

HUMAN MIGRATORY FLOWS AND GREAT MIGRATIONS SINCE THE ORIGINS: PALEOANTHROPOLOGICAL AND CULTURAL APPROACH

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Ten million years ago the European territories were covered with wide forests inhabited by Primates coming from Africa, before the humanization started from bipedism.

In the African regions bipedism increased the chances of migrations, in particular in the open environments, in pursuit of life resources.

In the case of man some other important elements come along: the curiosity and the wish to know new places; this behaviour is known in the animal world too, but among humans it assumes a different meaning. Man puts questions, makes projects for his travels or migrations. The history of man is a history of migrations from the African cradle towards Eurasian regions.

In an evolutionary view the cradle of man was in Africa because of its phyletic relationship with non human African Primates.

Man is an ecumenical species. Its migrations are not only dependent from the subsistence. They have cultural reasons too. Culture represents mediation between man and the environment and has an adaptive meaning.

Culture is the main reason for the success of the human species in competition with the other living beings and the physical environment.

The adaptation to the environment is genetic and phenotypic. But in humans the phenotypic adaptation can be physiological and cultural.

As noticed by Dobzhansky (1973): “ *While other living beings realize the adaptation to the environment by changing their genes, man gets the same result by changing, in*

prevalence, even if not exclusively, the life environment to put it in harmony with self genes”.

Culture envelops every man's behaviour; its contents neither depend on nor are linked to a particular function. Montagu (1967) defines culture as man's adaptive dimension. We proposed to define culture as *man's ecological niche*”, because it joins and influences the genetic and structural adaptation that characterizes the relation of a species with the environment (1993).

Human migrations can be studied by different approaches that can integrate each other.

- a) palaeoanthropological approach, based on the study of skeletal remains;
- b) bioarchaeological approach: which deduces information about the behaviour, life style, diet and health out of skeletal remains;
- c) cultural (archaeological, prehistoric, historic) that refers to the products of human activity and shows the presence of man in different periods and territories;
- d) Genetic and bio molecular, based on the study of genetic polymorphisms and DNA analysis in human living populations in order to reconstruct possible phyletic relations among populations. Ancient DNA can be analyzed in the skeletal remains, as it is experimented by numerous researches on protohistoric populations and on the Neanderthal man too.
- e) Linguistic approach that refers to similarities among the languages.

Our communication refers to the paleoanthropological and cultural approach.

First of all we can ask if the migrations were slow, non-directed, or great migratory flows.

We think that in the long periods of Palaeolithic the migrations interested small groups. The relationships with the territory were provisory and linked to available resources. The wide spaces and the sources of the territory allowed migrations of

little groups. In case of favourable conditions the diffusion was easier and consistent in time.

In Neolithic period the situation changed in relation with the agriculture and breeding. In that period the migratory flows became more consistent in order to conquer territories and settle there. At the end of Neolithic and in historic age, in some regions, as in West and Central Asia, particular forms of pastoral nomadism and seminomadism, that characterized the migrations, are to be mentioned.

Migratory flows from West to East and vice versa are documented in West and Central Asia. In this lecture we like to present some considerations about this topic too.

The first humans

The divergence between the line of Apes and Hominids goes back 6-7 million years ago in Africa. *Orrorin tugenensis* and may be *Sahelanthropus* are nearly to the point of divergence. Afterwards since 2,5 million of years we find different species of *Australopithecus*.

The first specimens of the genus *Homo*, named *Homo habilis* and *Homo rudolfensis*, come from East and South Africa 2,5 million years ago. Around 1,6 million years ago *Homo ergaster* is documented and later on *Homo erectus*. According to recent views *Homo habilis* and *Homo erectus* were contemporary for some time.

The archaic form of *Homo sapiens* goes up 150.000-100.000 years ago in Africa.

Out of Africa towards other regions

In very ancient age man went out of Africa towards West Asia and Europe.

The Dmanissi remains, in Georgia, attest the presence of a specimen of the genus *Homo* with intermediate characteristics between *Homo habilis* and *ergaster*, 1,750.000 years ago.

Later on other human migrations probably took place through Europe with *Homo erectus*.

The presence of man in Asia is much ancient and documented in East and south-east regions, where the absence of bifaces suggests a migration from Africa before *Homo ergaster/erectus* realized the bifaces.

In any case we find regional forms in low and middle Pleistocene in Europe as well as in Asia.

In Europe some skeletal remains are documented more than 1 million years ago, as recent discoveries at Atapuerca in Spanish point out. The fossils from Atapuerca (Grand Dolina) and Ceprano (Italy) go back to 800,000 years ago.

The human lineage in Europe developed in *Homo heidelbergensis*, ancestors of Neandertal, that had its evolution and wide spreading in the European regions for some hundred thousand years.

Around 100,000 years ago Neandertal man migrated from Europe to West Asia.

The extinction of Neandertal goes back to 37,000 years ago when the modern man, coming from Near East and Africa (where it was present 100,000 years ago), reached the eastern European regions and replaced Neandertal.

The causes of the extinction of Neandertal are not clear yet.

As far as Asia is concerned man reached the regions of Far East in low Pleistocene and there had an independent evolution. From East Asia man reached North America and Australia around 30,000 years ago.

In the Palaeolithic period can be admitted many migrations from Africa to Europe in different times. These migrations became more frequent and intensive in the Upper Palaeolithic in relation to the development of lithic culture.

In Neolithic period the migrations assume major dimensions, new motivations and have new consequences in social life. The Near East is the main centre of spread towards Europe and Central Asia. There were migrations of both peoples and cultures.

Relationships between biology and culture

There is not a close linkage between biology and culture, because culture can spread without human migrations. But in the ancient periods of Palaeolithic the main cause of cultural spread was the demic migration. Man brings its tools for the hunt or better brings the technique to produce them.

The origin of a culture in a territory is normally linked to the arrival of man in the territory. The first lithic culture, that is the pebble culture is present in much ancient deposits.

The new techniques are linked to the spreading of a human group..

For example, the origin of bifaces goes back to *Homo ergaster/erectus* in Africa and spread in other regions, particularly in Europe. But in south east regions of Asia this culture is not present or rare, because the peopling of these regions started before *Homo ergaster/erectus* realized in Africa the bifaces, as we noted.

The migrations from Africa to Europe can explain the resemblances in the low Palaeolithic in Africa and Europe (Desmond Clark, 1987).

With regard to the origin of Levallois technique some Authors propose a center in South Africa, from where it spread in other African regions and Europe. (cf. Boeda, 1986).

The origin of a culture in a region is not always linked to the arrival of a new human group. A local evolution can be supposed. But in the low and middle Palaeolithic it is probable that cultures spread with the human migrations. When in some populations the physical similarities joint to cultural ones, we can suppose some phyletic and cultural relationships.

But in the case of Upper Palaeolithic and Neolithic the spread of human groups became easier and the cultural contacts among populations increased too.

Moreover it is possible an independent development of particular cultural traits, with possible phenomenon of convergence, either for an improvement of the technique or an adaptation to the same environmental factors. In these cases the inventive capacity of man comes on.

As we remarked, the similarities among cultures can be referred either to the spread of humans or to the spread of cultural traits. In this topic the chronology assumes a particular importance, because a contemporary cultural manifestation in different regions can suggest an independent origin.

In the same way if a culture develops in following times in near territories we can suppose a spread either of peoples or of the cultural traits. In this case the chronological gradient in the appearance of the culture assumes a particular importance, as well as the anthropological resemblances among the populations. It is the case of the Neolithic spread from Near East to Europe. For these regions either demic or cultural spread from the Near East is admitted. In fact we observe an increase of differences either in the appearance of culture or in the genetic polymorphisms from Near East to Central and North Europe. (Ammerman and Cavalli Sforza, 1986; Cavalli Sforza L.L., Cavalli Sforza F., 1993).

Which are the causes of migrations?

It is reasonable to think they have been different in the time.

For the Paleolithic man we can suppose the searching of new resources, that is opportunistic reasons, but the curiosity also can have influenced the human migrations.

In Neolithic there are other reasons: the conquest of new spaces, the spread of the supremacy in other territories. In this period the models of migrations are either demic or cultural, as we remarked.

For the protohistoric and the historic periods the great migrations are linked to the demographic increase, to socioeconomic factors, to the politic expansion and, in some cases, to the pastoral nomadism or seminomadism.

The main consequences of migrations interest either the biological or cultural level.

In particular it is possible a gene flow with a hybridation of different populations. But the consequences are also for the relationships among cultures, with the possibility of acculturation, integrations and deculturation.

Some anthropological researches in Central Asia populations

An interesting case is presented by the central Asia regions, in particular Kazakhstan.

Anthropological researches carried out on different ethnic groups of Kazakhstan and Kirghizistan pointed out the intermediate position of Kazakh people between Europoid and Mongolic types as regards to the somatometric traits in the skull, in the dermatoglyphics and odontochacters (Ismagulov, 1982, 1998; Ismagulov and Ismagulova, 2008).

The same conclusions have been reached by the study on the genetic classic polymorphisms and haplogroups mitochondrial DNA by an anthropological team of the University of Bologna in collaboration with a Kazakh team in a research on Kazakhs, Kirghiz and Uigurs . (Pettener et al., 1996; Luiselli et al., 2008).

The genetic characteristics of the examined central Asia populations can be explained on the light of the peopling of Kazakhstan that is marked by migrations connected with the pastoral nomadism and seminomadism in both direction west to east and east to west. The pastoral nomadism is linked to breeding, the seminomadism either to the breeding or to the agriculture.

In particular the presence of the europoid type in the skeletal remains of the collections of bronze age in Kazakhstan has been observed and suggests a migration from West Asia to East. (Ismagulov, 1992, 1998; Ismagulov and Ismagulova, 2008). The situation changes in the last centuries before Christ and in the first millennium A.D. , when Mongolic traits increase, in particular in the skull. This is to be connected with migrations from East Asia to Central and West Asia.

These migrations would have favoured a mixture of anthropological traits that has been fixed during the time and in different grades characterize the living populations of the Central Asia. Now these populations are referred to the turk-mongolic type.

This interpretation agrees with the conclusions obtained by the analysis of mitochondrial DNA in ancient samples of teeth discovered in different places of Kazakhstan and referred to different ages (Bronze age, Iron age, Medieval age). The results have been compared with other analysis of mitochondrial DNA in living populations of Central Asia. The living populations are different in comparison with the ancient groups of bronze age lived before the seventh century and do not share some europoid haplogroups present in bronze age. (Lalueza Fox et al. 2004).

In conclusion, palaeoanthropological and cultural approaches, in correlation to bimolecular data, can contribute to our knowledge about the migrations in prehistoric and historic times.