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In the strands of history: The Gene Odyssey.

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- 1 “Who controls the past controls the future; who controls the present controls the past”. George Orwell’s famous phrase, taken from his *magnum opus* “1984” and quoted by Évelyne Heyer in her book *L'odyssée des gènes*, seems to perfectly illustrate the general point of view of this anthropologist of genetics’ work: writing and interpreting the history of humanity –including the history of our genetic heritage– is a matter of power. Dr. Heyer takes us on a 7-million-year journey through DNA strands and, by the end of the book, we have learnt some valuable lessons for an up-to-date understanding of our history. In doing so, the author delivers significant tools for power redistribution concerning both the writing of the past and that of the future.
- 2 The book, which has a clear and lucid style, is the result of years of individual and collective fieldwork dedicated to the study of the components, variations and forms of social expression of human genes as well as the impact of our behavior on our genetic load. Drawing on the results of multiple personal surveys as a professor at the *Muséum national d’histoire naturelle* and on literature from different disciplinary backgrounds (linguistics, musicology, epigenetics, archaeology, ethnology, demographic history, etc.), the anthropologist proposes an analysis which contributes to overcome the “nature-culture divide” (Descola 2005). The book is organized in five parts dedicated respectively to (1) the description of the process that led humanity to separate genetically from chimpanzees; (2) the study of the first geographical explorations carried out by “modern man” from his cradle in Africa; (3) the analysis of the effects of Sapiens’ “taming” of nature, namely through the development of agriculture and

livestock farming; (4) the process of domination by a few human groups over others and its consequent reshaping of geographical boundaries and cultures; (5) and, finally, recent scientific findings in genetics dating from the 21st century.

- 3 An ambitious work, combining both scientific rigor and accessible language, *L'odyssée des gènes* tackles diverse and complex themes while clarifying certain myths. The book thus highlights the relationship between our genetic architecture and the functions of our body ("less than 5% of our genome is linked to a *specific* function", p. 27, "the one gene/one function paradigm is over", p. 35); it indicates that genetic and cultural backgrounds are not always associated in a corresponding manner ("strong genetic differences may be associated with cultural similarities or the opposite", p. 100); and it gives examples that explain how environmental transformations, behavioral changes and DNA mutations overlap (i.e. when humans start drinking milk between the ages of -65,000 and -50,000, and develop a tolerance to lactose, or, more broadly, when they develop agriculture or animal husbandry, moving on to consume products that will, over the centuries, shape their biological functioning).
- 4 Likewise, the book gives us many other important elements to understand the genetic foundations of our linguistic, sexual and migratory practices. Firstly, the author explains and analyzes the complex links between geography and languages or between languages, social relations and religion, for example, p. 209-219; secondly, she explains how phenotypical traits come into play in the practices of seduction between men and women –unfortunately, adopting a point of view that largely underlies, throughout the book, that it is women who are seduced by men without questioning this gendered perspective; and, finally, the entire book can be read as an expedition following in the footsteps of Humans as a migratory species (although the maps used in some chapters adopt an Eurocentric view of the Earth's geography). Similarly, the results presented by Dr. Heyer exposes the way in which these practices affect the genetic inheritance we leave behind. While the book presents scientific evidence on the factors and mechanisms of genetic differentiation, it also provides key elements for an interdisciplinary approach of social differentiation.
- 5 From this perspective, the racial issues addressed in the book are a particularly rich example. First of all, because Dr. Heyer underlines scientific paradigms which are still debated within French society (and elsewhere), particularly with regard to the definition, whether biological or social, of race. For her, race is not a biologically or medically valid category "because the appropriate subsets for medicine and racial or ethnic groups do not overlap" (p. 299). Furthermore, "*Thanks to DNA*", she says, "we know without a doubt that our origin is African, that we are 99.9% identical and that there are few genetic differences linked to our geographical origin" (p. 297). As a result, she insists, "racial categorization does not contain reliable data relating to biological information" (p. 299). This only reiterates, from a biological point of view, analyses produced by research in the human and social sciences that explores the conditions of social production of race and racism as well as the conditions of knowledge production in this field. As the author points out, the emergence and application of racial criteria in the 18th century served, first of all, to "justify the unacceptable": the categorization and essentialization of certain groups within a political project of domination and subjugation.
- 6 While the book shows a different way to read the past –although the publisher awkwardly invites the reader on the back cover to "embark with the African slaves

from their countries of origin”–, Dr. Heyer also guides us towards future perspectives on race/gene debates. In this sense, the case of DNA-based “origin tests”, which are currently in vogue in many countries, seem to represent, somehow, a “re-biologization” of race (our lecture). Beyond the ethical issues raised by the collection, storage, processing and marketing of genetic data, the dissemination of these tests is part of a political process of narrative construction and power struggle. On the one hand, these techniques for tracing genetic inheritance (which are, according to the author, “recreative” and have no scientific reliability) symbolically fill in the gaps of an erased or blurred part of the history, especially the history of African-descendent people that are, therefore, looking for reconstruct their past also through biology –a topic that was discussed by the American sociologist Alondra Nelson in her book *The social life of DNA* (2016). On the other hand, in a context of rising nationalism, such tests may also support “racial identities” that, again, serves as a basis for hierarchization and segregation.

- 7 In the last chapters Dr. Heyer explores several questions related to forced migration, health and climate change. The author does not establish a clear relationship between these fields, but her reflections on international migration (North-South, North-North, South-South and South-North) actually addresses topics that are situated at the crossroads of biology, citizenship and racial categorization. In this regard, her arguments could help to improve the analysis of problems like medical procedures for recognizing the status of “minor” for young asylum seekers. In this case, bone tests are used to determine biological age within a procedure that mixes social norms relating to height, phenotype shape and children’s behavior –particularly African and Middle-Eastern children (Souffron 2019). In the same vein, his analysis of how forced migration –and migration of its underlying genetic load– from Africa is related to predisposition to some diseases (sickle cell disease) or, conversely, protection from others (malaria) in Central America today. Following this debate and focusing in this region, Heyer’s analysis raises a question about the genetic legacy that will be left, for example, to Martinique and Guadeloupe populations, where the fauna, flora and bodies suffer the deleterious effects of the long use of the pesticide chlordecone which will still last for centuries in this area (Ferdinand 2019). This is certainly a weak hypothesis, considering that genetic mutations take thousands of years to be realized, but following Dr. Heyer’s work, we could ask: what genetic fingerprint will be left in the Antilles taking into account the human intervention in this territory? More widely, on a global scale, how climate change will affect the future of *L’odyssée des gènes*?
- 8 As Dr. Heyer argues, “genetics produces data, explains the mechanisms involved, but it is the point of view of morality, of the social norms at a given time, which assigns or does not assign a certain value to the differences between our DNA” (p. 298). Concepts, data and theories collected and analyzed in this book are, therefore, important scientific and political tools to engage the moral and normative changes that our societies need. Although it is not a book on race, the contributions of *The Gene Odyssey* on the subject can be useful in improving the debate (scientific and public) on the field, especially if read from an interdisciplinary perspective such as the one proposed by Dr. Heyer.

BIBLIOGRAPHY

Descola, Philippe. 2005. *Par-delà nature et culture*. Paris: Gallimard, Bibliothèque des sciences humaines.

Ferdinand, Malcom. 2019. *Une écologie décoloniale. Penser l'écologie depuis le monde caribéen*. Paris: Le Seuil.

Nelson, Alondra. 2016. *The Social Life of DNA: Race, Reparations, and Reconciliation after the Genome*. Boston (Massachusetts): Beacon Press.

Souffron, Valérie. 2019. "La mal-mesure de l'âge." *Socio-anthropologie* [on line], 40, posted on January 8 2020, accessed on décembre 30 2020. URL: <http://journals.openedition.org/socio-anthropologie/5808>; DOI: <https://doi.org/10.4000/socio-anthropologie.5808>.