

Book Review: Barbujani, G. *Come eravamo. Storie dalla grande storia dell'uomo*; Laterza: Roma-Bari, Italy, 2022; ISBN: 9788858148785

Alberto Castaldini *

Faculty of Greek-Catholic Theology, Babeş-Bolyai University of Cluj-Napoca, 400347 Cluj-Napoca, Romania

* Corresponding author. E-mail: alberto.castaldini@gmail.com (A.C.)

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Guido Barbujani (1955), professor of genetics at the University of Ferrara (Italy), has been working on the origins and biological evolution of mankind for more than thirty years, focusing his research on genetic aspects and differences of human populations. In the past, he has developed statistical methods to compare genetic and linguistic data, showing how the concept of race is inadequate in representing human diversity.

In addition to his academic production, Barbujani published several popular science books, stimulating interest in science among the great public. This book falls into this category, but only in terms of language: its contents are up to date with the latest scientific literature. The subtitle of the book is the most effective summary of its contents. Its keyword is: “stories”.

In the book, Barbujani proposes a scientifically effective narrative about the origins of mankind by relying on three categories of data: the palaeontological data of fossil records—thanks also to Giorgio Manzi’s advice, professor at La Sapienza University in Rome; the genetic data and the ‘figurative’ data provided by the reconstruction of our ancestors’ appearance thanks to the hyper-realistic statues of artists such as Élisabeth Daynès or the brothers Adrie and Alfons Kennis.

Narrative is a necessary way of representation in palaeoanthropology, because in the paucity of palaeontological and archaeological data, the reconstruction of mankind’s most distant past relies on the reading of DNA, taken both from ancient human remains and from living individuals. The interpretation of data must therefore be expressed on a discursive level, in a conceptual and at the same time narrative framework. Comparison of data, conjectural method, and genetic evidence, through narratives, make possible partially to annul the time gap between one ‘proof’ and the next. The artistic representation of our ancestors’ faces stimulates in turn our curiosity and satisfies our need to ‘tell and represent stories’. Guido Barbujani did so in his book. Therefore, thanks to his perception and through his narration, author’s representation of the past can coincide in whole or in part with that of the reader, obviously within the scientific perspective guaranteed by a long research activity.

For example, at the beginning of the book, Barbujani makes an excursus on the origin of his surname and his family roots in north-eastern Italy. This story within his ancestors is very significant. Some of these genealogical narratives are supported by archive documents, others by generational ‘stories’. Within this family framework, made up of multiple backgrounds, is rooted a genetic tree that is on the one hand extremely branched, on the other hand shared (as it is for each of us). In archaic times, if it’s little known on the historical level, it’s more analyzable on the biological one. The great merit of this book lies in this narrative-scientific perspective applied by Barbujani to human evolution.

Each chapter is introduced by a reconstruction of our ancestors, which introduces the reader to the evolutionary step on a visual level. The reconstruction contributes to the narrative, like a figurative conjecture. The progressive definition of the family tree adds details to the ‘gallery’ of portraits. This is the case of *Homo georgicus*, discovered at Dmanisi site (Republic of Georgia), characterized by five skulls with significant differences not only in size but also in morphology. This has led to the hypothesis that the remains belong to five different species. Hence two hypotheses: the coexistence of different species or the presence of strong differences between the members of the same species. But the skulls of Dmanisi reveal to us not only their shapes, but also their behaviour, perhaps the emergence of a social ethic expressed in the care for one another. One of the individuals was indeed toothless but lived long enough to be fed by his fellows (Barbujani, pp. 38–39). Daynès’ artistic reconstruction of Dmanisi shows us an expression of astonishment: typically, human emotionality. Similarly, the Kennis brothers have created a reconstruction of *Homo erectus* for the Natural History Museum in Leiden (Netherlands) that shows a witty expression, an ironic look (Barbujani, p. 47). But it is a work of pure fantasy, not because we have too few remains from Java, but because it makes a bold leap from anatomy to emotional definition. With *H. heidelbergensis*, the theme of care is reaffirmed, due to the presence of craniosynostosis in the skull

of a child found at Atapuerca (Spain), but, despite this, lived to the age of five (Barbujani, p. 62). Morality is considered as an evolutionary datum at the basis of a fruitful genealogical branch, i.e. ours. The reconstruction of his face attempts to fix this emotional fact.

Barbujani's book deals with the question of *H. neanderthalensis*: evolutionary characteristics, coexistence with Sapiens and extinction. In the narrative, Neanderthal doesn't seem all that is *H. sapiens*: clever, beautiful, and ruthless. Aesthetics are subjective, and social behaviour can also be questionable, but for many expressions of Neanderthal's everyday life we are dealing with sapiens' same behaviour. Did they share common behaviours for imitation or for evolutionary reasons? This is difficult to establish, although some scholars—e.g. Milford Wolpoff—have in the past already hypothesized *H. neanderthalensis* and *H. sapiens* as belonging to the same species (they could mate with each other and produce fertile hybrids, but Barbujani, at p. 112—as e.g. Chris Stringer—suggests considering the limitations of the biological species concept). At the same time, researchers at the Max Planck Institute in Leipzig and Dresden (cf. *Human TKTL1 implies greater neurogenesis in frontal neocortex of modern humans than Neanderthals*, “Science”, 377/9 Sep 2022) have found a small difference between us and Neanderthals in the gene *TKTL1*, first responsible for neuroprogenitor multiplication: hence their cognitively inferior genetic ‘equipment’ (Barbujani, p. 77). But is that all cleverness? Certainly, the strategies that we implement in everyday life are important, as expression of more complex mental processes elaborated by the prefrontal cortex. This aspect is indicated to us by genetic evidence. However, narratological is the consequent conjecture about the quality of social relationships. For many years, the narrative of an inevitable extinction, almost a genocide carried out by *H. sapiens*, prevailed over Neanderthal. Since 2010, thanks to Svante Pääbo and his team, we know that the hypothesis of hybridization between the two groups is not ruled out: an interbreeding of which we are the extreme expression. Moreover, mestizaje is constitutive of human communities and their creativity (Barbujani, p. 111), including the aesthetic sense, with the production of objects that are not strictly useful for anything. An innovation that—as Barbujani writes—is difficult to establish whether it was due to Neanderthal or *H. sapiens* (p. 131).

Along the description of the most recent genetic discoveries, whether they support the fossil records or not, the book is progressively enriched by reconstructions of our ancestors. Such as the faces of Luzia, a sapiens from 11,500 years ago discovered in Brazil; Cheddar Man, who lived 10,000 years ago in England, and Ötzi, a homo sapiens who lived in the Alps 5200 years ago (Barbujani, pp. 139–176). In those three cases, we can find the background of a richer scenario, decidedly less obscure than those concerning hominids but no less susceptible to ‘narrative drift’. Luzia's skull, for instance, has aroused much debate, becoming a Brazilian ‘pop icon’, with socio-cultural appropriations on the themes of race, science, and society in contemporary Brazil (let us also remember Kennewick Man, dating back 8500 years and found in Washington State, USA, in 1996, initially associated with a Caucasoid morphology, at the centre of debates between state authorities and natives). Curiously, Luzia's forensic reconstruction seems very similar to the first reconstruction of Oase 2 (Romania) made by Richard Neave in 2009. The colour of skin and eyes, the shape of the hair: the artists give us hypothetical portraits that have a marked impact on public opinion, as was for the cover of ‘Newsweek’ of 28 January 1988 dedicated to the famous article on “Nature” (325, 1987) by Rebecca Cann, Mark Stoneking and Allan C. Wilson *Mitochondrial DNA and Human Evolution*: the drawing of an African-looking couple (black Adam and Eve) in the Garden of Eden.

Scientific narrative and collective imagination are closely linked, and they can produce new ‘stories’. Guido Barbujani does it with a personal, sometimes ironic style in his book aimed at a non-scientific readership, preserving both his ‘certainties’ (he is a staunch supporter of the Out of Africa model) and the conjectural approach typical of the scientist.

The palaeoanthropological narrative is neither totally objective nor free from bias because it may be affected by the cultural and political context in which it is expressed. Theories on the origins of mankind are, moreover, similar in narrative structure to mythical narratives: the process of hominization is also described with epic tones, showing the progressive development of the brain, of human speech and social relations (cf. Wiktor Stoczkowski, *Explaining Human Origins: Myth, Imagination, and Conjecture*, Cambridge, Cambridge University Press, 2002).

Every narrative about the past consequently contributes to define an identity perception of the present. It is not a Eurocentric issue (cf. the Piltdown Man fraud/tale), because also the Out of Africa model initially proposed a radical replacement of archaic sapiens by modern sapiens regarded by a simplifying narrative to be cleverer. Today, palaeogenetic studies have revealed a hybridization, and a more complex scenario, where multiple groups, both within and outside Africa, in Asia, in the Near East and Europe, have contributed to the human lineage within evolutionary and cultural processes that have progressively articulated our social nature. For thirty years, after the definition of ‘mitochondrial Eve’, the palaeoanthropological debate insisted on the African origins of *H. sapiens*, outlining a replacement model and the exclusive narrative of primitive, defeated archaic groups close to the extinction. A narrative that persists, albeit to a lesser extent in the face of a more articulated picture of the hominization process.

Michel Foucault in *Les Mots et les Choses. Une archéologie des sciences humaines* (Paris, Gallimard, 1966) explained that the act of naming is not only assigning a definition but is a form of power. So, it was for the classical taxonomy, establishing an order and a hierarchy between living beings and things, through connections, discourses, and representations. Moreover, by naming fossil remains, through observation and imagination, the scientist somehow recreates a living being disappeared (giving a face too). But this is still a narrative that aims to answer the fundamental question: what really happened in human evolution? (cf. Misia Landau, *Narratives of Human Evolution*, New Haven, Yale University Press, 1991).

This lends itself to inevitable falsifications, misunderstandings (Barbujani, p. 176) or simplifications (even geopolitically or sociologically updated) as in the dramatic confrontation between archaic Eurasian homo and modern Africans. A contrast, however, that is increasingly apparent in the light of recent discoveries. Guido Barbujani has necessarily taken these discoveries into account in his book, because scientific popularization should not propose ‘definitive’ interpretations. Human evolution remains a ‘story’ in progress.

Declaration of Competing Interest

The author declares no conflict of interest.