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European Archaeological Research at the Dawn of the Third Millennium

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European Archaeology within the System of Academic Disciplines

Archaeology, as a scientific domain of research, emerged in the mid-nineteenth century as an interdisciplinary field of studies, embracing what would later be known as human, social and natural sciences (Lubbock 1865; Mortillet 1883; Rowley-Conwy 2006). One might recognise three main academic and intellectual avenues leading to what became an established academic field by the mid-nineteenth century (Trigger 2006).

The first one related to antiquarianism, itself emerging from the Renaissance interest in classical antiquities, as part of an attempt to build a myth of a common past that would demise medieval evolvements (White 2005). The relevance of antiquarians for the origins of archaeology relates not so much to methods (which had no standard major concerns at the time), nor to theories (which were largely animated by a literary narrative that tended to neglect cultural transformation for the benefit of identifying 'frozen' cultures and their attributes in the past), but to two other more relevant aspects: the attention to material culture (which became a basic distinct trait of archaeology: archaeologists build from material evidences, these being their strength, even if, also, the source of their limitations) and the historical framework (the expansion of time and the notion that attention to material culture required complementary contributions from oral, written and other sources and disciplines). While collecting objects and recording features from the past was present in other intellectual traditions in the world (El Daly 2004; Fairbank and Goldman 2006), the distinctiveness of such an approach in Europe related, of course, to the expansion of trade and conquests beyond Europe, which progressively disrupted the literary narrative focused on Greek and Roman antiquities, first by encompassing the Near East (which could still be 'absorbed' by such a narrative) but then by facing the challenge of observing and interpreting totally alien cultural traditions, which could not be reduced to being the 'roots' of European ones.

European antiquarian archaeology led to an understanding of the existence of separate cultural sequences and, nevertheless, of some convergences among them. De-contextualised comparison became an important method in these early stages of archaeology, namely when recurring to the second major academic contribution to it: ethnology and ethnography. Often embedded in the evolutionary theories that structured debates in the nineteenth century (Dunnell 1980), while antiquarians were fundamentally interested in shape and style, ethnologists focused on function and performance, registering the behaviour of other cultures, from the rituals associated to the use of certain objects in complex

societies with which negotiation became the core strategic approach (namely in Asia, but also in some kingdoms in Africa and, certainly, in the meso-American-Andean contexts) to those observed in less complex societies. Ethnology allowed archaeology to integrate anthropological methods and expand the approach to function and potential rituals in long-dead societies.

Comparison, which remains a fundamental methodological approach in archaeology (Montelius 1888), still strongly uses criteria of type, morphology and ethnographic parallels to assess past material remains (Peregrine 2004), namely in the early stages of research, when formulating hypotheses. However, if archaeology had stood at this level, it would remain largely as a speculative constructor of narratives in dispute. Its current academic profile and reliability results from the merging of the previous two avenues with sciences, namely geology and biology. The nineteenth century is, also, the moment of consolidation of positivist sciences, among them geology, with the identification of the methods to study the evidence of Earth transformations in time: stratigraphy and its dating of extinct species through fossils. This approach to stratigraphy reunited Earth and Life Sciences and had an obvious importance in the debates on evolution and its various theories, including Darwin's. However, when trying to date the most recent deposits found in quaternary terraces, geologists would not find fossils of organic past species, because their remains had been destroyed by the acidity of the sediments. This led to the search of equivalents of those fossils, which had a double consequence: the identification of tangible evidence of past human activity (Aufrère 2007), and the understanding that stratigraphy and other scientific methods would be of major interest for retrieving evidence from the human past (Grimaud-Hervé et al. 2015).

Europe became, as a result, a unique space of convergence of three disciplinary, but also epistemological, approaches: humanistic literary narratives (originally driven by the concern to create a mythical pre-medieval past), anthropological comparative assessments of diversity (originally driven by the colonial expansion challenges), and scientific methods establishment (originally resulting from positivism). None of these contributions should be considered more or less relevant than the others. To take just one example: experimental archaeology (Coles 1979) evolved from an initial focus on technology rather than morphology (following the scientific approach), pursuing questions on function (formulated following the anthropological approach) to better understand cultural change through time, retrieving the early concerns of antiquarians (Mathieu 2002).

This is also the reason why archaeology would establish itself, from the nineteenth century, not so much as a 'discipline' but as a multidisciplinary field of studies, with an awareness of the equal relevance for the assessment of the human past of humanistic disciplines (who, what?) and sciences (where, under which conditions, when?). Such a multidisciplinary approach would create difficulties for archaeology to be accepted in the university (at a time when efforts were to establish clearly separated disciplines) and would lead to its subsequent irregular academic framing until today (allowing one to find archaeology units associated to history, anthropology or geology departments, but also to arts, engineering, technology, and beyond). In a sense, archaeology challenged the disciplinary structure of the university, long before ecology and, even later, biotechnology, would.

This unique range of interests within archaeology also framed its thematic diversity. While the twentieth century was the stage for various attempts to either frame it as part of one discipline (primarily within history, anthropology or geology) or to set it as a discipline of its own (with a severe disconnection between theory and method), these

two avenues of archaeology evolved, in the last four decades, into two main disparate directions: 'various disciplines' archaeology, rooted in human or natural sciences (Drewett 1987) evolved towards resuming the strong interdisciplinary scope of its origins, sharing the move towards the cross-fertilisation of scientific fields and humanistic concerns (new formalisation approaches, cognitive archaeology or the resuming of global interpretative synthesis illustrate this trend; Djindjian 1991), while 'archaeology as a discipline' became primarily focused on contextual descriptions (Hodder and Hutson 2003), moving closer to the social sciences and primarily with a multidisciplinary, less integrated, scope (local narrative archaeologies, heritage-driven interpretations, and privileging laboratory results over humanistic synthesis illustrate this second trend).

This divide between the two 'clusters', often misread as a tension between processual and post-processual archaeology, may however be better understood as the expression, in the domain of archaeology, of the way to face a debate on the role of archaeology in society. Likely, the two avenues are not mutually exclusive, since they offer contributions to different concerns in society. However, even if they remain having some common basic methodologies to build data, they are hardly the same academic field (or, at least, no more than chemical and civil engineering are), one moving increasingly closer to literature and the notion of narrative and the other to science and the notion of explanation. Possibly, in the future, separating these two different and not necessarily opposing approaches will be a positive evolution.

European archaeology today, in any case, can be assessed in two major clusters of contributions: the assessment of the human past, and the embracing of new humanistic concerns related to meaning and method. Out of many possible examples, in the course of this chapter we have selected some major contributions in each of them, as examples of what European archaeology is today.

The Human Past: Looking Beyond Europe

The popular notion of archaeology relates to the production of knowledge of the past, on the basis of non-literary sources. Even if this definition is a limited one, it does explain the social relevance and specificity of the field. Certainly, archaeologists use literary sources extensively (when they describe non-literary people, or when they complement material evidence indicators), comparisons with observed contexts with different chronologies (from ethnography to taphonomy) or pay interest and ethical attention to heritage issues. But none of these defines archaeology, which is the expertise to make sense of material remains from the past in order to build an historical interpretation of the past (not a literary or ethnocentric narrative). In this sense, archaeological reconstructions are subject to discussion and questioning based on the assessment of methods and the quality and context of the studied materials, and not so much on opinion (which is very relevant in project design and the formulation of questions but is not the centre of the work of the archaeologist's conclusions).

Major contributions of archaeology to knowledge in society include, among others, the following areas of study which, having other areas of study involved (from biology to climatology), are primarily led by archaeology (Scarre 2018): the origins and diversity of the human peopling of Europe; the relation between technology and art in human behaviour; the origins of food production; the explanation of culture change and civilisation dynamics, including trade and logistics; climate, adaptation and the material basis of knowledge (history and memory).

The major shift of archaeology to move away from an ethnocentric narrative builder of nation states under a common non-religious foundation myth, the classical period, is directly related to the assessment of human origins through the lenses of natural history of human evolution. By doing so, not only was archaeology able to further expand the antiquity of humans, it was also able to set a series of paleoanthropological and behavioural universal criteria to define the species, thus invalidating racial and other kinds of prejudice, and to offer a solid methodological framework to approach long-term historical processes (Braudel 2001).

The focus on the origins of Man, anthropocentric as it might be in some of its initial expressions, represented a fundamental turn against ethnocentred approaches. Not that these would simply disappear, and the history of archaeology in the first half of the twentieth century had a strong share in the attempts to describe discrete cultures and their alleged ethnic basis (Veit 2012), but from the nineteenth century onwards it is natural history and the understanding of humans and their diversity as part of a natural process that characterises archaeology as a modern field of studies. Following the efforts of several researchers in various European countries, and the foundation of the Congrès Paléoethnologique International in 1865 in Italy (which would be renamed as Congrès International d'Anthropoloie et d'Archéologie Préhistoriques in 1867 and is the ancestor of the current International Union of Prehistoric and Protohistoric Sciences, a member of the International Council for Philosophy and Human Sciences), the international scope of this research (beyond national or even European borders) and its dimension across the humanistic and natural sciences would be clearly stated (Kaeser 2010). Even today, public attention to archaeology is largely driven by three major topics, human evolution being the first of those. Every time public attention is turned towards debates on early humans, it is the notion of a shared common past, made out of diversity and defined not through mere beliefs but through precise criteria, methods and evidence, that is strengthened. This was the case, for instance, with the long debate that opposed, until the mid-1990s (Peretto and Miliken 1996), the supporters of the 'short chronology' (which refused to accept the dates of early human palaeolithic contexts with results older than c. 500,000 years ago, largely using cultural arguments) and those who, despite the absence of hand axes and related symmetrical tools, relied on the stratigraphic evidences and a primarily naturalistic reasoning to stand for a 'long chronology' older than these (based on sites such as the caves of Vallonet or Tautavel in France, or sites like Isernia la Pineta, Monte Puggiolo or Atapuerca). Evidence of the presence of early humans in Europe is now documented for almost two million years in Georgia, and well beyond 1 million in the complex of Atapuerca in Spain and several other sites in Southern Europe, like Pirro Nord in Italy (Arzarello 2019).

Nonetheless, discussions on the origins of humans have also stressed their diversity, including the recognition that while all humans who exist today belong to the same species, this was not the case not long ago. These debates, conversely, have broken, from the beginning, the 'European ethnocentric border', looking namely into Africa (as the cradle of humankind) and to Eurasia (as the continental territory of the natural expansion of humans beyond Africa). Finally, the study of human evolution is a sharp example of how humanities' questions (on human origins and characteristics) helped to build a scientific culture, and still do so in an age when post-truth and various kinds of negationist approaches threaten the social understanding of science (with severe consequences in cases such as the COVID-19 pandemic) and, with it, revive all sorts of racial and other prejudice.

A second major domain of archaeological research relates to studies on technology and art. Inheriting the conceptual framework, the ancient Greeks' Téchné, archaeological studies, from the nineteenth century, paid strong attention both to the morphology and style of human productions (objects, structures and landscape patterns) and the means of achieving those results (i.e., the technology behind them). A focus on material culture and technology is the most distinctive characteristic of archaeological research (Olsen et al. 2012), bringing together the contributions of ethnographic and historical comparisons, those of actualistic replication of gesture (experimental archaeology) and analytical methods (namely after the mid-twentieth century). The focus of archaeology on material culture was subject to a very important debate at the dawn of last century, since it implied an amputation of several relevant expressions of human behaviour which left no traces in the so-called archaeological record. However, this epistemological option, even if it may have led, occasionally, to a revival of discrete notions of culture (Childe 1956), was crucial for establishing a specific object for the field of studies, certainly still interacting with domains like philology, ethnography or oral history, but with a scope of its own, in which questions tend to be formulated by the domain of the humanities and research pursues building first of all from earth sciences (stratigraphy first) and life sciences (possibilities and constraints of human action). The focus on material culture would allow for establishing impressive corpus of data, type-lists (Bordes 1961) and the assessment of micro-evidences of use (Semenov 1964), but also for understanding the continuum between technological creativity and the dawn of art (Wadley 2021), from the recognition of patterns of symmetry in bifaces to the identification of rock art.

The domain of rock art studies in Europe is, in this respect, particularly enlightening of the intertwining of humanities and sciences in archaeological research. It starts in the late nineteenth century, when the findings of Marcelino Sanz de Sautuola (1880) at the cave of Altamira, which were attributed to the Upper Palaeolithic, were strongly rejected by the most eminent prehistorian of that time, Émile Cartailhac. The very strong objections of Cartailhac were based on the absence of stratigraphic or other solid scientific basis, while Sautuola was referring to the comparative method based on style and non-rock art contexts. The evolution of this discussion would lead to the recognition, by Cartailhac (1902), of his erroneous initial assessment, which demonstrates that the basic reasoning of archaeological research is to be driven by the humanities assessment of cultural behaviour possibilities, not by any positivist laboratory-driven approach. The same framework goes across current debates on accepting dates for rock art in Europe long before the arrival of Modern Humans (Collado Giraldo 2018), which implies assigning the authorship of that art to Neanderthals and, hence, to drop a belief based on a sort of racial prejudice (despite the long established authorship of Neanderthals in relation to rock carvings). However, the establishment of archaeological conclusions does require, always, a multidisciplinary framework, which is also why archaeological methods are a powerful field for teaching all basic disciplines interactions in school (Oosterbeek 2013).

While research on human origins relates to the fundamental philosophical question of 'who we are' (possibly by evidencing that we are a diverse, adaptive and transformative natural species, having culture as a particularly complex expression of such nature, coping with its possibilities, constraints and inherited knowledge), the interest in technology, art or creativity proceeds from the interest in the psychological need to identify 'what characterises us'. Archaeology, again, moves away from the formulation of the question as such, but that is the root of the public's interest, rock art being the second most popular theme in terms of the popularisation of knowledge on the human past. This is, also, the case for

studies on the origins of food production and of related processes: sedentism, urbanism, early architecture, civilisation.

The first contribution of archaeological research to rethink the framework of beliefs rooted in ancient texts, namely the Bible, was the chronological extension of time and the evidencing of a history of technological innovations, including polished stone and farming practices, which would precede the 'story of near eastern civilisations'. The Renaissance and later modern understanding of this story implied a notion of rupture in relation to the 'wild' previous way of life, largely associated to the consolidation of a vision of society anchored in organised education (on skills, knowledge and values). The first insights of archaeology in Europe kept this divide, either by stating its technological dimension or, until the early decades of last century, by focusing on production techniques (a focus that would further expand in the second half of the twentieth century (Leroï-Gourhan 1984)). The study of the transformation processes would later lead to the consideration of a relatively long transition period, the Mesolithic (Zvelebil and Rowley-Conwy 1984), and to the search for different causal mechanisms. Part of this research would later focus on identifying at the end of glacial times and of the Upper Palaeolithic indicators of symbiotic relations with some preferred hunted animals (interpreted as precursors of animal husbandry), technological innovations that would become generalised and accelerated in the Holocene (such as the use of bows and arrows or the occasional firing of pottery figurines) or seasonality and even sedentism allowing for faster population growth and generational diversity (to be exponentially increased in the Holocene). A notion of mindset change, associated to the later adaptations of Modern Humans, spreading across Europe after 45,000 ka, started to be consolidated, and the use of the expression 'Modern Humans', as a sort of identification with contemporary human groups (as opposed to earlier identification of Cro-Magnon and other fossils), seems implicit in archaeological research for the last three decades (Nitecki and Nitecki 1994).

Studies on the Neolithic were fundamental to the history of European archaeology and beyond to establish a framework of assessment of part cultures based on material culture. While early studies of hunter-gatherers tended to follow a narrow evolutionist approach, with limited room for cultural synchronic diversity, this was not the case for Neolithic contexts, and a large part of initial research, and of today's studies still, was to identify 'recurrent associations of artifacts' in different sites in the same periods (Childe 1925). This initial simplification of the archaeological methodological framework (when compared with the more diverse and interdisciplinary scope of nineteenth-century approaches), may be understood partially as an adaptive evolution of archaeology to meet the university disciplinary environment (which, as mentioned above, related to the 'seriousness' of what seemed to many to be a survival of pre-scientific studies) and, on the other hand, a consequence of the insufficiency of analytical methods to produce reliable evidence on environmental contexts (even if the awareness of the relevance of these was present in all main researchers). Despite the limitations of what became later known as 'Culture-Historical Archaeology', this was the period when archaeology was able to clarify its object (material culture in its context) and its methods (in terms of field work and of comparative analysis). It also allowed it to clarify fundamental notions of artefact, structure, site and territory, which would have an evolution until the present, but which remain fundamental concepts in archaeological research (Clarke 1968). The progress of scientific analytic methods would later allow the resumption of the nineteenth-century attention to environmental constraints (Clark 1952), to the function of artefacts and to social and economic processes (Higgs and Jarman 1969; Guilaine 2017).

Contemporary discussions on the strategies to manage human mobility and concentration, the future of urban centres or the possible needed adaptations in terms of food production and consumption, have benefited from the archaeological assessment of different strategies pursued in the past, in Europe and beyond, to face similar problems. Apart from the processes of power centralisation and the dynamics of centre and periphery, a core issue that challenged all societies experiencing rapid demographic changes (growth or loss of population) was how to feed the population, particularly when environmental or climatic changes imposed modifications in economic, technological and societal solutions.

Perceived today as a combination of economic intensification and interaction processes, amidst major environmental changes, occasionally triggered by climatic oscillations, the Neolithisation was also a process of landscape perceptions and mindset transformations (Criado-Boado and Vásquez 2000), in which the upgrade of tension into conflict and of conflict into war became important social mechanisms, alongside the growth of inequality. One major implication of the process is the impossibility of turning back, paying the price of major life losses (as a consequence, of natural disasters, pandemics or wars), which again is an important contribution to contemporary debates on future choices to be made.

The archaeological assessment of past societies also allowed for increasingly elaborate reflections on culture change and its mechanisms, including the emergence and decay of civilisation (Renfrew 1972). Even if the ideological dimensions of human past performance are not accessible to archaeology, research allows us to identify contexts of greater interaction and trade, or periods of lesser exchange and of subsistence economies. It also allows us to understand in a very clear way the relationship between logistics and means of transportation, and how these strongly conditioned the dynamics of centre and peripheries at different moments.

In this effort to assess the constraints of past human behaviour, archaeologists developed a growing attention to climate, particularly in Pleistocene studies. However, advances in paleoclimate studies of the Holocene, and the growing availability of research methods and of comparative databases, allowed for the expansion of those studies into the Holocene (Weis 1982; Budja 2007), from context-based regional climatic variations (e.g., the winter effect due to volcanos eruptions) to the relationship between major economic and social shifts (e.g., the Mesolithic, the Roman Empire, the colonisation of Greenland or the intensification of trade-based economies) with major climatic oscillations (e.g., the dry and cold episode of 8.2 ka, the Roman and the medieval warm periods, or the Little Ice Age). Archaeological research in articulation with paleoclimate research is, also, of major relevance for today's concerns about global warming.

Despite its multidisciplinary origins and scope, European archaeology experienced recurrent revivals of its narrowing avenues, both when prioritising local assessments detached from wider networking implication (as when assigning a symbolic value anchored in belief and agency to all remains of past societies, as in some studies that associate the dawn of food production primarily to will and not to need) or when fostering the absolute value of hard sciences data, ignoring historical comparative assessment, as when some rejected the Palaeolithic chronology of Foz Côa rock art (Bednarik 1995), preferring experimental dating methods to the evidences of long-established ones).

But, beyond this range of diverse explanatory approaches, archaeology has consolidated a set of field, analytical and reasoning methods, and it remains rooted in natural history paradigms. It is on this basis that archaeological research in Europe has, also, embraced new perspectives.

New Avenues: Epistemology, Method and Meaning

The epistemological impact of science-based advances (satellite imagery, DNA, proteomics, etc.) and the attempts to embrace social science concerns (e.g., gender, inequality or landscape management) led to other relevant contributions of archaeology, not as much as the leading driver but as a novel and innovative contributor (Lugli et al. 2017). Among these, the following may illustrate the diversity of new interests, which complement the long-established ones, such as: language, peopling and cognitive archaeology; territorial dynamics and governance; heritage, identity and materiality; and other core themes of contemporary reflection, from sustainability to art or creativity.

More than a dramatic epistemological sequence of approaches, European Archaeology of the last 150 years may be perceived as a compromise between a basic common interdisciplinary framework aiming at explaining culture change and adaptation mechanics on the basis of material evidence and the available methods. Certainly, this compromise led to specific emphasis on some of the available methods, from narrowing down to analysing artefact morphologies to the full embracing of new scientific analytical resources allowing for absolute dating, ancient DNA identification or proteomic analysis of residues. These later advances, mostly after the Second World War, also enabled the better integration of the methodologies of enquiry into the past in different chronologies, first with statistics and spatial analysis and, later, with new chemistry- and biology-based methods (Renfrew and Bahn 1991).

This integration, to a large extent achieved before the 1980s, enabled the resumption of the original 'programme' of nineteenth-century archaeology, now making full use of scientific methods and revisiting the approach to human past behaviour, focusing no longer only on its products and its constraints but, also, on the knowledge expressed through them, both in specific contexts and in terms of human cognitive evolution. Cognitive archaeology in Europe (Renfrew 1982) is a robust epistemological framework that, from its onset, stood apart from other types of apparent divides, which explains its capacity to encompass scholars who would also feel comfortable with other 'labels', such as 'processual', 'contextual', 'Marxist' and beyond. The focus on cognition is not so much an ideological option, but the redesign of the original epistemological framework integrating all available methods to understand the core of human evolution, beyond biology alone.

The study of languages from an archaeological perspective is an example of the possibilities opened by such developments. Still making use of linguistics, philology, and historical and anthropological data, archaeological research on language builds from palaeoanthropology data (the conditions of double articulated language), ethology, genetic evidence of haplotypes dispersal and material culture clusters related to demographic processes (Gibson and Tallerman 2011). The attempts to approach rock art as an early form of writing (Anati 2010), to relate rock art contexts with ancient myths and beliefs (Lumley 1995), or the tracing of the archaeological evidence of the Indo-European web of language groups (Renfrew 1988) are examples of this. While archaeological research in other continents has made extensive use of linguistic families, to a point often strongly questioned, the apparent discontinuity between contemporary populations in Europe and remote past ones tended to undermine this domain of research. Cognitive archaeology, revisiting the relevance of language in structuring knowledge and knowledge-based action, besides its communication dimension, led to a resumption of focus in this domain of studies which had been considered a fundamental one for assessing palaeoethnological clusters, in the dawn of archaeological studies (Renfrew 2000).

Another domain of research emerging from the growing integration of the multidisciplinary foundations of archaeology is the assessment of territories, their dynamics and power-related processes (Drewett 2011). Initiated with the incorporation of new geography space analysis methods (Bintliff 1991), spatial archaeology evolved into current landscape archaeology, which itself builds from the notion that humans do not mechanically adapt to environmental and other contextual territorial constraints (i.e., the physical spaces they move across), but to their perceptions of those territories, i.e., perceived landscapes (Ingold 1996). Landscape archaeology is particularly interested in synchronic processes and is another product of cognitive archaeology, since its driving aim is to approach the mind and decision-making process of past communities. Either due to ignorance of potential resources and threats, to the lack of adequate technological knowledge to use them, or to logistic or social restrictions, human groups did not interact with many variables we can recognise today and, instead, acted in relation to a selection of items present in their context (Oosterbeek 2017; Muñoz and Oosterbeek 2010). Assessing these and the mechanisms that provided stability or disruption, success or collapse, of past human groups, as inferred from archaeological evidence, became a major domain of studies in archaeology, with important insights for contemporary society, namely concerning inequality dynamics, borders and migrations, tensions and war.

Heritage emerged as an increasingly important societal topic, mostly related to issues related to identity. Although heritage is not an archaeological theme, strictly speaking, since it relates to contemporary cultural segments (ethnicity, gender, and other) that are not necessarily related to material evidence through time but to contemporary perceptions of it, the connection between archaeology and heritage became very relevant, particularly in three domains: the expansion of the notion of heritage beyond monuments, and even sites, integrating 'minor evidences' and a notion of inherited (cultural) landscapes, as palimpsests of human activities in the past; the building of a new market of territorial competition, valuing archaeological evidences within tourism and the reshaping of identities; and the retrieval of forgotten or previously ignored evidences of human intrinsic diversity in the past.

The first dimension, i.e., the landscape expansion of the notion of heritage, which also allowed to render more visible social inequality in the past, results from a 'natural merger' of the archaeological multidisciplinary framework (for over a century) and the new ecology studies (from the 1970s and, increasingly, over the last two decades). Although this is not a 'purpose' of archaeological research, it became instrumental in mindset transformation, bringing into society at large a kind of reasoning that archaeologists had long had.

The second dimension is not so much a concern of archaeology, but a social impact on archaeology, which raises very relevant ethical concerns and, often, diverts archaeology from its socially relevant specific goals (knowledge building) into a narrower popularisation of such knowledge, at best. Having said this, archaeology sits as a basis for promoting a non-alienated kind of tourism, allowing us to stress the intertwined nature of tangible and intangible expressions, as well as of local diversity and global human unity (Carbone et al. 2013).

The last dimension, focusing on the retrieval of past intra-societal diversity, has a stronger academic relevance for archaeology, since it became possible, making full use of new scientific methods, to assess themes like gender, namely revisiting ancient collections of human remains. It is also in this last dimension that archaeology became a major retrieving tool for assessing historical and even very recent expressions of intra-societal

violence and exclusion, from the study of slavery to the identification of crimes of war, and in the context of dictatorships of the twentieth century, or contemporary indigenous peoples' rights (Cezaro et al. 2020).

Archaeology also evolved in the sense of encompassing a series of core contemporary concerns related to sustainability (namely trying to identify the material foundations of past societies' sustainability, but also disruption and decay), the understanding of the role of techniques and technology in society from the dawn of humankind (and its implications for assessing and understanding contemporary technology implications), the archaeological evidence of disease and health care in the past (which became particularly relevant during the COVID-19 pandemic), or the cognitive mechanisms and material expressions of creativity, invention and innovation (Otte 2020; Nash 2021).

Prospects

It is expected that archaeology will continue to secure its core 'programme' of studies on the human past, while embracing societal concerns that will also emerge and allow society to better understand long-term processes, a major dimension of foresight (Djindjian 2010; Oosterbeek 2011). To do so, however, it will be important to retain the understanding of these two avenues, their differences (besides the methodological similarities) and their institutional and financial conditions. Certain trends in certain European countries – to impose a single 'disciplinary cluster affiliation' to all archaeological training (be it historical, anthropological, geological, chemical, or other), or to set preferred 'fashions' (e.g., neglecting field work to the benefit of post-site analytics alone) or political priorities (related to tourism, development work, identity concerns, or other) – are some of the dangers that European archaeology incurs today.

The ageing of staff in universities, alongside an expansion of the job market related to rescue archaeology in the context of environmental assessments, may reduce the capacity to keep expanding the scope of evidences from the past (mainly retrieved through programmatic research and not by random exercises). Further, the stronger attention to immediate societal short-term concerns may hamper the impact of archaeology in helping to build robust notions of large and complex space, long time or causality rational nexus.

The growing focus of many universities to train 'skills' to meet immediate field work needs is, possibly, the major danger. Not only because it offers a weaker historical and anthropological background, but mainly because 'non-European' themes tend to be dropped. The combined result of such approaches could be, in the future, a more ethnocentric archaeology, losing its tradition of looking at global processes and their variability in the globe, to be performed by a sort of archaeological 'cognitariat'. In this sense, archaeology faces threats which are common to most humanities and fundamental sciences, and preserving archaeology as a cluster of disciplines and not a mere set of skills and methods cannot be separated from the protection of higher education and research at large (Oosterbeek 2019).

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