

## The power of 100

Nothing magical, but rather special. One hundred... “100”... is a round number that arouses a feeling of perfection. But 100 also has a particular power: with just three numbers in sequence, it can enclose stories full of meanings and insight. Like those of the (few) humans who manage to celebrate their 100th birthday, or the events that have characterized the centuries that preceded us and, hopefully, those to come.

This year we have our own 100th to celebrate: the 100th issue of the *Journal of Anthropological Sciences* (**JASS**). There are tens of thousands of scientific journals today, so what's special about ours? Is the story behind these 100 volumes worth telling?

Age does matter, no doubt. Time goes even further back than the number of volumes: its history begins way back in 1893, when **Giuseppe Sergi** founded the *Atti della Società Romana di Antropologia*, which became the *Rivista di Antropologia* in 1911. The current name was adopted in 2014. That 1893 means that the first volume of the *Atti della Società Romana di Antropologia* was published eighteen years ahead of the *Journal of the Royal Anthropological Institute* (1901), the flagship journal of the oldest anthropological organization in the world (the *Royal Anthropological of Great Britain and Ireland*), and thirty-five years ahead of the *American Journal of Physical Anthropology* (1928), now renamed the *American Journal of Biological Anthropology*, probably the most influential publication in evolutionary anthropology. Even looking even beyond anthropology, our journal may be considered as an important member of the club of the oldest scientific journals that are still active.

But the **JASS** is much more than an old scientific journal. Despite only being supported by a small scientific community, it managed to survive two world wars and the restrictions imposed on scientific activities, which were introduced by the fascist regime, particularly during the 1930s. Starting from the second half of the twentieth century, it has managed to free itself from a descriptive and racial (very often racist) vision of human diversity that had characterized Anthropology up to then, and approach the new paradigms of the discipline. Over the past two decades, the **JASS** has significantly expanded its international audience and visibility, becoming one of the most cited anthropological journals, and also the first to grasp the importance of open access and open science for a more effective form of scientific communication. While doing this, the **JASS** has developed an interdisciplinary character, opening the door to themes at the interface between nature and culture, such as the discussion of the concept of race or what specific features make us humans, without losing sight of innovative themes introduced by the growing development of genomics. This was possible thanks to the generous collaboration of a number of colleagues. Among these we would like to mention **Paolo Anagnostou** - recently prematurely deceased, to whom we dedicate this volume - together with **Markus Bastir**, **Emiliano Bruner**, **Antonio Emanuele Coniglio**, **Alan Goodman**, **Rita Vargiu** and **Noreen von Cramon-Taubadel**.

In this 100<sup>th</sup> issue, readers will not find a comprehensive overview of evolutionary anthropological research. The field has expanded so much in recent years that this would require far more articles than we can fit into a single volume. However, with this initiative, we hope to succeed in drawing readers' attention to some of the most vital lines of research in human evolution, species-specific features, adaptations and biodiversity.

The first two contributions are from two key scientists in the field of paleoanthropology. **Ian Tattersall** discusses the fundamental, though not always easy, relationship between paleoanthropology and evolutionary theory, highlighting the use of phenotypic plasticity (due ultimately to growth and development) to combine specimens with markedly different morphologies into a single taxon. **Chris**

**Stringer** then examines how the hypothesis of a recent African origin of our species has developed over the past 50 years, providing an assessment of current models on this important subject. *Homo* genus holds the stage in the next article. **Markus Bastir** and colleagues bring to our attention the morphological and functional significance of the human respiratory system, taking a holistic perspective on the form, function, integration, and evolutionary change of the entire organismic system in hominins. They review the latest research methods and the most important craniofacial and postcranial hominin fossils that can be combined for future morphological and functional reconstructions.

The prehistoric world of colors is the focus of **Daniela Rosso**, who examines how their use evolved and contributed to the cultural complexity of the genus *Homo*. The author points out that, along with other cultural traits, the systematic use of ochre appears and disappears from the archaeological record, suggesting that cultural transmission follows discontinuous non-linear trajectories that are to this day still unknown to us. Cultural complexity is also under the focus of **Marco Peresani**, who resumes the on-going cutting-edge research at a flagship archaeo-anthropological context, the cave of Fumane in Italy, for discussing the adaptations of the late Neanderthals and the earliest *Homo sapiens*. At this site, Neanderthals exhibited uncommon behaviors within the symbolic sphere which, together with clear evidence of cultural variability and innovations generated in the technology of stone tools, help to shed light on their cognitive aptitudes. Opportunities to compare the life, subsistence, and cultures of these Pleistocene hominids with early Upper Paleolithic hunter-gatherers stimulates insights for comprehensive reasoning about our uniqueness.

Undoubtedly, the advent of genomics has greatly increased the possibility of reconstructing the processes responsible for the spread of the genus *Homo* to a level of detail that was previously unthinkable. In this regard, ancient DNA studies play an important role. The methods and main results in this field are overviewed by **Kathrin Nägele** and colleagues. In addition to their focus on human dispersal across continents, these authors explain how other lines of evidence can combine with genomic data to answer questions regarding the cultural and social traits of past societies. Moving on to the Eurasian scenario, **Leonardo Vallini** and **Luca Pagani** tell us how the study of DNA is helping to shed light on the most significant human movements up to the last glacial maximum and they then go on to identify the main questions we need to address on this issue.

Innovative interdisciplinary approaches are opening up new perspectives in the study of human evolution, but as is always the case when trying to integrate information and data from different sources, the challenges that need to be overcome also increase. The paper by **Emiliano Bruner** introduces new fields that bridge neuroscience and prehistory, namely paleoneurology, neuroarchaeology and cognitive archaeology. By using his own academic career as a *fil rouge*, he describes the potentials and limitations of these new disciplines, which aim to investigate neuroanatomy and behaviour in extinct human species through the analysis of the fossil record using current methods and models in cognitive sciences. Finally, in order to move beyond a necessary but preliminary theoretical stage, he advocates the use of experimental approaches and quantitative methods.

The comparative approach among extant primate species represents one of the pillars of the study of the evolutionary past of our species and other hominins. Seeking to address the question of how complex and “mosaic” morphologies evolve, **Noreen von Cramon-Taubadel** reviews the literature on primate skeletal integration and modularity, with the view to assessing consistencies in the identification of modules among different primate lineages. While some general trends are observable across taxa, especially for the cranium, relatively little is known about patterns of covariation throughout the postcranial skeleton. Therefore, there is still a need for empirical benchmarks as to what constitutes a morphological unit of analysis and the consistent application of methods for quantifying integration and modularity if we are to take a step closer to understanding the mosaic evolution of the primate skeleton.

The **JASs** focus in recent years on the diversity and history of present-day human populations is reflected in the papers first authored by **Jorge Rocha** and **Paolo Anagnostou**. The former offers new insights into patterns of contact and admixture between foragers and food-producers in pre-historical southern Africa by adopting a multidisciplinary approach, taking into account both linguistic and genetic evidence. By tracing the migratory pathways of eastern African pastoralists into the Kalahari Basin, the authors further show how population contact among groups speaking languages of the Khoe-Kwadi family led to the generation of new ethnic identities that had different livelihoods and cultural practices. The latter paper adds to the work that, also in recent years, has sought to shed light on the peopling of Italy by drawing on the considerable amount of genomic data available regarding current and extinct populations. However, Anagnostou and colleagues wanted to broaden this horizon, both by taking a retrospective look at the oldest fossils and archaeological remains of the genus *Homo*, and by considering the more recent layers of peopling related to the arrival of numerous linguistic minorities on Italian territory. The authors show how the combined effects of migration, isolation and natural selection generated by the interaction of geography, environment and culture have shaped Italy and created a place with extremely diverse environments where distant peoples have met through the ages, bringing and sharing their genes and ideas.

Happy and stimulating reading to all.

**Giovanni Destro Bisol & Giorgio Manzi**

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