proofs of an ideological legitimation of egalitarianism (e.g. funerary patterns) and collectivity's pressure (e.g. parietal art) emerge in the European Upper Paleolithic. It is perhaps no accident that the very same contexts documented also first serious challenges of this social formula. Demographic growth, superior extractive technology, increased division of labor and temporary surpluses allowed some selected individuals a more boastful behavior. These opportunistic agents were most likely already benefiting from a prestige capital as head of lineages or ideological guardians (e.g. shamans). Their long-term success was nevertheless limited by both ecological instability and age-old effectiveness of egalitarian mechanisms.

The drastic climate changes brought by the Holocene modified profoundly not only the direction of human culture, but also the frames of sociality. Strongly cumulative trends and institutionalized inequalities were selectively favored by demographic growth and technological performance. In just several millennia, social stratification makes huge progresses, reaching the levels separating the pharaoh from a most humble Egyptian peasant, while egalitarian alternatives were gradually eliminated. An elaborate ideological and material discourse is recruited in order to support the new realities, in essence as fragile (or more) than the egalitarianism itself. The focus of this ideological monitoring was and still is the Paleolithic bio-cultural inheritance. Although confined to subordinate groups (families, age classes, marginal groups, military units), or peripheral societies such as hunter-gatherers, the egalitarian norm is deeply entrenched in human psychology and will incessantly challenge the socially stratified systems.

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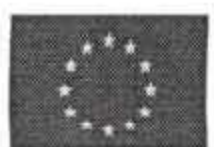
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Signature,

dr. Mircea Anghelinu

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***"Palaeoclimate in the Danube basin: from 130.000 years b.p. to historical times"***

<b>date &amp; time</b>	<b>speaker</b>	<b>topic</b>
Friday, November 19, 2010		
4:00 - 4:15 pm	welcome	
4:15 - 4:45 pm	Buggle, B.	0.7-Million years of progressive aridization recorded in SE-European loess paleosol sequences
4:45 - 5:15 pm	Újvári, G.	Constraining provenance of loess in Hungary by using Sr-Nd and U-Pb isotopes
5:15 - 5:45 pm	coffee break	
5:45 - 6:15 pm	Muratoreanu, G.	Quaternary glaciations and glacial relief in Romanian Carpathians
6:15 - 6:45 pm	Zech, M.	Reconstructing Quaternary vegetation history in the Carpathian Basin, SE Europe, using n-alkane biomarkers as molecular fossils
7:30 pm	dinner	
Saturday, November 20, 2010		
09:30 - 10:00 am	Jöris, O.	Early hominin dispersal in changing climates and environments
10:00 - 10:30 am	Iovița, R. & Fitzsimmons, K.	Linking landscape and people: the Lower Danube survey for Paleolithic sites
10:30 - 11:00 am	Anghelinu, M.	Nature vs. Culture. Some thoughts on the human/environment interaction during the Palaeolithic and Mesolithic times
11:00 - 11:30 am	coffee break	
11:30 - 12:00 am	Kels, H.	Surface soil vs. Palaeosol in loesses and loess-like sediments: Recent results from the Romanian Banat
12:00 - 12:30 pm	Steguweit, L.	News from the "old" profile of Krems-Hundssteig, Lower Austria
12:30 - 02:00 pm	lunch break	
02:00 - 02:30 pm	Szeged team	Climatic endowments of the southern Great Hungarian Plains during the past 30 ky and the question of environmental regionality in the Carpathian Basin
02:30 - 03:00 pm	Szeged team	The environmental history of the Sárrét basin, a subsidiary of Lake Balaton and its archeological aspects from the Mesolithic to the Neolithic in Transdanubia, NW

		Hungary
03:00 - 03:30 pm	Szeged team	Climatic fluctuations during the mid-Holocene (early Atlantic) and its influences on the economic transformation and settlement strategy of the first farming communities in the Carpathian Basin
03:30 - 04:00 pm	coffee break	
04:00 - 04:30 pm	Lisa, L.	Relationship of magnetic susceptibility with sedimentological and micromorphological features,....case study from Last Glacial loess deposits in southern Moravia
04:30 - 05:00 pm	Wiesenberg, G.	Molecular proxies in terrestrial sediments and paleosols for the assessment of paleoenvironment and anthropogenic activities
05:00 - 05:30 pm	Gocke, M.	Rhizoliths demonstrate postsedimentary overprint of loess OM by deep-rooting plants
05:30 - 06:00 pm	Marković, S.	The Belotinac section (Southern Serbia) at the southern limit of the European loess belt: first results
7:30 pm	dinner	
Sunday, November 21, 2010		
09:30 - 12:00 am	Discussion, research strategies, potential funding sources	