

CURRENT DATA ON THE ORIGIN
AND DIVERSITY OF PEOPLES:
THE CONTRIBUTION OF GENETICS

It is not easy to understand the history and origin of the different peoples of today's world inasmuch as scientific data are partial and seemingly contradictory. These roughly fall into three categories:

– prehistoric data are remains of cultures and human skeletons. They allow us to affirm that such and such a region was inhabited in such and such an epoch. Their absence, however, means nothing, and they hardly permit the attribution of a biological origin to the peoples of the past because of the rapid evolution of the forms and dimensions of the skeletons during the course of time;

– present genetic data give an interesting picture of the biological relationship of peoples and of the way they diverged throughout history. Their interpretation is delicate, however, especially when it concerns small populations;

– “biometric” data involve the measurement of pigmentation, dimensions and proportions of the body and organs. They are

Translated by Jeanne Ferguson

susceptible to very rapid variations during the course of history and mainly give an indication of the adaptation of the people to a certain kind of environment: tropical, temperate, cold or arctic, plain or altitude, forest, savannah, prairie, steppe or desert.

Therefore, to understand the history of populations, we must first consider the genetic relationship between peoples, then the scale of time of evolution and, finally, the local adaptation of the physical characteristics (color of skin, dimensions and proportions of the body, physiological characteristics). This last, in particular, the result of rapid evolution, cannot in any way allow the large-scale reconstitution of the history of peoples.

Without going into detail on these subjects that have been treated elsewhere⁶ we give here the principal results of present research:

- the first men who may clearly be connected to our species date from 1.6 to 1.8 million years ago. They lived in South and East Africa, no doubt also in Europe (worked stone in Auvergne) and seemingly in eastern Asia;

- several races, subspecies or species of man (we cannot be precise about their level of differentiation) have peopled all the Old World from that period up until today. Because of the differences between the populations, the oldest known types (*Homo habilis*, *Homo erectus*, [Pithecanthropes]) do not seem comparable to present-day man. The Neanderthals, much closer to us (–120,000 to –35,000), disappeared either through extinction or through “dilution” within present peoples.

- present racial groups seem to have diverged among themselves 100,000 to 180,000 years ago, at the most. Everything leads us to believe that the first divergences were between a Western group and an Eastern group;

- the present black African group (including the Pigmies) seem to have appeared later (–30,000 to –20,000) through emigration from the Western group;

- the Melanesians and Australians, then the American Indians, finally the Malays and the Eskimos and Polynesians appeared by means of migrations from the Eastern group;

- the Bushmen present a mixture of black African characteristics and others, some of which evoke the Eastern group. It is possible (but not certain) that their ancestors made up a first wave in the peopling of Africa, before being exterminated by the Bantus and then the Europeans;

– the peoples of the intertropical zone have dark skins and are short in stature (especially in the forest) when they have remained for a long time (some tens of thousands of years) in that environment;

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– the peoples of the cold and temperate zones have medium-colored skins, becoming lighter when the latitude increases. Their average height increases from the tropics to the northern part of the Old World and North America, or as far as the southern part of South America, except in the very cold zones;

– the people of the very cold zones (Arctic, Siberia, the high mountains of Asia and America) are generally small, with short limbs and a thorax that is often very large at high altitudes;

– the populations of the hot deserts are often tall and slender;

– it is clear that the so-called races of earlier anthropology (Black, Yellow, White) based on the color of skin and the dimensions of the body have no meaning in the history of peoples. For example, we find “blacks” in the Eastern group (Melanesians and Australians) as well as in the Western group (southern Indians, Sri Lankans and, naturally, black Africans);

– everything leads us to believe that it is improbable that there was any rapport between the present racial groups, appearing less than two hundred thousand years ago, and those of the Pithecanthropes known between –1.6 million and –200,000 years or less. This hypothesis, however, cannot be tested because of insufficient data.

For the most part, these data are the result of discoveries in genetics made during the last ten years. The apparent contradiction between these results and those of classic anthropology may be resolved by the fact that the latter was only interested in external physical characteristics of the human body: form, dimension and pigmentation. Exposed to the demands of the environment, these characteristics rapidly evolved because of climate, sun, altitude and other local conditions of the physical surroundings. On the contrary, genetic characteristics, generally neutral with regard to the environment, evolved because of migrations, divisions and mixing

of peoples. Thus, their distribution is not the result of local adaptations but the consequence of the recent peopling of the earth. Up until now, they give us the best possible picture of this fact.*

THE YELLOW GENES OF THE BLACKS

The biology of human populations is certainly one of the sciences in which new techniques and the new data they bring are the most useful in supporting old ideological and political quarrels. The tenacity of certain South African anthropologists in finding scientific alibis for apartheid or the obstinacy of Anglo-Saxon racist psychometricians in justifying their prejudices concerning racial differences in aptitudes by a foundationless “genetics” are excellent illustrations. Closer to us, the journalists—“scientific” or not—of a large Paris weekly, direct heirs of the Nazi eugenic tradition, do not hesitate to take possession of this literature or to use, deforming them as necessary, the spectacular proclamations of burgeoning sciences or pseudo-sciences, the best example of which is socio-biology.

Our intention here is not to analyze the conscious or unconscious misappropriations of science for ideological ends but to show how scientists of good faith, and not militant, have often slanted the new data they gather on genetics of human populations, without realizing it. We will limit ourselves to the question of the description of human genetic patrimony in terms of race.

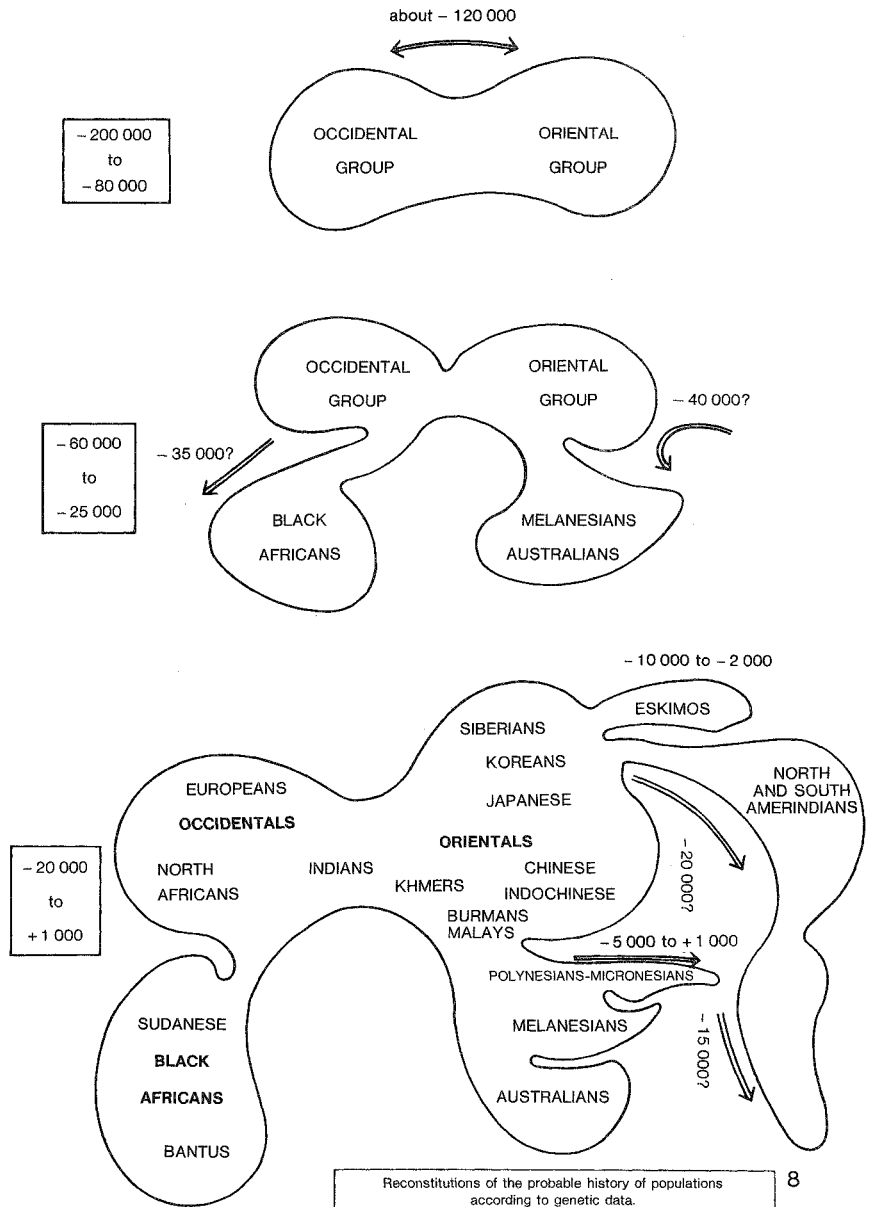
An old argument

In the 18th century there was permanent confusion between the terms of race and species, and it is still found as a literary form or in non-scientific texts. The transposition of the classifying logic of Linneus at a lower level to that of species led Buffon, the first, to consider in 1749 that it was “convenient” to use the term race to

* The preceding pages are the summary of a lecture given in September 1983 in Geneva, during the *Journées d'étude de la Conférence secondaire*.

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designate “certain human geographical groups”. From its origin, this “convenience” was opposed by Blumenbach (1775), because it risked “creating in the mind entities that do not exist in nature” and by Herder, whose clairvoyant quote is memorable (1784):

“The term *race* refers to a difference in origin that does not exist in man... physical types interpenetrate and follow hereditary characteristics and are in the end only shadows of a broad image that extends over all the ages and all continents”.

The two centuries that followed brought only repetitive technical arguments to this controversy until the 1960s, which saw accumulation of truly new facts.⁴

We may summarize the “affair” of races as a scholarly argument between the typologists-systematicians and the populationists: many authors however (for example, Darwin) had an ambiguous and fluctuating status between the two kinds of positions.

For the typologists, classification preceded the description of evolution which, in its turn, justified classification. This approach had great success in animal and vegetal systematics and thus was transposed into human biology.

For the populationists, there was no similarity between the level of species, endowed with the interfecundity criterium, and the inferior levels, lacking in all objective criteria of classification. The description of a population must take as much into account its variation (polymorphism or variance) as the virtual means and set aside subjective “types”.

The activity of the typologists consisted, and still does, in multiplying the classifications of humanity going from three to more than four hundred races; these classifications are inconsistent among themselves and primarily depend on the nature of the criteria used, their hierarchies or equilibrium, and on the classification techniques employed.

The activity of the populationists was expressed through development of the genetics of populations and biometry, as well as by the permanent debate on the activity of the typologists.

It would be dishonest not to emphasize the simplistic formalization of this summary. We must point out that many typologists had as a project to arrive at “natural” systemics through populationist methods, particularly through biometry. The fundamental difference between the two schools was thus not in the nature of

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the object of research or the methods of analysis but in a gratuitous wager on the results of that analysis.

For the typologists, the difference between peoples was such that the variation between individuals of the same people only represented slight fluctuations around a type to be defined.

For the populationists, the variation between individuals of the same people could quite well be of the same order as the systematic differences between peoples; from that, the variations in different peoples were superposed, making the definition of types arbitrary and illusory.

Mendel disregarded

Mendel's laws, diffused toward the end of the 19th century, required several decades to be unanimously considered as applicable to man and to *all* his biologically inheritable characteristics. The discovery at the beginning of this century of Mendelian transmission of the blood groups ABO, since it was unique and did not lend itself to racial differentiations, was long considered as anecdotic. It was a "particular case" that in no way implied that the theories of the genetic recombination and genetic polymorphism discovered in *Drosophila* were applicable to man. However, the knowledge was there, man obeyed the Mendelian theory, as does any sexed species; there could thus be no transmission of a racial type for polymorphic characteristics when there was no absolute genetic isolation of peoples.

Human genetic variability could only define by type at the level of genotype and phenotype of an individual, defined by the groups of genes and the characteristics they determined. A people was only a collection of disparate individuals, a sampling of possibles that could not be compared to another sample except at the statistical level.

Even biologists that in other areas were endowed with an astonishing clairvoyance (such as Alexis Carrell in 1935)² understood nothing of what seems obvious to us today, the notion of transmission of type appearing so unquestionable to them.

As we have mentioned elsewhere⁵ what today defines races for the man on the street (and for the scientist who has not always

lived in his laboratory) is the comparison of individuals who are physically and, most often, culturally different.⁷ Differences in behavior, language, clothing and activities are integrated with the perception of physical differences. For the average French person, a “Black” is a native of a former colony who dances to the sound of the tom-tom, who wears a woolen cap *à la mandingue* and boubous, who speaks an incomprehensible language full of vowels and who smiles like “Banania”, who cleans the streets and does not dare look one in the eye when spoken to. Sometimes he may even have a dark skin...

The globality of this view partly explains why immunologists and molecular biologists, who have made the most fundamental discoveries in human biology during the last twenty years, are often completely misled in the interpretations of their discoveries. For them, the idea of type is not even discutable, and their discoveries would only confirm this.

1960-1975: the first immunological revolution

Long isolated, the discovery of the blood groups ABO was followed, before and during the war, by that of other groups carried by the red globules, such as the Thesus system. It was only in the 1960s however, when there was the parallel discovery of “seric groups” (blood groups of serum), that a systematic study of the variations of these characteristics in the peoples of the world was begun.

The term “hemotypology” chosen by the French champions of this discipline clearly sets forth its aims: the blood type of peoples was going to be established, the Blacks, Whites, Yellows and others were going to be differentiated in detail using a pipette of blood. The publications of the time are full of “yellow”, “black” or “white” genes that appeared after about thirty of these pipettes hastily sent from the Ivory Coast or Mexico showed phenotypes that were not usual in Europe or the United States. A methodologically serious consequence was that rare exotic types, evidenced by expensive serums or difficult manipulations, were looked for only in the samples in which they were certain to be found, which served to reinforce the dogma of their absence in populations in which they had not been looked for.

Another activity of the time was to search for analogies between widely-separated peoples who could have had a common origin.

The Thor Heyerdals of hemotypology thus looked in vain for proof of the Polynesian colonization of South America and quickly found black African genes in the Melanesians with dark skins and wooly hair. This last “discovery” was rapidly quashed, the black Melanesians having essentially “yellow genes”.⁶

In the 1970s contacts began between anthropologists and immunologists that brought about the renaming of black, yellow and white genes—negroid, mongoloid and caucasoid—which is just as erroneous but diverges less from the history of human peoples. In fact, it was the extensive inquiries made at this time on blood donors or for the study of local differentiation by the geneticians of populations that would definitively take away the color of genes: black or yellow genes were found in Normandy or in the Pyrenees, and the Senegalese deep in the bush could show up to ten percent of “yellow genes” or “white genes”. Genes therefore had no more color than silver has a smell!

The new picture of genetic variability in humans that stood out was therefore that of genes, most of which are present everywhere but with variable frequency according to the location. This pointed up the probability of genetic exchanges between present human groups throughout their history and reinforced the hypothesis of a recent origin for racial differences: at the most 200,000 years, according to Nei and Roychoudhury.⁹ On the opposite side, the “classical” anthropologists¹⁰ and their racist supporters opted for more than a million years, which allowed the Whites to establish their superiority by attaining the stage of *Homo sapiens* earlier and independently! Aside from all moral or philosophical positions, this “polycentric” theory does not rest on any serious reasoning that takes our knowledge of genetics into account.

1975-1980: the uniqueness of the individual

The discovery of immunological groups of cells (the HLA system) explaining what had been suspected since 1935² with regard to research on the compatibility of grafts, made this idea known. It is confirmed by present discoveries on the variations in structure

of the desoxyribonucleic acids (DNA). Certain genetic systems have such a variability within any population that it is practically impossible to find two individuals who are genetically similar, with the exception of identical twins. One consequence of this individual diversity is that most genes or combinations of genes are rare in populations, as proposed by Ewens following theoretical models.³ In practice, the result is that we cannot affirm the absence of a gene or combination of genes in a population, unless all its members are tested, which is obviously never the case. Moreover, many occurrences remain inaccessible to measurement because analyses are expensive and the samples studied are insufficient to represent populations for rare characteristics.

We have nevertheless seen new teams of “cytotypologists” scour the world in search of samples of some dozens of persons and proclaim the existence of yellow, black or white genes in the HLA system or, such as *La Recherche*¹ took up too quickly in mitochondrial DNAs. Not only is such information false; because of its apparent modernity it considerably reinforces old prejudices that are very difficult to eradicate from the collective subconscious. The genetic uniqueness of the individual, the non-transmission of type and the structure of human genetic diversity are certainly the ideas that are more contrary to intuition and public reports than the rotation of the earth on its axis. The genetics of peoples, which underlies everything, is assuredly too technical a science to be mastered without a formation by molecular biologists or journalists, even cultivated ones. Unfortunately, specific formations in this area remain confidential. Everything concerning racial characteristics or genetic differences is practically silenced at all levels of education, as though the content of such teaching still risked awakening a new scientific racism, while the most recent discoveries on the subject can only destroy its foundations.

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