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History of Archaeology: International Perspectives

Edited by

Géraldine Delley, Margarita Díaz-Andreu, François Djindjian, Víctor M. Fernández, Alessandro Guidi and Marc-Antoine Kaeser

Proceedings of the XVII UISPP World Congress (1–7 September 2014, Burgos, Spain)

Volume 11 / Sessions A8b, A4a and A8a organised by the History of Archaeology Scientific Commission

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Foreword to the XVII UISPP Congress Proceedings Series Edition

Luiz OOSTERBEEK
Secretary-General

UISPP has a long history, starting with the old International Association of Anthropology and Archaeology, back in 1865, until the foundation of UISPP itself in Bern, in 1931, and its growing relevance after WWII, from the 1950's. We also became members of the International Council of Philosophy and Human Sciences, associate of UNESCO, in 1955.

In its XIVth world congress in 2001, in Liège, UISPP started a reorganization process that was deepened in the congresses of Lisbon (2006) and Florianópolis (2011), leading to its current structure, solidly anchored in more than twenty-five international scientific commissions, each coordinating a major cluster of research within six major chapters: Historiography, methods and theories; Culture, economy and environments; Archaeology of specific environments; Art and culture; Technology and economy; Archaeology and societies.

The XVIIth world congress of 2014, in Burgos, with the strong support of Fundación Atapuerca and other institutions, involved over 1700 papers from almost 60 countries of all continents. The proceedings, edited in this series but also as special issues of specialized scientific journals, will remain as the most important outcome of the congress.

Research faces growing threats all over the planet, due to lack of funding, repressive behavior and other constraints. UISPP moves ahead in this context with a strictly scientific programme, focused on the origins and evolution of humans, without conceding any room to short term agendas that are not root in the interest of knowledge.

In the long run, which is the terrain of knowledge and science, not much will remain from the contextual political constraints, as severe or dramatic as they may be, but the new advances into understanding the human past and its cultural diversity will last, this being a relevant contribution for contemporary and future societies.

This is what UISPP is for, and this is also why we are currently engaged in contributing for the relaunching of Human Sciences in their relations with social and natural sciences, namely collaborating with the International Year of Global Understanding, in 2016, and with the World Conference of the Humanities, in 2017.

The next two congresses of UISPP, in Melbourne (2017) and in Geneva (2020), will confirm this route.

Foreword to the Volume

Marc-Antoine KAESER
President of the Commission "History of Archaeology",
Executive Committee of the UISPP

The present volume gathers the communications of the three sessions organized under the auspices of the Commission 'History of Archaeology' at the XVII UISPP World Congress Burgos 2014.

In the UISPP, our commission is traditionally labelled as *'Commission 1'*, a wording which testifies to the importance conferred to historiography for a long time now within the official bodies of the UISPP. After a stage of relative standby since the 2006 World Congress in Lisbon, this commission was the object of a thorough renewal in 2012. In its present composition, it brings together 23 scholars from 16 different countries, on three continents (Australia, Europe, Northern and Southern Americas). On the basis of this broad representativity, the commission endeavours to develop historiographic scholarship for the benefit of reflexive archaeological perspectives, while emphasizing transversal and international perspectives.

These concerns substantiate the general title of the volume: *'History of Archaeology: International Perspectives'*. On each of the three thematics under scrutiny, the contributors have actually been invited to take into account and to advocate approaches likely to illustrate the richness and the diversity of archaeological research traditions, as well as to shed light on the intellectual and cultural exchanges which have been implemented throughout the history of our discipline.

In a programmatic manner, the first part of this volume deals precisely with *'International relations in the history of archaeology'*. The eleven contributions collected for the session organised by Margarita Díaz-Andreu and Víctor M. Fernández tackle a particularly productive topic in the field today. In actual fact, this seminal research field currently echoes in a way the strong trend of scholarship about the influence of nationalism on our discipline, which since the end of the 1980s, has greatly contributed to the takeoff and overall recognition of the history of archaeology.

The second part, entitled *'The Revolution of the Sixties in prehistory and protohistory'*, is the outcome of a partnership with the Commission 'Archaeological Methods and Theory'. The seven contributions collected by François Djindjian and Alessandro Guidi strive to document and analyse a recent past, which is still often burdened with the weight of teleological and presentist appraisals. The inclusion in this volume of this session significantly dedicated to the genealogy of schools of thought and to the study of complex methodological and technical issues illustrates our commitment to tackling historical issues as well, which are closely linked to current theoretical debates in our discipline.

Such is also the aim of the third part, which addresses *'Lobbying for Archaeology'*. As shown by the five contributions of this session organised by Géraldine Delley and the undersigned, archaeology has not only been instrumentalized by political powers and ideological interests. It has also found fruitful alliances with economic agents or bodies, where mutual advantages were gained on practical, technical bases. In our opinion, a reflexive, critical approach to these various forms of lobbying should ensure a useful awareness regarding the structural problems our discipline faces today, regarding its funding methods.

Acknowlegments

The editors of this volume express their warmest thanks to all those who contributed to the organization of the Burgos UISPP Conference, to the Archaeopress publishing team of the Conference Proceedings, to Vincent Laughery and Paul Turner, who took over the English proofreading of the contributions, as well as to the University of Neuchâtel (Faculté des Lettres et Sciences humaines) and to the Laténium (Archaeology Park and Museum, Neuchâtel), for their financial contributions. The *"International relations in the history of archaeology"* part of the volume was organised and partly sponsored by the SinFronteras research project (https://arqueologiasinfronteras.wordpress.com/) funded by the MINECO-Ministerio de Economía y Competitividad, Plan NacionalI+D+i, ref. HAR2012-334033/Hist.

Part I

International relations in the history of archaeology

Session organised by

Margarita Díaz-Andreu and

Víctor M. Fernández

Introduction: International relations in the history of archaeology

Margarita Díaz-Andreu
ICREA, Universitat de Barcelona

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The articles included in this volume on 'International relations in the history of archaeology' correspond to the contributions presented at Session A8b of the 14th International Congress of the *Union International de Sciences Préhistoriques et Protohistoriques* (UISPP, International Union of Prehistoric and Protohistoric Sciences) held in Burgos (Spain) on 2 September 2014. Behind the discussions leading up to the organisation of the event was the belief that, although from its very beginnings archaeology as a field of study has been greatly exposed to international currents and influences, the global flux of ideas is not sufficiently acknowledged in the histories of archaeology. The aim of the session, therefore, was to focus on international contacts and how, throughout the history of the discipline, they have fostered change, not only in relation to new archaeological theories, but also as regards techniques, methods and practices. Aspects to be discussed were the means by which these new ideas and practices travelled, including international congresses, publications, translations, correspondence, talks given by foreign scholars, and PhD studies abroad. An alternative question speakers were asked to think about was whether it was enough for ideas to move from one country to another, as reception of them could be fostered or, on the contrary, prevented by many circumstances that needed to be considered. A final question under discussion was the movement of ideas under colonial and imperial conditions.

Fourteen papers were given in the Burgos session. The relationships between twelve different countries, some of them while they were still colonies, were discussed. These were Angola, Argentina, France, Italy, Morocco, Mozambique, Portugal, Spain, Sweden, Switzerland, the United Kingdom and the United States. Spain, and to a certain extent Portugal, were better represented than other countries. This can be explained by two sets of circumstances. On the one hand, given the location of the conference, this session was no exception in having a larger proportion of scholars from the Iberian Peninsula; on the other hand, and perhaps more importantly, the organisers – the authors of this introduction – were both members of the 'Archaeology without frontiers' project,[1] the precise aim of which was to explore international relations in archaeology. The idea of the session emerged from previous discussions among its members, the majority of whom subsequently gave papers to it (Gozalbes, Martins, Palacio and Sánchez Salas).

The articles compiled in this volume represent most of those imparted at the UISPP session A8b. They have been prepared for publication after a thorough revision process. They cover a wide chronological span in the 19th and 20th centuries, although it is the latter century that receives more attention, especially the last fifty years following World War II. This is the period that, perhaps because of its proximity, has been poorly served by the literature and therefore the emphasis on the last decades of the 20th century is seen as a positive sign that more authors are venturing to analyse it.

Two articles, those by Palacio and Chichkoyan, deal with aspects related to the 19th century. The former concentrates on the influence of British anthropology on the paradigmatic shift that occurred

[1] The research project 'Archaeology without frontiers – the international contacts of twentieth-century Spanish archaeology', whose principal investigator is Margarita Díaz-Andreu, has been funded from 2013 to 2016 by the Spanish MINECO-Ministerio de Economía y Competitividad, Plan Nacional I+D+i, ref. HAR2012-334033/Hist.

in French Palaeolithic art studies at the turn of the 19th to the 20th century. A new way of looking at primitive art, which ceased to see it as merely aesthetic and began to understand it functionally as related to magic and religion, was essential in the turning point of Stone Age rock art studies. The change was represented in France by the scholar Salomon Reinach and followed by Henri Breuil.

A 19th-century South American fauna fossil collection, the Rodrigo Botet Collection, currently held in the Natural Science Museum in Valencia (Spain), is the point of departure for Karina V. Chichkoyan's work. After discussing the origins of South American collections in Europe, the author deals with the current relevance of old museums, and tries to answer the important question of what is the use of decontextualised collections from colonised countries in European museums. Today there is a general aversion to the dissemination of archaeological assemblages outside their original contexts, regions and countries. However, the author points out how in the past this was seen as advantageous, as, together with the circulation of the material culture, knowledge also travelled all over the world. It is argued that the unfortunate – and irrevocable in most cases – problem of a lack of context for many collections and pieces can be partially mitigated by applying scientific methods to the materials.

Moving into the 20th century, two articles focus on the relationship between Spain and Italy in the three first decades. Sánchez Salas looks into researchers' personal relations as a prime mover of scientific change. In comparison to their trips to more northerly climes, in their study trips to Italy, Spanish prehistorians were keener to see sites, museums and monuments and less interested in making personal contacts with other scholars and/or attending their lectures. Díaz-Andreu takes a different angle in analysing the relationship between Italy and Spain in the first three decades of the century, focusing purely on classical archaeology, a historical period that received special attention in Mussolini's Italy during those years. As right-wing dictatorships began practically at the same time in both countries, and given the importance of Spain's Roman remains, the initial assumption was that this was the ideal occasion to establish close relationships between the academic communities. An analysis was undertaken based on an archival study of the funding for excavations, the sites selected for the development of tourism, archaeological publications of the time and the correspondence and information from relevant institutions. The results showed that, in stark contrast to Italy, Roman archaeology did not become a priority in Spain during the dictatorship of Primo de Rivera (1923-1930). The reason for this must be sought in the particular type of nationalism supported by the regime, showing how political regimes create – or fail to create – suitable settings for establishing academic relationships.

Two articles on colonialism follow. The first, by Patrícia Conde, João Carlos Senna-Martínez and Ana Cristina Martins, presents a wide panorama of Portuguese anthropological and archaeological activity in that country's main African colonies, Mozambique and Angola. What is more remarkable from a current perspective is the wealth of institutions and initiatives that Portugal established in their overseas territories. This is in keeping with the importance of colonies for the political regime, Salazar's *Estado Novo* (1933-1974), which was internationally isolated most of the time due to its dictatorial nature. The authors also convincingly show how intensively Portuguese scholars participated in the archaeological research network mostly developed by Anglophone institutions and personnel in the nearby colonised regions (mainly South Africa and Zimbabwe). The enormous and largely unknown archaeology of the African colonies piqued the curiosity of researchers in those other regions, although the pressure placed on the Portuguese institutions to further their knowledge was answered only partially due to scarce economic resources. On the other hand, the apparent absence of problems or interference of research activities with the Angolan or Mozambican nationalist movements can probably be explained by the organisational delay those groups had had compared to the anti-colonial developments in the Anglophone colonies.

The second article dealing with colonialism is that of Gozalbes, who presents a historical narrative recounting the development of archaeological research in the then 'Protectorate' of Spanish Morocco,

using original data recently consulted at the Tétouan Museum archive. More than international relations, which appeared relatively late in the sequence, it was the projection of the parochial metropolitan ideologies and conflicts, many of them military in nature, that seemed to be most influential in the archaeological development of the Spanish colony. It was only when a university-trained professional archaeologist, Miquel Tarradell, took office in the colonial administration in 1948 that things began to improve. As such, the final period of colonisation saw the incorporation of the regional knowledge into the international standards of the day.

Although already partly covered by the two articles dealing with colonialism, the last five papers centre chronologically on the years after World War II and focus on scholarly relationships either between European countries or between Europe and the United States. Géraldine Delley takes an interesting approach to a crucial moment in Swiss archaeological research, when the nation entered into the new global post-World War II period, profiting from its previous neutral role. Taking as a paradigmatic issue the research on the Neolithic lake-dwelling cultures of the Alpine area, she shows how the new general internationalising trends of the science of the period were made the most of to overcome the sterile and long-standing debate about where the houses built on posts on the lake shores were located (*Pahlbauproblem*). This was done by entering into the empirical domain of the anthropological reconstruction of ancient Swiss societies through 'hard' scientific analysis. This trend towards interdisciplinarity encouraged international relations and, interestingly enough from an epistemic standpoint, a move towards 'verity' in the sense of universally accepted interpretations of the archaeological record. This drift was experienced in common with other national archaeological communities, starting a general movement that only post-processualism has dared to raise serious doubts about in the last few decades.

Plutniak and Tarantini explore the methodological influence of the French archaeologist Georges Laplace on Italian Palaeolithic studies. In their article they attempt to answer the question of whether national borders have any effective consequences on the evolution of a scientific field. Laplace, a scientist who mostly worked and influenced scientists outside his own country, is obviously a very specific case. However, its exceptional nature means that looking into his career offer us a kind of 'theoretical' example of international relations in archaeology and shows how paradigms change when they transgress political and academic frontiers. Laplace happened to begin his research in a country where Palaeolithic studies were less advanced than in France. As Italian archaeologists 'closely guarded their finds from their fellow countrymen [yet] they did not hesitate to open the drawers of their collections to foreign scholars', being a foreigner was an unexpected advantage that allowed him to try out his innovative methodology on a huge empirical corpus. The advantages of Laplace's method were soon appreciated and followed by most Italian specialists. However, the later improvements he made to his 'analytical typology' did not receive the same attention. He was disappointed to find that his former devotees now rejected the changes (which were very soundly based; as Palma di Cesnola retrospectively admitted 'the new typological proposals meant complicating the comparison with the lithic industries already studied'). Finally, when Laplace returned to France he was received with indifference and not only because his methodology was barely applied. French palaeolithists preferred to continue with the simpler and statistically less sophisticated Bordesian typology, probably for the same reasons expressed by Cesnola, and Laplace never reached the high academic post he undoubtedly merited. As a final coda, and perhaps the only example of 'ideal' scientific behaviour in the whole 'matter-of-fact' story, later books published in homage to him in Italy (and also in Spain) have done some posthumous justice to the outlandish and outstanding scientist who was Georges Laplace.

The chapter by Ana Cristina Martins on the 'Tagus Generation' and the introduction of the 'New Archaeology' innovations in Portuguese archaeology is yet another example of how odd and diverse are the ways in which international relations influence scientific activity and communities. Although study trips made to other European nations by outstanding archaeologists (such Serrão's to England) seem to have influenced methodological advances, it was in the field of Stone Age and rock art studies

where, due to the importance of the new discoveries in the Tagus valley that attracted researchers from other nations, that the new theories began to magnetise the local practitioners. Again we see that study trips to other nations, in this case to France, were equally decisive, and can probably explain the curious mixture of the functionalism from the Anglophone countries and the French structuralism that was then shining in the theoretical realm, thanks to Leroi-Gourhan's analysis of Palaeolithic rock art.

Víctor M. Fernández's analysis of the inception of the New Archaeology (NA) innovations in Spanish archaeology also evidences the particular features every paradigmatic international transfer shows in each national case. The purest NA version was adopted early in Spain by a few archaeologists working only in Latin America, but who nevertheless had some influence outside their domain, mostly through the translation into Spanish of a few key American publications. Researchers working in Spain, however, experienced later contacts with the NA through a part of its 'European' version, i.e. the 'Spatial archaeology' and 'Site catchment analysis' schools from Britain. The congresses organised in Teruel in 1984 and 1986 caused a generalised wave of 'spatial' or regional studies all over the country. A survey of the types of articles appearing in the main Spanish journals before and after the NA revolution showed radical changes towards many more scientific and regional analyses, together with historiographic/sociological and theoretical studies, the latter being more closely related to the newer post-processual tendencies. Finally, the general fondness for theoretical works in current Spanish archaeology, which is clearly revealed by the abundance of published articles and monographs, can ultimately be attributed to that first arrival of NA in the country and its almost immediate and inevitable overlap with the post-processual critique.

Lawrence G. Straus presents a detailed and enjoyable account – based partly on first-hand accounts from direct witnesses to the events and partly on his personal experience – of the web of relationships between Spanish and American (mostly Chicagoan) scholars and their research on the Palaeolithic of northern Spain. The influential participation of American researchers could be interpreted in the light of scientific cooperation (active since long before that in the field of Spanish Stone Age studies) and the impulse of the 'New Archaeology' at that time. However, Straus aptly demonstrates how things would probably have been different without the personal intercontinental contacts, which began many years before when leading Spanish prehistorian Luis Pericot met Sol Tax in Philadelphia at the Congress of the International Union of Anthropological and Ethnological Sciences in 1956. The next episode of the story concerned the excavations at Torralba and Ambrona conducted by Tax's junior colleague, F. Clark Howell, at the beginning of the 1960s. One of the many Spanish and American participants in the task, which put Spain 'back on the map' after the long hiatus of the Civil War and the first Francoist period, was Howell's PhD student Leslie Freeman. Freeman then decided to continue his research in Cantabria in the hope of carrying the famous Bordes-Binford debate (ethnicity vs. function) into the record of northern Spanish Mousterian. A few years later Freeman met J. González Echegaray and they began a long friendship and fruitful collaborative research on the Middle Palaeolithic, the account of which represents the longest and most touching part of the paper. Following in Freeman's footsteps, in 1973-1974 Straus undertook his PhD research on the Solutrean of northern Spain from a 'human adaptations' approach. This viewpoint was clearly distinct to that of the then most prominent Spanish specialists such as Francisco Jordá, who followed the French-influenced 'culture history' approach. Overall, in the 1970s and 80s, Freeman and Echegaray's influence and mentorships produced a long series of dissertations by the 'young Turks' who were to become the next generation of specialists and professors of Palaeolithic studies in Spain (and are now approaching retirement). For all of them, the change represented a 'new, optimistic view of what could be learned from the Stone Age record of Spain'.

In one way or another therefore the articles included in this volume answer the questions posed at the outset. They make it very clear that international relations existed and that they were extremely influential in some cases, while in others not so much. The analyses described above deal with how they shaped theoretical advances (Plutniak and Tarantini, Martins, Fernández and Straus) and

new methods and practices (Chichkoyan, Delley). They also added new knowledge (Sánchez Salas) and encouraged new research (Conde-Senna-Martínez-Martins). In addition, they clearly show how political and academic ideologies can partly hinder an easy reception of ideas (Díaz-Andreu, Cravioto). In some cases this transference of ideas took place under colonial or dictatorial regimes and in others under other political systems less interested in controlling knowledge. The final view is of a complex, multifaceted and multi-causal phenomenon. The case studies analysed also stress the importance and practicability of the 'scientific community' concept, which is not only relevant on a national level, but also concerns the particular science and even the research centre involved, as well as the need to continue the investigation into its changing features in the field of archaeology.

British ideas in a French World. Victorian anthropologists and the creation of the concept of Palaeolithic Art (1890-1906)

Eduardo PALACIO-PÉREZ
Government of Cantabria, Heritage Department

Abstract

In this article I would like to focus on a particular episode in the history of archaeology: the change in the concept of Palaeolithic art between the late nineteenth and early twentieth centuries. At this time a notion of art based on innocent realism and the decorative nature of the representations was transformed into one founded on an evolutionist explanation of the artistic form and the symbolic-religious meaning of the different motifs. This change was determined by the introduction of ideas developed by British evolutionists to the field of French prehistory. This took place within a complex scenario marked by the tension between each country's own archaeological tradition and a clear trend towards the international transmission of ideas. The French researchers Salomon Reinach (1858-1932) and Henri Breuil (1877-1961) played a vital role in this process.

Key-words: *Palaeolithic art, British anthropology, French prehistory*

Résumé

Dans cet article je me concentre sur un épisode très spécifique de l'histoire de l'archéologie: le changement de la conception de l'art paléolithique au tournant des XIXe et XXe siècles. Une notion basée sur le réalisme naïf et la nature décorative des représentations est devenue une explication fondée sur une conception évolutive de la forme artistique et une signification religieuse des différentes figures. Ce changement est déterminé par l'introduction des idées développées par les anthropologues évolutionnistes britanniques dans le domaine de la préhistoire française. Cela a eu lieu dans un scénario complexe marqué par la tension entre les traditions archéologiques de chaque pays et une nette tendance à la transmission internationale des idées. Les chercheurs français Salomon Reinach (1858-1932) et Henri Breuil (1877-1961) ont joué un rôle essentiel dans ce processus.

Mots-clés: *Art Paléolithique, Anthropologie britannique, Préhistoire française*

1. Introduction

Historiography has traditionally differentiated between two phases in the early stages of Palaeolithic art research. Firstly, a period between the publication of the first evidence of portable art, attributed to the Palaeolithic by Lartet and Christy in 1864, and the official acknowledgement of parietal art in 1901 (Lartet and Christy 1864; Capitan and Breuil 1901a, b). Secondly, a period that began with the recognition of Palaeolithic parietal art and ended in the late 1950s with the development of a structuralist approach to the study of graphic motifs by Anette Laming-Emperaire and André Leroi-Gourhan (e.g. Laming-Emperaire 1962; Leroi-Gourhan 1958a, b; 1965).

The division between these two phases was not only defined by the recognition of parietal art, but also by a major change in the way prehistoric graphic expression was understood. This change took place in two main aspects. Firstly in the formal definition of artistic motifs initially considered on the basis of a philosophical concept rooted in the idea of 'ingenuous or naïve realism', which then changed to a deeply evolutionistic concept founded on the idea of a 'naturalism tendency'. Evolutionism looked at the diachronic transformation of artistic forms from schematic to realistic images and vice versa (Moro, González Morales and Palacio 2012). Secondly, from the point of view of the meaning of art, these two phases went from an earlier period in which Palaeolithic art was considered as aesthetics and therefore reflecting the imagination, creativity and search for beauty by 'primitive' humans, to an interest in the purpose of art which was associated with magic-religious rituals and beliefs (Palacio 2010a, b).

What were the reasons for this change in the way Palaeolithic art was conceived? Historiography has traditionally pointed to two causes. On the one hand, there was a change in the concept of the hunter-gatherer. This took place as a result of the increase in the available ethnographic information and new ideas about the mentality and beliefs of 'primitive' people. The latter were based on the concepts of animism (Tylor 1866), totemism (McLennan 1869; 1870) and sympathetic magic (Frazer 1890) and had been developed by the British anthropologists E. B. Tylor, J. F. McLennan and J. Frazer. On the other hand, following a series of discoveries in France (La Mouthe, Pair-non-Pair, Les Combarelles, Font-de-Gaume and Chabot), the acceptance of parietal art demanded a new explanation for artistic motifs and the reason they were found in caves, in dark and difficult-to-reach places. This did not fit an aesthetic explanation based on the disinterested contemplation of the motifs (Ucko and Rosenfeld 1967: 118-123; Richard 1993).

Although these factors were important, I think this interpretation is incomplete. I would like to highlight two consecutive processes that until recently have not been taken into account. First of all, in the last decade of the nineteenth century new ideas about the 'origins and evolution of art' were developed by a group of researchers connected to the universities of Cambridge and Oxford. Secondly, these ideas about the origins and evolution of art were transferred from the sphere of British anthropology to the world of French prehistory and were applied to the interpretation of Palaeolithic art, mainly by Salomon Reinach and Henri Breuil.

2. New ideas about the origins of Art

In the 1890s changes took place in Art Theory that transformed the way of understanding 'primitive' creations. The level of development reached by Social Anthropology in the late nineteenth century at the universities of Cambridge and Oxford and the newly established Pitt Rivers Museum was an incentive for a new look to be taken at 'primitive art'. This new approach incorporated the ideas about the religious and spiritual life of 'savages' developed by authors such as Tylor, McLennan and Frazer and helped overcome the idea that art was an independent and autonomous realm separate from the rest of social life. Art began to be regarded as a utilitarian production dependent on social needs.

Three authors should be cited in this process because they had an important influence on Henri Breuil and Salomon Reinach's thinking. The first is Henry Balfour (1863-1939), who was educated at Oxford University and was a curator at the Pitt Rivers Museum. He authored 'The evolution of decorative art. An essay upon its origin and development as illustrated by the art of modern races of mankind' (Balfour 1893, La Rue 2004). The second scholar who should be highlighted is Alfred Cort Haddon (1855-1940), whose career as an anthropologist was developed at the University of Cambridge and who wrote 'Evolution in art as illustrated by the life-histories of designs' (Haddon 1895, Mullins 1996). The last of the three was the art theoretician Yrjö Hirn (1870-1952), who wrote 'The Origins of Art' (Hirn 1900), a book that marks the culmination of a new way of tackling the problem of the beginnings and evolution of artistic activity. This author does not give priority to aesthetic feelings as the driving force behind art, and instead emphasizes the utilitarian nature of human creations. Yrjö Hirn and his wife Karin Hirn (1869-1943) were translators of English literature and were both closely linked to the intellectual circles of the Universities of Oxford and London. He was a close friend of the philosophers George Godfrey Berry from Oxford University and Leonard Pomeroy from the University of London, where he also met the sociologist Edward Westermarck. He was also influenced by the British anthropologists, in particular James George Frazer and Edwin Sidney Hartland (Rantavaara 1977).

These three works shared a series of principles about the origin, nature and evolution of artistic activities. Firstly, artistic activity was understood as a universal reality that transcended the individual to acquire a social dimension (Hirn 1900: 74-85; Haddon 1895: 7-10; Balfour 1893). Secondly, art was intimately connected with the imitation of nature (Balfour 1893: 77; Haddon 1895: 6-7). According to this 'naturalism tendency', realism and stylisation appear as two aspects of the same

source. On the one hand, in art history there is progress from schematic to realistic images; on the other, there is a general evolutionary phenomenon leading from realism to the most stylized and abstract figures. Thirdly, artwork was subject to utilitarian aims, including the transmission of information, amusement, the exhibition of power and wealth, and religious symbology (Balfour 1893: 31-64; Haddon 1895: 200-305; Hirn 1900: 149-297). In particular, magic and religion were seen as the main motivation for the art of 'savage' populations (Balfour 1893: 31-64; Haddon 1895: 235-305; Hirn 1900: 278-297). Moreover, they proposed that the initial impulse to imitate nature was related to the idea of sympathetic magic developed by J. Frazer (Balfour 1893: 31-64; Haddon 1895: 235-305; Hirn 1900: 278-297) and thus naturalism and magic became mutually supportive theories.

In conclusion, during the final decade of the nineteenth century British anthropology developed a new way of understanding the origin and development of artistic activity in various primitive and traditional societies.

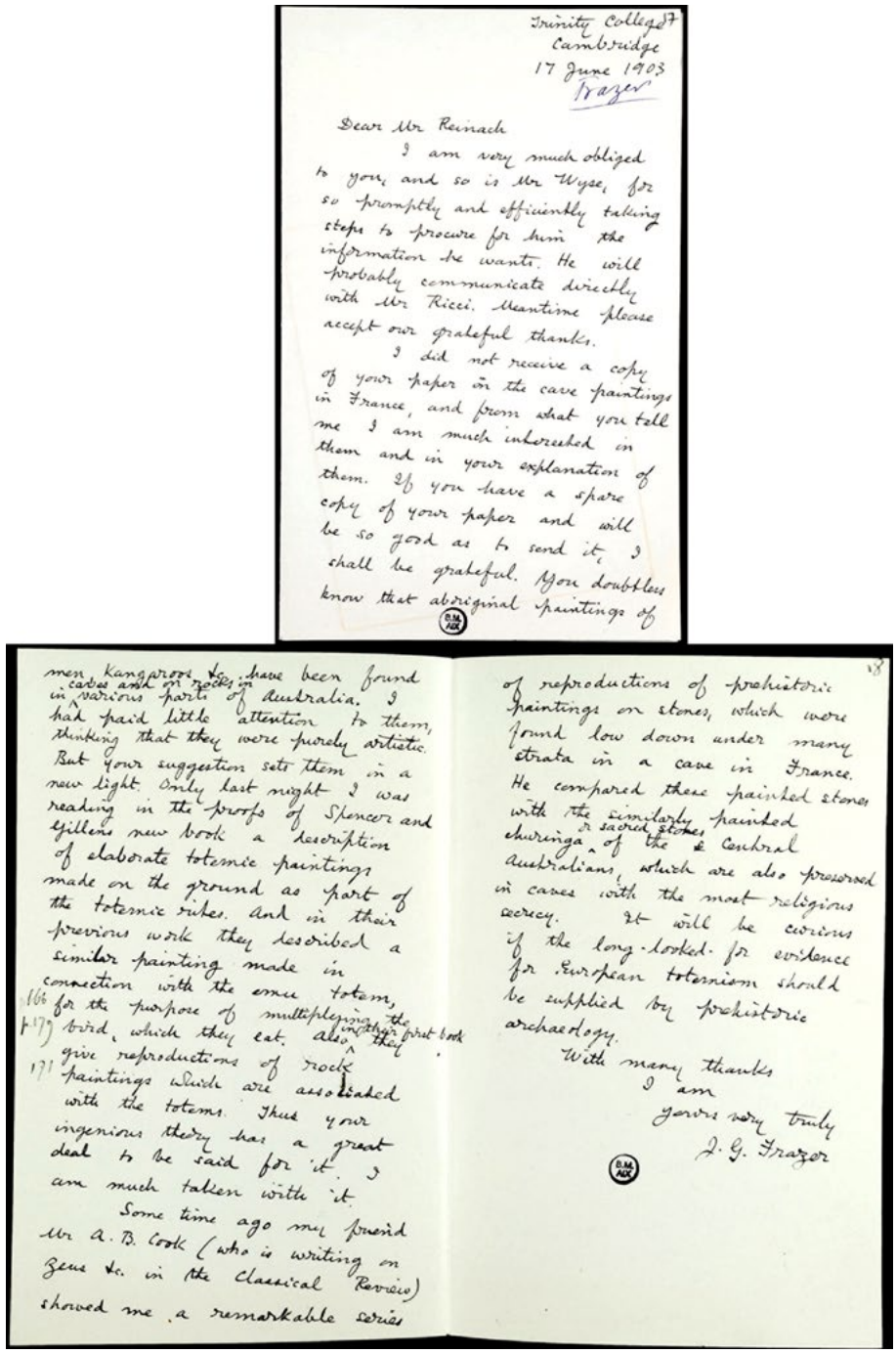
3. The role of Salomon Reinach and Henri Breuil in the dissemination of the new ideas on the origins of art

Two French authors, Salomon Reinach and Henri Breuil, played major roles in the transmission of these ideas from British evolutionist anthropology to the field of French prehistory.

It was Salomon Reinach who promoted and explained in most detail the magic-religious view of Palaeolithic art (Palacio 2010b). Thus, in 1899, in reference to portable objects he stated that: '*I have often insisted on the religious nature of the* bâtons de commandement *and I believe that it is most legitimate, in contrast to Mortillet, to attribute cavemen with a well-developed religiousness. Perhaps the animal figures, so frequent in their art, are evidence of some kind of totemism*' (Reinach 1899a: 478). A few years later, he published his seminal paper *L'Art et la Magie* (Reinach 1903), in which he detailed the utilitarian nature of Palaeolithic artistic motifs and their direct relationship with sympathetic magic.

British evolutionary anthropology was the source of Salomon Reinach's explanation of Palaeolithic art. However, this influence was felt in two different ways. On the one hand he generally assimilated the ideas of animism, totemism and sympathetic magic developed by the British scholars and used them in his study of the history of religions. In the late-1890s he introduced these ideas in some of his articles (e.g. Reinach 1899a, b) and at the start of the new century he gave a detailed description of them in several scientific papers (e.g. Reinach 1900a, b, c; 1902a, b). Many of these texts were re-edited in book form in his work *Cultes, mythes et religions* (Reinach 1905). In fact, Reinach identified himself as one of the first authors to apply and disseminate these ideas in the French academic world (Reinach 1905: v). He even mentioned that '*in l'Académie des Inscriptions, in 1900, MM. Maspero and Hamy were the only ones who did not think that I had lost my mind when I read some essays on biblical taboos and the totemism of the Celts. The German researchers I saw in that same period, Mommsen among others, had never heard of a totem*' (Reinach 1905: vi).

On the other hand, these same ideas were applied in a particular way to explain the origins and nature of artistic activity. On this point he did not conceal his debt to other authors. For instance, *The Origins of Art* (1900) by Yrjö Hirn is frequently cited and was the basis of the ethnographic analogies in his article *L'Art et la Magie* (1903, 259-261). It was also the main inspirational source for his application of the idea of 'sympathetic' magic to the interpretation of prehistoric art (Reinach 1903: 260 and 263). In the same way, he also mentioned Spencer and Gillen's first report about the native tribes of central Australia, which was published in 1899, and he was aware of data in the second report before its 1904 publication through direct correspondence with J. Frazer. In Salomon Reinach's own words: "*The report on Spencer and Gillen's second expedition has still not been published, but Mr Frazer, who has read the proofs, wrote to me from Cambridge on the 17th of June: 'In this book, I find the description of totemic paintings, carefully produced on the ground and forming part of totemic rites'*" (Reinach 1903: 262) (Fig. 1).



Trinity College
Cambridge
17 June 1903
Frazer

Dear Mr Reinach

I am very much obliged to you, and so is Mr Wyse, for so promptly and efficiently taking steps to procure for him the information he wants. He will probably communicate directly with Mr Ricci. Meantime please accept our grateful thanks.

I did not receive a copy of your paper on the cave paintings in France, and from what you tell me I am much interested in them and in your explanation of them. If you have a spare copy of your paper and will be so good as to send it, I shall be grateful. You doubtless know that aboriginal paintings of men kangaroos &c. have been found in various parts of Australia. I had paid little attention to them, thinking that they were purely artistic. But your suggestion sets them in a new light. Only last night I was reading in the proofs of Spencer and Gillens new book a description of elaborate totemic paintings made on the ground as part of the totemic rites. And in their previous work they described a similar painting made in connection with the emu totem, for the purpose of multiplying the bird, which they eat. Also they give reproductions of rock paintings which are associated with the totems. Thus your ingenious theory has a great deal to be said for it. I am much taken with it.

Some time ago my friend Mr A. B. Cook (who is writing on Zeus &c. in the Classical Review) showed me a remarkable series of reproductions of prehistoric paintings on stones, which were found low down under many strata in a cave in France. He compared these painted stones with the similarly painted churinga of the Central Australians, which are also preserved in caves with the most religious secrecy. It will be curious if the long-looked-for evidence for European totemism should be supplied by prehistoric archaeology.

With many thanks
I am
Yours very truly
J. G. Frazer

FIGURE 1. LETTER SENT BY J. FRAZER TO S. REINACH IN JUNE 1903 ABOUT THE MEANING OF PREHISTORIC ART (CORRESPONDANCE S. REINACH, BOÎTE Nº 67, DOCUMENTS 17-18, BIBLIOTHÈQUE MEJANES VILLE D'AIX).

Salomon Reinach was not the only person to transmit the ideas first expounded in British academia, as his efforts were complemented by those of Henri Breuil. It was the latter who took on the systematic formal classification of Palaeolithic art into phases and styles. In his autobiography, Breuil acknowledged that Henry Balfour and Alfred Haddon's works had been essential to his understanding of how art motifs evolved: '*My licentiateship was completed. I only needed to prepare*

my dissertation for the University of Fribourg. As a topic I chose 'The stylisation of figures and ornamentation in portable art in the Age of Reindeer'. In fact, I had discovered that many of the so-called signs and ornamentation engraved on reindeer antler came from the alteration of figures, or parts of figures, of animals. I read two small English books: 'A. Haddon: Origin of Decorative Art' and 'H. Balfour: Evolution in Art', which I had been given although I can't remember by whom. It was a little difficult at first because I wasn't used to reading in English, but they reinforced my discovery' (Breuil 1958: 154). He expressed the same idea with clarity in 1905: '*ornamentation is the result of the increasingly profound alteration of figurative art*' (Breuil 1905: 120).

According to this theory, some motifs, especially zoomorphic figures in parietal art, progressed from archaic sketches to highly naturalistic forms, but at the same time abstract and schematic motifs in portable art were the result of the 'degeneration' of figurative forms into decorative images (Fig. 2 and 3). This theory was present in the first systematisation in five phases that Breuil made of

Figure 2. The technical and stylistic evolution of zoomorphic parietal paintings according to Cartailhac and Breuil (1906: 113). 1. First phase (outlined figures in profile). 2. Second phase (figures in profile with some anatomical details and small areas filled with colour). 3. Third phase (representations with more anatomical details and large areas filled with colour to give an impression of volume). 4. Fourth phase (representations in perspective, polychrome and with many anatomical details).

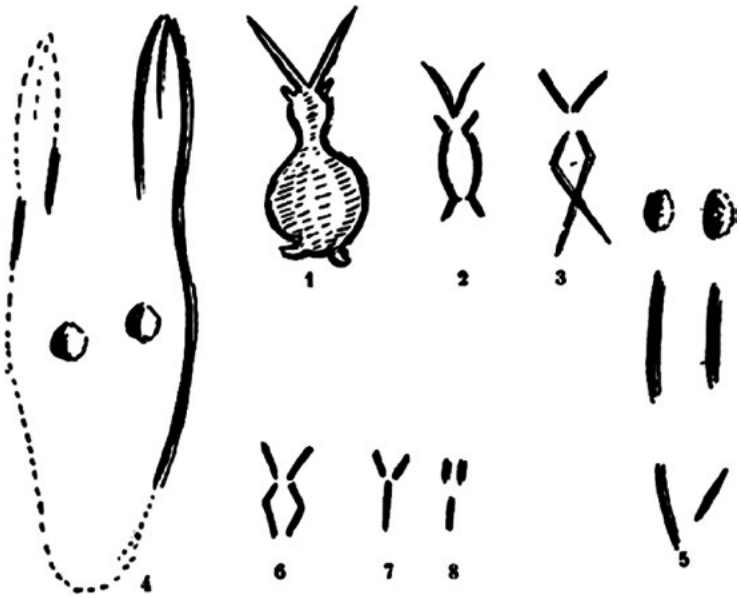


Figure 3. Degeneration of animal figures in schematic and abstract motifs in Paleolithic art according to Breuil (1905: 111).

Palaeolithic images in 1906 (Cartailhac and Breuil 1906: 113), which became widespread among prehistoric art specialists in the first half of the twentieth century (Breuil 1935; 1952).

4. Conclusion

In summary, I have attempted to describe the change in the concept of Palaeolithic art in the late nineteenth and early twentieth centuries, which was largely the result of the transmission of ideas from British evolutionist anthropology to the field of French prehistory. The most influential authors in this process belonged to a group of anthropologists and art historians who developed a series of new ideas about the origins and nature of art, and also the French archaeologists Salomon Reinach and Henry Breuil, who systematically applied these ideas to the interpretation of Palaeolithic art and disseminated them among other European scholars. This process shows the international character of the major debates in prehistoric science from its beginnings, which often involved the participation of leading figures from different countries who kept in touch through publications, conferences, correspondence or personal contact.

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From far away: museums, collections and scientific research

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Abstract

The 19th-century South American fauna fossil collections currently held in Europe were part of the transactions carried out between these two continents at a time when the former looked forward to being included in the economic system and the latter needed new areas in which to expand. Today these collections are being used for different purposes including dissemination, institutional aspects and research. In this way, despite its decontextualisation, this material can provide archaeology with new data. The taphonomic analysis carried out on the Rodrigo Botet Collection in the Natural Science Museum in Valencia (Spain) is an example of this new focus. Thus, these old collections are being given new value in the today's scientific research.

Key-words: *19th century, Pampean Region, international transactions, Rodrigo Botet Collection*

Résumé

Les collections du XIX siècle de fossiles sud-américains de faune indigène déposés en Europe faisaient partie de transactions réalisées quand la première région cherchait de s'insérer dans le système économique et la deuxième avait besoin de nouveaux espaces pour développer. Actuellement, ces collections ont des utilisations différentes dans des domaines tels que la diffusion, institutionnel et de recherche. Ainsi, en dépit de sa contextualisation, ce matériau peut fournir de nouvelles données pour l'archéologie. L'analyse taphonomique dans la collection Rodrigo Botet déposé au Musée des Sciences Naturelles de Valencia est un exemple de cette nouvelle orientation. Par conséquent, ces anciennes collections sont réévalués pour la présente recherche.

Mots-clés: *Dix-neuvième siècle, Pampa, Transactions internationales, Collection Rodrigo Botet*

1. Introduction

The 19th century was characterised by several large migratory movements from Europe to South America, especially to Argentina (Devoto 2003). This also included the exchange and storage of fossil materials in different museums, as happened, for example, to the Pampean palaeontological collections, which were taken to Europe (Podgorny 2000, 2001). These collections are now to be found in several museums and institutions many miles away from their points of origin. They are witnesses of a crucial era in the formation of the modern world, as they were moved for political, economic and scientific reasons that developed at the time.

The aim of this paper is to analyse the international movement of museum collections in the nineteenth and early twentieth centuries and the context in which this took place. The use of these collections today will be examined, looking at dissemination, institutional and research aspects. With reference to this last point, in spite of their lack of context, modern techniques can allow new data to be obtained from them (Chichkoyan 2011; Chichkoyan *et al*. 2013, 2015). The research carried out at the Natural Science Museum of Valencia, Spain, where Rodrigo Botet's collection is kept, is an interesting example of this. The study of this material has contributed new data to the question of the first peopling of the Americas and its impact on the original palaeolandscape (Chichkoyan 2011, 2013; Chichkoyan *et al*. 2013, 2015).

2. The origin of South American collections in Europe

The South American mammal collections, especially those from the Pampas, Buenos Aires, were formed in the late 18th century and throughout the 19th century (Podgorny 2000, 2001; Cowie 2011).

These collections represent a special period in the formation of the different nations all over the world. In fact, the independence of the Spanish Empire in 1810 was very significant for the incorporation of Argentina (and the rest of the South American countries) into the global commercial/political terrain (Devoto 2003). Meanwhile, Europe was marked by colonial and internal wars, the industrial revolution and scientific developments (Hobsbawm 2009, 2010).

The 19th century was a period of transition for Argentina during which the independence movements of the 1810s, internal struggles for political power and the constitution of the modern state in 1880 took place (Devoto 2003). At the same time, knowledge of its land, its natural wealth and its past increased. The land was first explored by missionaries and then by foreign and local naturalists (Podgorny 2000, 2001; Cowie 2011). The finding of the *Megatherium americanum* in the Luján River in 1787 revealed the considerable potential of these lands for fossil hunting. The observations made by Darwin in the Pampean and Patagonic territories during the 1830s reinforced this idea (Podgorny 2000). At the end of the century, Florentino Ameghino, a local scientist and heir to Darwin's intellectual ideas, extended the classification of the Pampean fossils. He also postulated the tertiary origin of humanity in the Pampean region (Pérez Gollán 1995; Bonomo 2002). His controversial ideas were widely heard and many contemporary scientists came to check his findings. Ameghino also travelled to Europe, where he met the best European scientists of the day (Bonomo 2002).

Ameghino's work had some influence on the liberal political project of the last decades of the 19th century, which was designed to modernise the country using Europe as a model. To do this it was considered necessary to educate the workers and the political class invested not only in education but also in establishing good museums and expanding existing ones. In them evolutionist ideals justified the need to 'civilise' the country (Pérez Gollán 1995; Perazzi 2008). All these events led the Pampean region to become known in Europe, which led to the development of a trade network in native fauna (Podgorny 2000, 2001). The network had a very good exploration and extraction system, with instructions being given about deliveries and travellers and scientists who participated in selection of the material to be sent. This same network was supported and facilitated by the government.

Parallel to this, Natural Science Museums began to be opened in Europe and the exploration that was taking place in the New World provided information about the exploitable resources there (Podgorny 2000, 2001; Cowie 2011). For this continent, the development of knowledge of the past went hand-in-hand with the exploratory voyages of the 18th and 19th centuries, which implied the link with unknown ways of life (Hobsbawm 2009; Cowie 2011). Moreover, the discovery of human fossils and stone tools in different European locations was also important because it added to the discussion about human origins, which until then had always been explained from a religious point of view (Hobsbawm 2009). Darwin and his evolutionist ideas on species gave a vital boost to the consolidation of the natural sciences as the way of learning about the past and to justify the system of progress prevailing those days (Hobsbawm 2010). All this made the opening of museums necessary, not only to widen knowledge of faraway territories, but also to study their riches and classify them according to the schemes developed in the era (Podgorny 2000, 2001; Cowie 2011). This novelty involved, as in Argentina, the intervention of the governments which sought to obtain the best pieces for study to increase the collections with overseas materials (Podgorny 2000, 2001; Cowie 2011). As a result, in the evolutionary paradigm held at that time, the 'strange' species from the Pampean region represented the different paths that evolution had found in those faraway lands.

In this way, both sides of the Atlantic were interested in developing this Pampean fossil trade network. On the Argentine side, the network permitted the development and consolidation of the country in opposition to the prevailing European powers at that time and allowed the development of a local scientific system to be endorsed. European museums competed to acquire new species. They linked them to prestige and the domination of the explored regions (Podgorny 2000, 2001; Cowie 2011).

Spain was a pioneer in procuring Argentinean fossils, although the practice extended to other countries, including France, England, Switzerland, Germany, Denmark and Italy. These are some of the European countries that nowadays possess such collections whose origins are to be found in the aforementioned political and economic juncture between South America and Europe. As is customary, most of these museums have some items on display, while others are in storage (Lozano and Menéndez 2013). These finds not only have a historical value due to their origins, but are also useful for research purposes.

3. Fossils in context: the value of these collections

As it can be seen from the previous section, the material was mobilised with the consent of the governments of the nations involved, which encouraged such trade (Pérez Gollán 1995; Pérez de Micou 1998; Podgorny 2000; Phillips 2005). This situation, however, later came to a halt. The political and economic events of the countries involved, especially after the world wars, led to a break and a dramatic decrease in scientific curiosity in these finds (Pérez Gollán 1995; Pérez de Micou 1998; Phillips 2005; Huster 2013). Interest would re-emerge in the last decades of the 20th century, although initially from a heritage point of view. In Argentina and other countries of the world, the issue of heritage has become a matter of concern in various international organisations, with new norms and regulations governing the traffic of archaeological and palaeontological material. It is now maintained that this type of material should stay in the country of origin (especially human remains), although it is still being argued who should be the legal custodians of such materials: museums, associations, ethnic groups, etc. (Phillips 2005; Guráieb and Frère 2008; Cosmai *et al*. 2013). Without going into the legal controversy involved (which is beyond the scope of this paper; for details see Guráieb and Frère 2008), it should be noted that the fossil collections deposited in different museums are a good sample of the natural past of species (De Renzi 2002; Lozano and Menéndez 2013) and as such they are a resource capable of being used by those institutions (De Renzi 2002; Phillips 2005; Guráieb and Frère 2008). Fossil collections from the 19th century have dissemination, research and institutional values.

Starting with dissemination, it must be highlighted that the fossil collections of foreign materials allow the dissemination of the heritage of the country where the fossils originated, not only to local inhabitants and tourists, but also to schools (Lozano and Menéndez 2013). The institutional aspect corresponds to the participation of the institutions and universities of the country of origin and the deposit of the materials. Due to this participation, efforts can be joined to enable the mobilisation of the personnel involved, and the generated knowledge can strengthen ties between participants in national and international cooperation programmes. Finally, in research terms, the materials from these collections are suitable for study, even though they are now out of context, as will be explained below. In the case of the palaeontological material, it is not only useful for studies related to that discipline (De Renzi 2002), but also for answering questions related to archaeology, biology, ecology and other areas of study. In the case of the Argentinean collections that are the focus of this study, new techniques, methodologies and even novel theoretical frameworks are applied. These collections are an essential tool for new generations of investigators, conservators and educators.

4. The reason for studying decontextualised collections

Nineteenth-century excavations focused on finding the most attractive and complete pieces. This was linked to the need of museums to exhibit spectacular pieces and, in the context of the competition between institutions at that time, of museum scientists to define new species (Wolff 1975; Podgorny 2000, 2001; De Renzi 2002). As a result, most of the information related to these remains, their sedimentary context, their association with other remains, the presence of small species and the collection of fragments has been lost (Wolff 1975, Lozano and Menéndez 2013). In this sense, the loss of a related context and the partial nature of the selected finds can be compared to surface finds (Chichkoyan *et al*. 2013). Despite this, fossil remains in museum collections possess invaluable information that can be used in the present (De Renzi 2002; Lozano and Menéndez 2013).

The renewed interest in museum pieces from these 19th-century collections is also related to excavations procedures. On the one hand, archaeology and palaeontology are destructive disciplines, which makes their record a non-renewable resource (Pérez de Micou 1998; Guráieb and Frère 2008); on the other, the investment required for fieldwork is considerable and not always affordable. Thus, the study of fossil collections deposited in museums is an easier, more direct and accessible means of research for many of the current projects and it also means less impact on the environment (Pérez de Micou 1998). The study of museum collections can be carried out thanks to the scientific advances in recent decades and the development of new ideas for material research studies (Balesta and Zagorodny 2000). Progress in the molecular field and genetics allows DNA from the finds to be studied, dating them or analysing the chemical composition of the fossils (Cotterill 1997; De Renzi 2002; Poinar 2002). Moreover, the taphonomic study of the bones allows part of their deposition context to be deduced. This is due to the fact that they still include signs of the work of different natural agents, including erosion, weathering, trampling, manganese staining or even sediment concretion (Chichkoyan 2011). This allows the reconstruction of both the biostratinomy and the fossildiagenesis processes that affected the remains. These post-mortem processes may indirectly indicate certain environmental conditions and, therefore, allow the past landscape to be reconstructed (De Renzi 2002). Furthermore, if the study is directed towards the human-fauna relation, as in this case, biological agents such as carnivores and human cut marks can be recognised to determine the link to past communities (Martin 2008). The use of these new developments yields fresh data not covered so far by the classical way of looking at the finds (Wolff 1975; Cotterill 1997; Pérez de Micou 1998; Perez *et al*. 2005; Huster 2013) and which can be interpreted within an interdisciplinary theoretical framework.

In recent years, some tests are being performed on material from collections, both of animal and human bones, as well as on pottery and lithics (Pérez de Micou 1998; Balesta and Zagorodny 2000; Perez *et al.* 2005; Martin 2008, 2013; Gordón 2009; Bonomo *et al.* 2009; Toledo 2009; Huster 2013; among others). A step in this direction was the revision of the Rodrigo Botet Collection in the Natural Science Museum of Valencia (Spain), whose study was recently resumed. The following section will briefly discuss its history and the analyses currently being carried out.

5. The first peopling of the Americas and the Rodrigo Botet Collection

The study carried out at the Natural Science Museum of Valencia (Spain) is an example of what can be done with 19th-century museum collections. This is the most important collection of South American megafauna fossils in Europe. Its fossils come from the Pampean region of Argentina and were initially studied by Boscá Casanoves, the museum's first curator (Belinchón *et al*. 2009). My work was initially undertaken during my Erasmus Mundus Master in the Quaternary and Prehistory programme in 2009/2010 and is currently part of a PhD thesis in the same study programme. My research will include finds from Argentina kept in various museums in Europe with the aim of understanding human peopling of America.

The particularity of this collection is its private origin, since it was brought to Valencia in 1889 by the civil engineer Rodrigo Botet (1842-1915), a Valencian who worked in Argentina for several years. When he arrived in that country in 1876 he soon established relationships with the ruling class. Thanks to his contacts, he became involved in engineering projects that were being carried out at a time when the province of Buenos Aires was opening up to international trade and the most important cities were being planned. Thus he participated in the building of different ports around the coasts of the province: Buenos Aires, especially Dock Sud, Ensenada and Campana. He also worked on the construction of the city of La Plata and the Buenos Aires-Bahía Blanca railway (Antoni Zaragozà pers. comm., 2015). It is during this period that he met Enrique de Carles, a Catalan travelling naturalist who worked for the Museum of Buenos Aires and who carried out non-systematic excavations in the north-eastern sector of the Pampas Region. De Carles began working at the museum around 1884 under the leadership of Karl Hermann Konrad Burmeister (1807-1892).

He continued there with the Ameghino brothers until the 1920s (Bonomo 2002; Perazzi 2008) and was a loyal defender of their ideas about the presence of Tertiary Man in the region (Bonomo 2002). As a travelling naturalist he was responsible for collecting fossils for the museum, but he also traded with them (Pérez Gollán 1995; Perazzi 2008). By the time de Carles came into contact with Botet he was in possession of a large number of finds that he had originally planned to sell to the Museum of Copenhagen. However, it was Botet who finally acquired the collection and then returned to Valencia. It is the most important collection of Pampean fossils in Europe thanks to its abundance and diversity of species (De Renzi 2002). It also contains important human remains, such as the 'Samborombon skeleton', which unleashed a controversy in Spain regarding the antiquity of the first American peoples, as postulated by Ameghino at that time (Bonomo 2002).

Today this collection is being taphonomically and zooarchaeologically studied to be able to understand the impact of the first American human settlement on native fauna (some preliminary results can be seen in Chichkoyan 2011, 2013; Chichkoyan *et al*. 2013, 2015). Using magnifying glasses and microscopes the material is being observed to detect any marks of biological intervention. Species and skeletal parts are being analysed in order to see which resources were exploited. A comparison with other sites in the region is being made, allowing us a better understanding of the way dispersion developed in the different regions. Dating different bone elements together with human anthropic actions will most likely provide information about when this interaction occurred, when *Homo sapiens* was present in the region and until when these animals survived. Therefore, the study of this collection is providing previously unknown information about current research concerns, despite the lack of context and associations.

6. Conclusions

The 19th-century collections of native South American fauna held in Europe are the result of transactions carried out by different agents: governments and local scientists, travelling naturalists and entrepreneurs. The New World opened up as a natural space, but also as a place for new opportunities for immigration for those seeking to distance themselves from the political and economic changes Europe was going through. European museums were eager to expand their collections and thus encouraged many of the expeditions and acquired material at a time when the natural sciences were at their peak as a form of scientific knowledge. In addition, this happened in a context in which the continent was seeking economic expansion into new territories. Within this context, Rodrigo Botet's collection appears to be a paradigmatic case. Apart from benefiting from the economic and social success enjoyed by Spanish migrants in Argentina, Botet, who held the scientific ideas of his time, invested in one of the most precious materials within the established scientific and liberal environment. Few European collections of this type have such a private origin; in general they were either sponsored by institutions or received donations from local scientists.

The collections that are still housed in Europe continue to attract the interest of the different agents that used them, both in terms of institutional dissemination and research. This type of use does not only give renewed value to this material, but also allows it to be used in further work to provide new data on current research. In spite of its lack of context, advances in theoretical models, methodologies and dating procedures allow a contextualisation of the material and a novel understanding of the new data. The research carried out on Botet's collection is a good example of this.

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Funding international study trips in early twentieth century Europe: the JAE grants and the presence of Spanish archaeologists in Italy (1907-1936)

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Abstract

The Junta para la Ampliación de Estudios e Investigaciones Científicas *(JAE, Spanish Council for the Expansion of Study and Scientific Research) was established in 1907. The purpose of this official institution was 'to train future teachers and lecturers and to give the present ones the means and facilities to follow closely the scientific and pedagogical movements of the most cultivated nations'. As a result, a large number of Spanish scholars were able to travel abroad, which in practice meant to Europe and to a certain extent North America. The information about the selection of candidates and the activities of the grantees during their time abroad was documented by the JAE in its annual reports, which are now a source for studying the foreign trips. In addition, there are other types of documents such as the reports the grantees sent to the JAE, which are now available in the archive of the* Residencia de Estudiantes *in Madrid. In this article the impact of the study trips undertaken by Spanish prehistorians to Italy will be analysed.*

Key-words: *Spanish archaeology, Italy, research stays abroad, grants*

Résumé

La Junta para la Ampliación de Estudios e Investigaciones Científicas *(JAE, Conseil espagnol pour l'expansion de l'étude et de la recherche scientifique), a été créé en 1907. Le but de cette institution officielle était de 'former le futur corps enseignant et de donner à l'actuel les moyens et les facilités à suivre de près les mouvements scientifiques et pédagogiques des nations les plus cultivées'. En conséquence, un grand nombre de chercheurs espagnols ont pu se rendre à voyager surtout en Europe et aussi en l'Amérique du Nord. On parlera sur le processus de sélection et sur les activités des bénéficiaires après les rapports annuels de la JAE. En outre, autres types de documents tels que les rapports que les bénéficiaires envoyaient à la JAE et qu'on peut trouver dans les archives de la* Residencia de Estudiantes *de Madrid seront examinés. Dans cet article, l'impact de ces voyages d'études des prehistoriens espagnols en Italie seront analysées.*

Mots-clés: *Archéologie espagnole, l'Italie, séjour de recherche, subventions*

1. Introduction

Between 1907 and 1936 a total of 1,723 Spanish lecturers and students undertook study trips abroad in order to gain knowledge from the best research centres and foreign universities. This was made possible by the grants from the *Junta para la Ampliación de Estudios e Investigaciones Científicas* (JAE, Spanish Council for the Expansion of Study and Scientific Research), an institution established in 1907 to overcome the perceived backwardness of Spanish science compared with other more developed countries at that time (Sánchez Ron 1988).

The situation in which Spain found itself in the early twentieth century explains the great effort made by the state to try and improve the standard of its scientists. In 1898 Spain had lost its last overseas colonies, Cuba, Puerto Rico and the Philippines. As a result, many of the best known Spanish intellectuals raised their voices trying to explain the causes of that defeat, and there was a general feeling of backwardness, including in the sciences. For them this was really the main problem of Spanish decadence in the late nineteenth century, and they believed the solution to the cultural backwardness would be the unification of the educational and scientific bodies, and bringing

them up to be at par with those of the most advanced countries; as they put it, the 'Europeanisation' of Spanish science (Sánchez Ron 1988, 2).

In order to achieve this Europeanisation a series of measures was devised with the aim of allowing researchers and intellectuals to gain personal knowledge of the latest international currents at the time. This led, in the first instance, to a need to go abroad to establish contacts with the internationally most prestigious academics and to expand the country's knowledge. The instrument that allowed this to happen was the JAE, and in archaeology, linked to the JAE, the *Escuela Española de Historia y Arqueología* in Rome, which favoured and encouraged the interest in travelling to the Italian peninsula. The documents produced by these institutions are those which have provided the main data for this study. In this article my aim will be to question whether the stays abroad sponsored by JAE actually brought about a change in scientific knowledge in the field of Spanish archaeology.

2. The *Junta para la Ampliación de Estudios e Investigaciones Científicas* (JAE)

Directed by the professor and Nobel laureate, Santiago Ramón y Cajal (1852-1934), the creation of the JAE in January 1907 aimed to promote Spanish culture and science. To accomplish this task it fostered, on the one hand, the establishment in 1910 of research centres of various kinds, among them the *Centro de Estudios Históricos* in Madrid (shortened to CEH, Centre for Historical Studies) for the human sciences, the *Instituto Nacional de Ciencias Físico-Naturales* for the natural and physical sciences and the *Residencia de Estudiantes* as a residence hall for students. It also incorporated the *Escuela Española de Historia y Arqueología* (EEHAR, the Spanish School of History and Archaeology) based in Rome (Sánchez Ron 1988).

On the other hand, the JAE promoted the allocation of '*pensiones*' or scholarships to travel abroad, which allowed a large number of Spanish students and established professionals to undertake study trips to other countries. In their applications candidates had to explain where they wanted to go and why. Those who were successful mainly asked to travel in Europe and to a lesser extent to other continents. Applicants had to specify in which blocks they wanted their applications to be classified. Among those available were Education, Science, Arts and, the one by researchers interested in History and Archaeology, Social Sciences and the Humanities (Formentín and Villegas 2007, 95). As an exception some of these applications were processed through related sciences such as architecture.

The JAE did not survive the Spanish Civil War (1936-39) as it was abolished by a government decree of 19 May 1938 in the Francoist zone. It was replaced by the *Instituto de España* (Spanish Institute) and later by the *Consejo Superior de Investigaciones Científicas* (CSIC, Higher Council for Scientific Research) from November 24, 1939. During the period in which it was running, 1,723 researchers benefited from JAE scholarships to travel abroad. Of these, 246 (14.27%) went to Italy, as the documents of the institution, now stored at the *Residencia de Estudiantes*, show (see online on archivojae.edaddeplata.org/jae_app/, and below).

Among those who received grants to travel to Italy we can distinguish more than thirty individuals who can be linked to archaeology, just over 12% of those who went to that country. Of these, 34% applied to stay at the EEHAR, an institution that, as explained above, had been founded in 1910. In the years before the Spanish Civil War it managed to attract a large number of researchers (Espadas Burgos 2000), including archaeologists (Díaz-Andreu 1996, 205; Tortosa 2007, 177), even at times when, as during World War I (1914-1918) and from the start of the Spanish Civil War (1936-1939), the school remained temporarily closed and/or suffered from major cuts in its funding. The *Junta* published an annual report in which the list of grantees was provided, including information on the grant period, destination and any other data deemed relevant. Overall, documents generated around the grants mainly consist of application letters, recommendation letters, the grantees' reports explaining the work they carried out during the trip and the correspondence between the grantees and the JAE dealing with matters such as requests for grant extensions or modifications. This information forms the basis of this article, following the method used by other authors who have worked on

related topics (Laporta, Ruiz *et al*. 1987; Sánchez Ron 1988; Marín Eced 1990; Díaz-Andreu 1996; López Sánchez 2006; Puig-Samper Mulero 2007; Gracia Alonso 2010; Gracia Alonso 2012).

The documents presented here are cited in various ways depending on their origin. Those relating to the files containing letters between the JAE and each individual are cited as JAE – file number, date of the document in the format dd-mm-yyyy. Those relating to personal correspondence between different individuals are referred to as 'sender' to 'receiver' and the date of the letter.

3. The JAE grantees in Italy

The JAE grantees or '*pensionados*' who went to Italy entered a non-neutral space where archaeology was being politically used by the government in power. The context Spanish researchers found in Italy was one of nationalism, and the archaeologists could not fail to observe that the recovery of its Roman past was being used as an element of national cohesion (see Díaz-Andreu this volume). Given the archaeological potential of the Italian territory, the use of archaeology as a means of strengthening the legitimacy of the new Fascist state was evident, and this would later be reproduced in a similar way by Spanish archaeologists and classical scholars in relation to its deposits of Roman origin during the Francoist period (Gracia Alonso 2010, 430; Gracia Alonso 2012, 12). While in the first years of the twentieth century Italian archaeologists were still open to interaction with foreign countries (Hann, Eickhoff *et al*. 2008, 2), this relationship began to break down in the following years. The leadership of Italian archaeology by Luigi Pigorini (1842-1925) (Pizzato, 2015) and Giacomo Boni (1859-1925) (Kambo 1925, 88) clashed with the divergent approaches proposed by non-Italian archaeologists and this led to tensions during the Fascist period (de Haan, Eickhoff *et al*. 2008, 2; Guidi 2008, 116; Paribeni 2008, 39). A few decades later, following a World War and a generational renewal, the positions around relations with foreign scientists became more relaxed, especially from the second half of the twentieth century, when projects with foreign researchers resumed (Guidi, 2008, 120).

From the documentation on the JAE grantees in the archive of the *Residencia de Estudiantes* only that related to those who went to Italy to study archaeology has been selected. However, it may be necessary to clarify that in the period under discussion –the first third of the twentieth century– the concept of archaeology was rather lax. The lines between the different branches related to history were not clearly defined and therefore we find that several of the scholars referred to as archaeologists would not be classified as such today. If we have considered it appropriate to discuss them in this article it is because at the time within the concept of archaeology there were events that decades later and today would be considered closer to the branches of historiography and art history. Equally, some JAE grantees who were not considered as archaeologists at that time would be today.

Within the group of Spanish archaeologists who were in Italy and were JAE grantees, we can distinguish three groups. The first relates to those who travelled to Italy and took advantage of their grant to work on issues related to archaeology. Secondly, we find those who went to Italy, but once there researched in areas other than archaeology. A final group consisted of those who for various reasons failed to travel, but still appear in the reports (see Table 1).

4. JAE grantees working on prehistory in Italy

Of the twenty-eight researchers cited in Table 1, only three worked in prehistory: Eduardo Hernández-Pacheco, Luis Pericot García and Juan Cabré Aguiló.

4.1. Hernandez-Pacheco y Esteban, Eduardo (Record JAE/76-46)

Eduardo Hernández-Pacheco y Esteban (1872-1965) was born in Madrid in a landed gentry's family with some members in the military. He began his studies in Cáceres and Badajoz before moving to Madrid to study at the Central University. He received his doctorate in 1896 with the thesis 'Geological

Name	Field of study	Insitution in Rome	Countries visited during the JAE grant	Used the grant	JAE file
Alós y de Don, Ramón	Archaeology, History	EEHAR	Italy	Yes	JAE/6-262
Batlle y Huguet, Pedro	Epigraphy, Excavations		Italy	Yes	JAE/17-183
Bordás Salellas, Juan	Archaeology, History	EEHAR	Italy	Yes	JAE/22-432
Cabré Aguiló, Juan	Art history		France, Italy, Switzerland, Germany, Austria	Yes	JAE/26-23
Carriazo Arroquia, Juan de Mata	History		Italy	Yes	JAE/32-302
García Bellido, Antonio	Archaeology, Classical archaeology		France, Italy, Germany, Greece, Turkey	Yes	JAE/60-131
Gudiol Cunill, José	Spanish liturgical, Archaeology		France, Italy	Yes	Unknown
Hernández-Pacheco y Estevan, Eduardo	Petrography, Geology		France, Italy, England, Belgium, Switzerland	Yes	JAE/76-45
Pericot García, Luis	Archaeology		France, England, Italy	Yes	JAE/114-375
Pijoan Soteras, José	Museums and Institutes of Archaeology and History	EEHAR	Italy, United States of America, England	Yes	JAE/115-419
Serra Vilaro, Juan	Archaeology		France, Italy	Yes	JAE/137-457
Torres Balbás, Leopoldo	Art History		Italy		JAE/143-142
Vives, Antonio	Carthaginian art		1º trip: Cartago, Italy, Malta. 2º trip: France, Germany, England	Yes	JAE/151-357
Grantees who in the end visited other countries but not italy					
Aguado Bleye, Pedro	Archaeology, History	EEHAR	Italy	No	JAE/1-49
Andrés, Alfonso Fr.			Italy	No	JAE/8-397
Cabré Herreros, Encarnación	Ethnography, Prehistory		Germany, France, Italy, Switzerland	Yes	JAE/26-25
Castillo López, Angel del	Prehistory, Archaeology		Germany, France, Italy	No	JAE/33-395
Cunill y Lonfreda Segismundo	Archaeology, History	EEHAR	Italy	No	JAE/40-751
Pacheco de Leyva, Enrique	Archaeology, History	EEHAR	Italy	No	JAE/109-9
Tovar Llorente, Antonio	History		France, Germany, Italy	Yes	JAE/143-173
Sánchez Albornoz, Claudio	Archaeology, History	EEHAR	Italy	No	JAE/132-137
Grantees whose work was not in archeology					
García Solalinde, Antonio	Archaeology, History	EEHAR	Italy	Yes	JAE/65-363
Martín Robles, Antonio	Archaeology, History	EEHAR	Italy	Yes	JAE/94-250
Martorell y Trabal, Francisco	Archaeology, History	EEHAR	Italy	Yes	JAE/96-399
Rius y Serra, José	Archaeology, Medieval History		Italy	Yes	JAE/123-203
Serrano Luciano, R. P.	Archaeology, History	EEHAR	Italy	Yes	JAE/137-461
Torre, Antonio de la	Archaeology, History	EEHAR	Italy	Yes	JAE/142-117

Table 1. The JAE grantees in Italy.

study of the Sierra de Montánchez' (Rubio Jara and Panera Gallego 2009, 327). He began to teach in a Secondary school in Caceres and later obtained a position at the University of Valladolid. In 1910 he obtained the chair of Geology at the University of Madrid. Together with the Marquis of Cerralbo (1845-1922) (Barril Vicente 2009, 63) he directed the Commission for Palaeontological and Prehistoric Research (*Comisión de Investigaciones Paleontológicas y Prehistóricas*, CIPP) of the JAE (Díaz-Andreu 2014). His research dealt with the Natural Sciences, Prehistory and Palaeontology (Díaz-Andreu and Cortadella 2006, Montero 2013).

In February 1911, Hernández Pacheco applied to the JAE to carry out a study of the methodology for research into petrology in Paris with Professor Antoine Lacroix (1863-1948) (Smith and De Margerie 1952, 193; Gómez Mendoza 2008). He also wanted to 'study at the main museums of Natural History and European universities, and see how geology laboratories were organised and the installation of the lithology and palaeontology collections'. He asked for six months, possibly starting at the beginning of October (record JAE/76-46, 1-02-1911). The 'pension' was granted in September 1911 (R.O. 25-09-1911).

During his JAE grant period, Eduardo Hernández Pacheco first went to the Institute of Human Palaeontology and visited the Museum of Natural history in Paris which was directed by Professor Lacroix, as well as its petrography laboratory. He also went to inspect the Museum of Saint-Germain-en-Laye which, according to him, was then directed by Marcellin Boule (1861-1942) (Hurel 2011, 83) and Armand Thévenin (1870-1918). In Belgium he went to the Royal Museum of Natural History in Brussels, for which he had contacted its keeper, Aimé Rutot (1847-1933). As Hernández-Pacheco had already anticipated in his grant request, he finished the first leg of his trip at the end of 1911 with the idea of continuing the second stage later.

This extension was granted in January 1912 (R.O. 20-1-1912), but he waited until October to begin the second stage of the grant. On that occasion he visited museums of natural sciences in northern Italy and Switzerland, studying the collections of tertiary vertebrate fossils. On his journey he spent time at the palaeontology laboratories of the University of Lyon and the Museum of Natural History in Paris. Once he had completed his tour he requested that his grant be cancelled at the end of January 1913, (JAE/76-46 record, 28-01-1913), a request granted a few months later (R.O. 31-03-1913). Unfortunately, we do not have much information in the letters about what he saw in northern Italy.

Eduardo Hernández-Pacheco's study trip would be of paramount importance for the creation of the first institution dealing with prehistoric archaeology in Spain. From his encounter in Paris with the Marquis of Cerralbo at the Institute of Human Palaeontology came the idea of establishing a similar institution in Spain, the aforementioned CIPP. Interestingly, a similar process was also taking place in Italy. The Italian institution would also have an impact on him, as seems clear from the emulation of the Italian name – *Comitato per le Ricerche di Paleontologia Umana* – in the change of the Spanish institution, which one year later changed the name originally chosen to the Commission for Paleontological and Prehistoric Research (Díaz-Andreu 2014, 167).

4.2. Pericot García, Lluís (Record JAE/114-375)

Lluís Pericot i García (1899-1978) began his undergraduate studies at the University of Barcelona, becoming one of the first students of the young professor Pedro Bosch Gimpera (1891-1974) (Pericot 1974, 585). He was also taught by Hugo Obermaier and Gómez-Moreno during his doctorate year in Madrid (Blanco Freijeiro and Blázquez Martínez 1979, 199). Supervised by Bosch Gimpera, he wrote his thesis on the megalithic civilisation and the Pyrenean culture, completing it in 1923. During his academic career he held chairs at the universities of Santiago (1925-1927), Valencia (1927-1933) and Barcelona (1933-1969) (Díaz-Andreu, 1996, 218). He also held several positions of power within the universities (Faculty Secretary, Vice-Dean and Dean) and other scientific institutions (Vice President of the CSIC, Commissioner for the area of Catalonia and the Balearic Islands) (Fullola Pericot, 2009, 520) and in 1972 he was appointed a member of the Royal Academy of History.

In 1921 Pericot submitted a first application to the JAE to expand his studies on prehistoric archaeology in Berlin at the university and in various museums (JAE/114-375, 29.3.1921). This was granted in January 1922 (R.O. 28-01-1922), but before he had the chance to start his trip a new law prevented him from going. His grant was withdrawn as he was told that university staff were not eligible for the grants. Although he was an unsalaried lecturer, he failed to convince the JAE authorities (Díaz-Andreu, 1996, 219).

Years later, in 1931, while he held the post of Professor of the Faculty of Philosophy and Letters at the University of Valencia, he made a second request for a JAE grant. This time it was to carry out 'studies on the Upper Palaeolithic in Western Europe in connection with the findings verified in the Levant...' in different regions of France, England and Italy for three months (JAE/114-37515-02-1931). He listed all the museums and collections he wanted to visit. Once the grant had been approved (JAE/114-375, 01-08-1931) he delayed his departure several times (JAE/114-375, 1931-08-3, 1-10-1931). In November he sent a first grant report from Narbonne (JAE/114-375, 3-11-1931) and a few days later another from Paris (JAE/114-375, 10-11-1931). He resided in that city for a month before going to England at the beginning of December and then returning to Paris in the middle of January to work with Henri Breuil (1877-1961) (Ripoll i Perelló 1964, JAE/114-375, 1931-11-20, 21-12-1931, 13-12.-1931, 1932-01-161932-01-20). In early February, when he was supposed to begin his stay in Italy, he wrote a letter informing that he would not do so 'directly, but that he would make a detour via Frankfurt and Berlin', where he would remain until 10th February with the idea of reaching Rome on the 15th or 16th of that month (JAE/114-375, 2-02-1932).

In Italy he spent some days in Bologna, where he visited the civic and archaeological museums. Continuing south, he stopped off at the Institute of Human Palaeontology in Florence, where he studied the Upper Palaeolithic remains of the Grimaldi Caves and other sites in northern Italy. Here he mentioned in his report that he had been able to see the finds from the Romanelli Cave, and that he had received excellent treatment from Dr. Paolo Graciosi (1906-1988). After Florence, Pericot worked at the Pigorini Museum of Prehistory, where he came into contact with Professor Ugo Rellini (1870-1943) (Barocelli 1944-45, 269). Pericot discussed with Rellini 'the results obtained in the excavations of the Parpalló Cave' (JAE/114-375, 20-02-1932). From 21 February, he studied at the museum and also at the Institute of Archaeology at the University of Naples. After this he visited the Grimaldi Museum and the site of Barma Grande. He then moved first to Monaco to visit the Prehistory Museum and then continued his journey through France on his way back to Spain, visiting the site of the Grotte de la Salpêtrière and its Aurignacian paintings, given that there could have 'relationship between the same (Salpêtrière) and our Parpalló Cave' (JAE/114-375, 01-03-1932).

Pericot took several years to apply what he had learned in Italy. Traces of his study trip in Italy can be seen in his book about Parpalló, which was finally published after the Civil War in 1942, under the title *The Parpalló Cave* (Pericot 1942). Both Ugo Rellini and Paolo Graziosi are mentioned in this volume. Meeting Paolo Graziosi was very important for Pericot as, after showing him some images of the Parpalló Cave, Pericot himself tells us that he had soon 'suggested … [Graziosi] a parallel with the prints discovered in the famous Italian Romanelli Cave' (Pericot 1968, 157). This led Graziosi to establish relationships between the two sites in publications in both 1932 and 1933 (Graziosi 1932-33; Graziosi 1933) setting himself up as the 'champion of the Western Mediterranean artistic province' (Pericot 1968, 162), in line with the approach of Pericot himself (Pericot 1968, 158).

The academic relationships with Italian archaeologists established by Pericot thanks to the JAE grant would later be reflected in invitations to lecture in Spain at events such as the International Courses of Archaeology of Ampurias directed primarily by Pericot together with Almagro. One of the invitees was Paolo Graziosi in 1951 (Díaz-Andreu 2012, fig. 4.9; Gracia Alonso 2010, 438).

4.3. Cabré Aguiló, Juan (Record JAE/26-23)

Juan Cabré Aguiló (1882-1947) was born in Calaceite, Teruel. He studied in Tortosa and Zaragoza until he was awarded a scholarship by the Provincial Government of Teruel to study painting at the School of Art (Escuela de Pintura) at the Royal Academy of Fine Arts of Madrid. In this period (1900-1908) he became interested in archaeology, contributing to journals such as the *Boletín de Historia y Geografía del Bajo Aragón*. After he had finished his studies, he completely immersed himself in archaeology. He contributed to the *Catálogos Monumentales de España* for Zaragoza, Teruel and Soria, worked for the Museum of Anthropology, Ethnography and Prehistory in Madrid (1920-1936) and was appointed director of the Museo Cerralbo in the same city (1922-1939). After

the Spanish Civil War (1936-1939) he served as head of the prehistory section at the Instituto Diego de Velázquez de Arte y Arqueología of the Higher Council for Scientific Research (CSIC), and finally in 1942 he obtained a minor position in the Prehistory and Ancient History Department of the National Archaeological Museum in Madrid, a position he would maintain until his death in 1947 (Pasamar Alzuria 2009, 161).

Juan Cabré's request for a JAE grant was dated February 3, 1934. He presented himself as an experienced professional and explained that he wanted the scholarship to visit museums in France (Saint Germain-en-Laye), Italy (Florence and Bologna) Switzerland (Neuchâtel, Berne and that of art and history in Geneva), Germany (Berlin), and Austria (Vienna) for a period of three months. The purpose of his grant was to search for Iron Age objects similar to those found on the Iberian Peninsula (record JAE/26-23, 03-02-1934). His request was successful, although his trip was delayed, as it did not begin in September that year as it was planned.

In a letter dated 8 April 1935, Cabré mentioned that on 29 January of that year he had been allowed to postpone his three-month trip to study at the aforementioned museums. Given his work at the Museo Cerralbo, they asked whether he could undertake the trip from either May to July or June to August, as in June he would give a lecture at the German Insitute of Berlin about Spanish prehistory. He finally departed by ship to Bremen at the end of March. There he met his daughter Encarnación Cabré (1911-2005) and with her he visited some German and Austrian museums. He then continued his itinerary through Italy and Switzerland (Díaz-Andreu, 1996, 211).

Regarding Italy, Cabré submitted a report to the JAE on the locations he visited between 10 August and 9 September 1935. In Rome he went to the Pigorini Museum of Prehistory, the Museo Antiquarium Comunale del Celio and the National Museum of Villa Giulia, as well as a few excavations and monuments. In Ostia, he visited the excavations of the Roman town and its necropolis. In Naples he went to the National Archaeological Museum, where he paid particular attention to its collections and library. His trip also covered the Pompeii excavations. Finally he also included the museums and monuments of Ancona, Ravenna, Este, Padua and Milan.

The effect of this experience on Cabré was apparent after the Spanish Civil War, when his writings evidenced the influence that the archaeology produced in Germany and Italy during the dictatorship years had on his own approaches. One example of this was the way in which he interpreted some individuals with raised hands painted on Iron Age Iberian pottery found at the sites of Azaila and Cabezo de la Guardia as the 'Iberian greeting' (Cabré 1943), linking it with the fascist salute (Olmos 1996, 53).

5. Conclusions

The JAE grantees dealing with prehistoric archaeology who used their grants to travel to Italy were not very numerous and they came from a range of institutions. They mainly went to see collections and visit sites, rather than study in universities. Therefore, the transmission of knowledge was somehow limited in comparison to other JAE trips by prehistorians to Germany, whose influence was much more remarkable (Díaz-Andreu 1995, 1996).

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Romanità in Spain? The contacts between Spanish and Italian classical archaeologists during the dictatorship of Primo de Rivera (1923-1930)

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Abstract

This article aims to analyse whether the development of classical archaeology in Spain and Italy was connected during the 1920s, at a time when both countries were ruled by right-wing dictatorships. Despite having similar political regimes, it will be argued that each of these two countries understood the essence of the nation in contrasting ways: whereas the concept of 'Romanità' was considered of prime importance in Italy, the focus in Spain was on the Catholic past. It will be proposed that this difference was behind the divergences that this article will identify regarding how archaeology was perceived and funded in each country.

Key-words: *History of Archaeology, Spain, politics, dictatorship, romanità, classical archaeology*

Résumé

Cet article a pour but de faire une étude pour savoir si le développement de l'archéologie classique en Espagne et en Italie était lié au cours des années 1920, à l'époque où les deux pays étaient sous un régime dictatorial de droite. Malgré cela, il sera argumenté que chaque pays comprenait l'essence de la nation de manière contrastée: alors que le concept de 'Romanita' était considéré comme central en Italie, il se focalisait en Espagne sur son passé catholique. Cette différence se trouvait derrière les divergences observées sur la manière dont l'archéologie était perçue et financée dans chaque pays.

Mot-clés: *Histoire de l'archéologie, Espagne, politique, dictature, romanità, archéologie classique*

1. Introduction

Histories of archaeology usually look at the development of the discipline in isolation. However, when analysed from an international perspective, the links between the practice and theories of archaeology and the management of archaeological sites show clear similarities that distinctly indicate the importance of international connections. There are many ways in which these contacts can be established: researchers may connect with their peers at an international level through a combination of travel (for meetings, official and unofficial visits, talks, etc.), contact by mail, and exposure to the ideas of others through readable or viewable material including publications and photographs. In a recently published article I proposed that the concept of transnationalism could be employed to indicate these exchanges between scholars of different countries. I used the example of prehistoric archaeology in Italy, France and Spain in the first third of the twentieth century to demonstrate that these contacts resulted in similar pathways in the institutionalisation and the development of Palaeolithic archaeology by national scholarly communities that had normally been considered in isolation in histories of archaeology. The comparison of the three countries indicated that the interaction between scholars had been crucial and largely explained the specific developments that occurred in each of them (Díaz-Andreu 2014).

International contacts are not devoid of the perception scholars have about the importance of the countries with which they establish relations. Thus, in the example mentioned, it was noted that the influences among the three countries were not homogeneous. Although the connections between France and Italy and France and Spain were evident and easy to study through the bibliography, correspondence and so on, the relationship between Italy and Spain was less apparent. It was argued

that transversal movements between countries with a less solid scholarly community – and this was the case of both of these Mediterranean nations in comparison to the most powerful European countries at the time (France, the United Kingdom and Germany) – are more difficult to see, perhaps simply because they were less frequent. The reason for the lesser enthusiasm shown by scholars from less powerful countries to talk to each other can be explained by the tactics they followed. Scholars were – and are – strategic in their movements: they prefer to travel to celebrated countries rather than to others that have less international prestige, and neither Italy nor Spain were considered to be among the most influential. The reason for this is that scholars think – and they are usually right – that contacts with peers from strong countries will mean publications in well-known journals, invitations to internationally acclaimed conferences and visits to their own countries by admired scholars.

In this article I would like to follow the line established in my previous work, but I will shift the focus from prehistory to classical archaeology, limiting it to Italy and Spain and a shorter period. It is the aim of the study undertaken below to reflect on the extent to which the development of classical archaeology in Spain and Italy were connected in the 1920s, or, more precisely, during the years in that decade in which both Italy and Spain were ruled by dictatorships, a situation that ended in Spain in 1930 when the first dictator, Miguel Primo de Rivera (r. 1923-1930), left the country. At the time of the fall of the Italian dictator, Benito Mussolini (r. 1922-1943), Spain had already moved into a second dictatorship that would not end until 1975. The contacts between these two countries in the 1930s and early 1940s are beyond the scope of this article and have been analysed elsewhere (see references to Duplá and Gracia below).

There is ample bibliography on the influence of Roman archaeology in fascist Italy, where Romanità became one of the pillars of fascist nationalism. If we were to transpose what we know of the early years of Francoism to the dictatorship of Primo de Rivera, one would expect that this was also happening in Spain. However, nothing has been written on this and this is the reason behind the decision to look into it specifically in the following pages. To start with the treatment received by the classical past in Italy will be described and this will be followed by a survey of the ideological basis on which the dictatorship of Primo de Rivera was sustained. An examination of the state of Roman archaeology in Spain and of the relationships established between Italian and Spanish archaeologists will allow us to conclude whether or not fascism influenced the development of classical archaeology in Spain in the 1920s.

2. Romanità and the Roman period in Italy (1920s-early 1940s)

Italian fascism considered the Roman period to be the basis of the nation and the Fascists appointed themselves as being responsible for ensuring the proper treatment of that inheritance. Romanità was used by the fascist 'imperial' propaganda as an opportunistic way of conveying fascist ideology and legitimising Mussolini's power by rooting it in the past. In April 1922, even before he seized power, he exclaimed:

> Celebrating the birth of Rome means celebrating our type of civilisation, it means exalting our history and our race [...]. The Rome we honour, but above all the Rome we yearn and prepare for, is another. It is not made of distinguished stones, but of living souls; it is not nostalgic contemplation of the past, but tough preparation for the future. Rome is our point of departure and our point of reference. It is our symbol or, if you will, our myth. We dream of a Roman Italy, wise and strong, disciplined and imperial.
>
> (Mussolini, 21 April 1922, quoted in Barbanera 1998).[1]

Mussolini made direct comparisons between fascist feats and known historical events. One example of this was the link established between Sulla's and Caesar's coups d'état and Mussolini's 'March on Rome' in October 1922, by which the Fascist Party came to power. The implication was that fascist Italy had crossed its Rubicon on the way to world power, as Caesar had done in 49 BC on his march

[1] All translations are the author's unless otherwise stated.

towards Rome (Visser 1992: 6). Romanità, however, was far from an inflexible concept. It was rather an adaptable and malleable ideological construct and was used in the context of a wide range of discourses and practices, including architecture (Visser 1992: 11), family relations, the economy, the cult of El Duce and even eugenics (Stone 1999).

The fascist use of the past had old and new elements. Indeed the recourse to the Roman past was not invented by fascism, as it had a much longer, deeper tradition, which can be dated back to the Renaissance and even the Medieval period (Barkan 1999, Díaz-Andreu 2007: ch. 2, Schnapp 1996). The use of the classical past was also a constant reference for the immediate pre-fascist period in many realms, including Italian colonialism in the Mediterranean (Visser 1992: 6-7, Barbanera 2008: 172-174), greatly favoured by right-wing nationalists (Visser 1992: 10). New to fascism, however, was the wide range of practices –use of symbols, gestures, and metaphors– disseminated through a comprehensive range of many different media, including sculpture, architecture and children's books (Stone 1999).

The importance of the Roman period during fascism brought new funding to the discipline. Archaeologists were aware of this and many years later Bosch Gimpera said about an Italian conference he attended in 1928 that:

> as Italy was living under fascism, archaeologists wanted to take advantage of the Etruscan congress to raise funds for excavations, in large numbers, for Etruscan sites.
>
> (Bosch Gimpera 1980: 122)

Adherence to the regime was necessary, as he further explains that

> Everyone gave the fascist salute with the arm extended, like the ancient Romans. With [the German archaeologist, Wilhelm] Unverzagt, my old friend from Berlin, we joked about this and about the inflated patriotic rhetoric of the official speeches. He said he could not conceive of something similar and so ridiculous happening in Germany.
>
> (Bosch Gimpera 1980: 122)

Unverzagt was obviously wrong, as history proved only a few years later.

It was not only excavations of Etruscan sites, as mentioned by Bosch Gimpera above, but to a large extent those dated in the Roman period that received wide political and financial support, making it possible to tackle large, complex sites. This assistance allowed the development of creative excavation techniques such as freezing the soil of the original site of the Ara Pacis to allow it to be excavated (Elsner 1996: 32). However, the interest in the Roman period was detrimental to the study and even to the preservation of the remains of other later periods. For example, no attention was paid to the medieval and post-medieval stratigraphic layers in the Imperial Fora, which were rapidly cut through to reach the imperial levels of Augustus, Caesar and Trajan, without proper recording of the later strata. Most of what had been rapidly extracted was discarded and very few or no publications were ever written on them (Dyson 2006: 178-179). The concepts of sventranento (clearance and isolation) and valorizazzione (interpretation or re-evaluation) led to decisions by which ancient monuments were cleared of any post-Roman additions and displayed in isolation, leading to the destruction of many medieval and baroque structures (Kostof 1994). In other cases political demands resulted in hurried excavations and reconstructions, such as those of the Mausoleum of Augustus and the Ara Pacis, both carried out to meet the 1937 deadline for the 2000th anniversary of the birth of Augustus (Rey 2003, Stone 1999: 206).

The official celebration of the 2000th anniversary of the birth of Augustus in 1937 was also behind the organisation of large archaeological exhibitions such as the Mostra Augustea della Romanità, held in 1937-38 to celebrate the bimillennium of Augustus' birth. An exhibition of eighty-two rooms displayed three thousand reproductions of Roman objects accompanied by quotations from the classical authors and Christian theologians, combined with others from Mussolini. Over one million

people visited the exhibition (Arthurs 2012: ch. 4, Silverio 1983). In the room on the immortality of the idea of Rome and the renaissance of the Empire in Fascist Italy, there was a quotation by Mussolini repeating an excerpt from the 1922 discourse quoted above: 'Rome is our point of departure and our point of reference: it is our symbol, or, if you will, our myth' (Mostra Augustea..., 1938: v.1, 441, in Stone 1999: 205).

3. A Catholic past for the dictatorship of Primo de Rivera (1923-1930)

The dictatorship of General Miguel Primo de Rivera from 1923 to 1930 had a very different view of the past, although the social and political causes that had originated the dictatorships were to a degree similar in Italy and Spain. In Spain the dictatorship was prompted by a series of events starting with a growing discontent fuelled by the loss of the country's last colonies in 1898, and, as part of the new colonial venture in northern Morocco, the disaster of Annual in 1921. A growing radicalism among anarchist and socialist ranks had also created a climate of fear among the well-off classes. Moreover, the Catalan and Basque nationalisms that had emerged in the last third of the nineteenth century became increasingly popular throughout the first decades of the twentieth century and this led to nationalist challenges to the central state power such as, for example, the creation of the Mancomunitat of Catalonia (1914-1924). Similarly to what was occurring in Italy and many other European countries, in Spain members of the middle classes were becoming increasingly disillusioned with the party political system and support for dictatorial regimes began to gain favour. This explains the widespread initial backing for Primo de Rivera among the middle classes and the army.

Given the similar base that the dictatorships had in Spain and Italy, not surprisingly, Primo de Rivera's uprising was seen favourably by Mussolini's Italy and this was reciprocated by both the Spanish dictator and King Alfonso XIII, who took a positive view of the regime imposed in Italy (Tusell Gómez and Saz Campos 1982: 420-1, 423). However, this initial enthusiasm was soon played down, partly because of the differences between the two countries over North Africa and in particular over the international status of Tangier (Tusell Gómez and Saz Campos 1982).

Support for Primo de Rivera not only weakened in Italy but, what was worse for the regime, also among the middle classes and the army in Spain. This ultimately resulted in the dictator's resignation in 1930. A year later, wide support for republican parties also drove the king into exile. During the Second Republic a series of radical reforms –land redistribution, compulsory retirement of senior army officers, abolition of religious education and legalisation of divorce– contributed to a novel feeling of alienation among the upper classes and the army, creating a climate of political tension that finally exploded in 1936. The army uprising led by General Francisco Franco in 1936 would be the start of a three-year civil war and then a long dictatorship that lasted until 1975. In this new dictatorial regime the relations between Spain and Italy were excellent in the 1940s and this has been seen as the basis for the good relations between Spanish and Italian archaeologists during the early years of that decade (Gracia Alonso 2012, Duplá 1998).

The attitude towards classical archaeology in Fascist Italy and the Spanish Primo de Rivera dictatorial regime had differences that need to be explained. In the 1920s the dictatorial regimes of Italy and Spain shared their right-wing totalitarianism, but they also had some important differences that explain their dissimilar attitude to classical archaeology. Unlike in Italy, where religion was considered important but not a major constituent of the Italian nation, in Spain, both Primo de Rivera's dictatorship and the subsequent Franco dictatorship insisted on the Catholic roots of the Spanish nation. They both based their legitimacy on the medieval Christian conquest of Islamic Spain in which it was argued that Castile had played a central role (for example Ortega y Gasset 1921). The fifteenth and sixteenth centuries, when the Catholic Monarchs defeated the Islamic kingdom of Granada, followed by the discovery of America and the evangelisation of the New World, were hailed as the national Golden Ages. It was also during those centuries that the early modern Spanish overseas empire had

flourished during the reigns of Charles V and Philip II (Fox 1997, Valls 1986, Sopeña Monsalve 2002 (1994)).

Mussolini's regard for the Roman past was not followed by Miguel Primo de Rivera. For him it was the Catholic nature of Spain that had led to its national peculiarity (see, for example, Pemartín 1928). This religious focus had many manifestations of which three will be mentioned. The first occurred in 1924, when the Italian king and queen came to Spain. The Commissioner for Tourism, the Marquis of Vega Inclán, organised several tours for the royal couple, but none to archaeological sites. For example, in Toledo the Cathedral, the Alcázar (castle), the arms factory and the School of Gymnastics were visited, but there was no mention of any archaeological sites (ABC, Sunday 18 May 1924: 31). The same happened when they visited Valencia and Barcelona (ABC, Monday 2 June 1924: 14). The second event to mention here is the organisation of a 'Christian Year' in the Prado Museum in 1926. There was a series of talks on religious themes, but no similar initiative was taken with classical themes (Vega 2010: 333). Finally, regarding school education, in 1929 Manuel Siurot Rodríguez, one of the regime's supporters, commented at a 'course for citizenship':

> education has to be downright Christian, with Christ's banner hanging on the door without fear or regard, and until that is done God will not bless the school… We must do everything to reach that goal.
>
> (in López Martín 1991: 186).

Once again the classical past was ignored, something that would not have happened in Italy.

The disregard for the Roman past during Primo de Rivera's dictatorship contrasts with the interest in it during the Francoist period. Its importance in the early years of the Franco regime came from the Falangist Party. Led by the son of the first dictator, José Antonio Primo de Rivera (1903-1936), the Falange had been directly inspired by fascism. Much as had happened in Italy, politicians at all levels selected images from Rome and integrated them into their political discourses. The Roman Empire was evoked as an essential precedent to the new era in Spanish politics. In an extensive and interesting list of publications Antonio Duplá has demonstrated the use of the classical past from the late 1930s to the 1970s (for example Duplá 1992, 1997, 1998, 2003, Duplá and Emborujo 1994). To his studies one can add others on school history books that confirm the pattern seen by Duplá (Ruiz Rodríguez 2010, Ruiz Zapatero 2001, Ruiz Zapatero and Alvarez-Sanchís 1995).

4. Roman archaeology in Spain under Primo de Rivera's dictatorship

Did the political indifference towards the Roman period during Primo de Rivera's dictatorship affect the degree of state interest in its archaeology? There are many ways of answering this question: an analysis of the state funding provided for archaeological excavations, the reasons behind a royal visit to Merida, one of the major Roman sites being excavated at the time, and the way in which the reconstruction of that town's Roman theatre was perceived at the time.

Regarding the state funding of archaeological excavations, the information found in the General Archive of the Administration on subsidies from 1915 to 1933 shows little difference between the periods before, during and after the Primo de Rivera dictatorship. Among the sites with the highest funding there were several from the Roman period: Numantia, Merida, Italica, and Sagunto; together with the Islamic palace of Medina Azahara, they took more than half of the total amount (see figures in Díaz-Andreu 2003: table I). The only difference between the years before Primo de Rivera and those during (and after) him, was that the work in Numantia stopped, but this was most likely due to personal reasons (Díaz-Andreu 2004: XV, XCVII-XCVIII). Work in the other excavations continued with a similar degree of sponsorship. However, the importance of Roman sites should not be interpreted as a particular regard for the Roman period in Spanish nationalism. I have argued elsewhere that this was related to their monumentality, which made them suitable to be exploited for tourism. In the 1920s the organisation of tourism in Spain was already in its second decade (Menéndez Robles 2006, Moreno Garrido 2007). The Commissar of Tourism of the Comisaría Regia

de Turismo (1911-1928) and of the National Tourist Board (Patronato Nacional de Turismo) (from 1928)[2] was the Marquis of Vega Inclán (1858-1942). It is not by chance that the lack of difference in funding between the period before the dictatorship and during it coincided with his membership of the panel that decided on subsidies for archaeological excavations. It did not change from the first year -1915- until 1932, i.e., the period he was on the panel before, during and after the dictatorship of Primo de Rivera.

It was the interest in tourism that inspired the dictator Primo de Rivera and King Alfonso XII to visit Merida on 17 December 1927. They were accompanied by the Minister of Culture (the Duke of Alba) and the Commissar of Tourism (the Marquis of Vega Inclán) and were shown round the theatre and the amphitheatre by their excavators, the director of the National Archaeological Museum in Madrid, José Ramón Mélida (1856-1933), and the local archaeologist, Maximiliano Macías (1867-1934) (Caballero Rodríguez 2008: 374-5, ABC 18 Dec 1927). It was also for the tourism expected for the Universal Exhibitions in Seville and Barcelona in 1929 that a new set of tourist guides was printed, in some cases new editions of those printed in 1913 (Macias Liáñez 1913, Macias Liáñez 1929). Mérida's attraction as a tourist site can also be seen in the inclusion of many stills of Roman Mérida in a documentary film made in 1929 by Manuel Muñoz entitled 'Extremadura, the Birthplace of America' ('Extremadura, cuna de América') (Caballero Rodríguez 2008: 382).

A final example of the lack of interest in the Roman era as the historical period in which the Spanish nation took root comes from the comments made by a reporter and pedagogue, Luis Bello (1872-1935), who visited Merida at the time of the reconstruction of the theatre, during the dictatorship, and described his experience using religious, rather than historical, metaphors. His text reads as follows:

> In the full glare of the sun, while the disinterred and newly re-erected columns cast a heavy, Mediterranean shadow, the Roman theatre is not a ruin, but a resurrection. No museum can have the life of this marvellous gem. It is like a dry spring from which water once again flows twenty centuries later. As dusk falls, I imagine Don José Ramón Mélida, who has just lit it, and his assistants Macías and [the architect] Millán Gómez, leaving the site with the workers, overwhelmed by the confused religious dread of being committed to working against fate. …The silence of so many dumb things pierces us with anguish. Not as archaeologists, but as men, we pray that on such wretched glory falls the piety of earth.
>
> (Bello 1927 (2004) in Caballero Rodríguez 2008: vol. I, 322-323).

5. The relationship between Spanish and Italian archaeology during Primo de Rivera's dictatorship

There is no systematic analysis of the relationship between Spanish and Italian archaeologists during the dictatorship of Primo de Rivera (although see Díaz-Andreu 2014 and Sánchez Salas this volume) or even in the immediate decades before it. There are some studies on the Italian collections bought by Spanish collectors during the early modern period and the nineteenth century and within that context some correspondence exchanged between experts (Beltrán Fortes *et al*. 2007, Mora 2006). It has also been noted that Italy was frequently visited by architects and artists (Mora 2001, Romero Recio 2012, Salas Álvarez 2007). Not much is known, however, about whether there were any professional relationships once archaeology had become professionalised in the second half of the nineteenth century by members of, for example, the Escuela Superior de Diplomática, where archaeology was taught in Madrid from 1856 to 1900 (Peiró Martín and Pasamar Alzuria 1996).

The search for information on the archaeology of the Roman period in the first two decades of the twentieth century has also provided little evidence (although see below). A good example of this is the examination of the extensive bibliography published by one of the major archaeologists at the time, José Ramón Mélida, already mentioned above as the excavator of the Roman sites of Numantia and Merida. In this list nothing seems to indicate that he had many contacts with Italian

[2] The Patronato National de Turismo was established by Royal Order of 25 April 1928.

archaeologists (Casado Rigalt 2006, Díaz-Andreu 2004). This is also the case of one of the other major archaeologists of the first third of the twentieth century, although from a younger generation than Mélida, Manuel Gómez Moreno (1870-1970). In his archive there are some letters from Rodolfo Lanciani (1845-1929) regarding the organisation of the Roman exhibition of 1911 (whose Spanish room he organised with the art historian Josep Pijoan), but none from later dates (Bellón and Tortosa 2010). If neither seemed interested in relationships with Italian archaeologists, this was not the case with those from other countries. Mélida had strong links with French archaeologists, whereas Gómez Moreno was less international but did some work for the Hispanic Society of America through the Valencia de Don Juan Institute (Gómez-Moreno 1995).

At this point in the article, the answer to the question of whether a special relationship developed between Spanish and Italian archaeologists during the time of the dictatorship of Primo de Rivera would have to be negative. Further data seem to corroborate this. The first additional sign of this lack of interest in a special relationship is the failure to revive the Spanish School of History and Archaeology at Rome (Escuela Española de Historia y Arqueología, EEHAR). Established in 1910 and housed in the Palazzo di Monserrato in Via Giulia, its first director had been Josep Pijoan (1880-1963). As mentioned above, Pijoan had cooperated with Manuel Gómez Moreno on the organisation of the Spanish room at the Mostra Archeologica of 1911 (Bellón and Tortosa 2010, Tortosa 2010). He had renounced to his post in 1913 due, he explained, to the lack of official interest he had encountered (Tortosa 2010). Despite this, the school continued to be active until Italy entered the First World War in 1915, when the building was given in usufruct to a church-related organisation, the Obra Pía, never to be returned. The school was never officially closed and its journal, the *Cuadernos de Trabajos de la EEHAR*, in which no archaeology ever appeared, was last published before the Francoist period in 1924 (the previous issues had been issued in 1912, 1914, 1915 and 1918). It is therefore at the start of the Primo de Rivera dictatorship, in 1924, that scholars date the end of the first phase of the school. The second phase would not begin until 1947, during the Francoist regime, when the school was reopened in Via di Villa Albani (Mora 2010: 268). Spain's inactivity towards its own school of archaeology in Rome contrasted with the interest shown by other countries. During the years of the Primo de Rivera dictatorship, the Dutch Historical Institute opened an Archaeology Section in 1925 and in the same year a mainly archaeological Swedish institute was established in Rome (García Sánchez 2010: 85). In 1929 there was a suggestion that Spanish archaeology fellows in Rome should be admitted to the other official institution the Spanish state had in the city: the Spanish Academy in Rome (Bellón 2010: 124). Although this led to nothing, it is interesting to note that its director between 1926 and 1933, the sculptor Miguel Blay, became member of the International Association for Mediterranean Studies (Associazione Internazionale per gli Studi Mediterranei) and cooperated with the Istituto di Studi Romani for some time after the dictatorship (Bellón 2010: 125). Blay's activities cannot have been important, at least for archaeology, as nothing is mentioned in the literature, not even in a biography written by the archaeologist Miquel Oliva Prat (Oliva Prat 1967).[3]

Although meeting in Rome was not easy, for the reasons explained, Spanish and Italian archaeologists had other occasions to meet each other elsewhere during the Primo de Rivera years. The archaeologist who had the strongest relationship with Italian scholars during the second half of the 1920s was the University of Barcelona professor, Pedro Bosch Gimpera (1891-1974). He was twenty years younger than Gómez Moreno and much more international than either him or Mélida. Thanks to two JAE fellowships Bosch Gimpera had been trained in archaeology in Germany and during the 1920s he became one of the main members of the pro-German international archaeology circuit at that time

[3] After the end of Blay's tenure the person who represented archaeology in Rome, now after the Primo de Rivera period, was the secretary of the institution, a specialist in church history, Jose Olarra Garmendia. He represented the Spanish Academy of Fine Arts at the IV Congresso Nazionale di Studi Romani and in 1938 at both the Congresso Augusteo and the V Congresso Nazionale, the latter convened under the generic title of the Roma dell'Impero funzione nella storia della Civiltà. In 1937 Olarra had already entered the Comitato Nazionale Permanente per l'Incremento degli Studi Romani (García Sánchez 2010: 91). In 1939 the librarian Fernando Valls Taberner, who had lived for a few months in Rome at the start of the Civil War, published articles in *Quaderni Augustei* (García Sánchez 2010).

(for information on the division of European international archaeology between those who wanted a continuation with the pro-French, pre-World War I situation and those who wanted a renovation of and believed in German-style archaeology, see Díaz-Andreu and Cortadella 2006, Díaz-Andreu 2009). Within the framework of the strong international network of friendships and alliances that Bosch and others were forming at the time, in 1926 the Catalan professor attended a meeting in Sardinia organised by Count Francesco Pellati (1882-1967). Pellati was at the time the Director of Fine Arts at the Ministry in Rome, a post that could only be filled by a disciple of the Fascist regime, as confirmed by Bosch (see below). In Sardinia he met many other Italian archaeologists: the Etruscologist Neppi Modona, the professor of classical art and archaeology at Messina, Carlo Albizati (1888-1950), and the Orientalist Giorgio Levi della Vida (1886-1967) (Bosch Gimpera 1980: 126). The following year Bosch Gimpera was invited to a conference on Etruscans organised in Cirenaica, although the invitation arrived too late for him to be able to go. He did manage to attend the following one in Florence in 1928. There he met other Italian scholars, including Antonio Minto (1880-1954), Pericle Ducati (1880-1944), Ugo Rellini (1870-1943), Ugo Antonielli, Paolo Orsi (1859-1935), Giulio Quirino Giglioli (1886-1957), and the linguists Giacomo Devoto (1897-1974) and Alfredo Trombetti (1866-1929). After the conference the delegates embarked for Rhodes to visit the Italian excavations there. After this he went to Rome where he met Ettore Pais (1856-1939), Gaetano de Sanctis (1870-1957) and once again Pellati. The first of these, the professor of Ancient History and senator Ettore Pais, asked him to write an article on Greek colonisation in Spain, which he seemingly did and Pais mentioned his work in the proceedings of the Accademia dei Lincei. As a result of the visit to de Sanctis, also an ancient historian and professor from 1929, Bosch was invited to become a correspondent of the Pontificia Accademia Romana di Archeologia (many years later, in 1972, he would comment that he was the oldest among the correspondents (Gracia Alonso *et al*. 2002: 453)).

The meetings Bosch Gimpera attended between 1926 and 1930 seem to have inspired him to write a first article on Etruscans and their relationship with Iberian archaeology (Bosch Gimpera 1929). Research on a topic related to Italian archaeology, however, did not mean exclusively reading Italian literature. This was not the case with Bosch Gimpera, as he mentioned several articles written by his Italian colleagues, together with others by British, French, Spanish and German archaeologists. The lack of knowledge of Italian literature, however, becames evident in one of the other archaeologists who also published on the links between the Etruscans and the Iberians, Antonio García y Bellido (1903-1972). Although his first article on this topic was published after the end of the dictatorship, in 1931, the research for it must have been carried out earlier. García y Bellido mentioned many more German than Italian scholars in his article. Interestingly, he also referred, without mentioning specific names, to information he had received about articles published in the journal Studi Etruschi. He even stated that his opinion regarding the Sangüesa piece had been confirmed by German Robert Zahn, the director of the Antiquarium at Berlin (García y Bellido 1931: 132 n6). This means that he had a higher opinion of German archaeologists than of their Italian counterparts, even when dealing with Italian archaeology.

As mentioned in a previous section, Bosch was not unaware of the political climate in Italy and of the influence this had on funding for archaeology (Bosch Gimpera 1980: 122). This, and his mention of the Roman salute, were made in the framework of the Etruscan congresses of 1926 and 1928 (Bosch Gimpera 1980: 116, 122). A cursory investigation of most of the scholars he met in Italy in the 1920s shows that most were connected to fascism. Nevertheless, we cannot infer from this that he was a sympathiser. In order to understand how personal and professional relations were perceived in dictatorial Europe, it may be helpful to remember the words of the communist archaeologist, O. G. S. Crawford (Hauser 2008). As he once said:

> I liked the Nazis as little as he [Bersu] did; but I had long ago considered what attitude to adopt in my dealings with archaeologists abroad, both Antiquity and the Roman Map involved, and I had decided to make no distinctions between Nazis, Fascists, Communists or Democrats.
>
> (Crawford 1955: 248)

In his memoirs Bosch does not explain, perhaps because he was unaware of it, that of the archaeologists he met in 1926, Giorgio Levi della Vida was an anti-fascist and was finally expelled from the university in 1931 after having refused to pledge the oath of loyalty to Mussolini. As he was Jewish, after the promulgation of the racial laws he decided to flee to the United States in 1939, returning to Italy in 1945. About another archaeologist, however, the Russian G. Boroffka, Bosch mentioned without further comment that he had disappeared in one of Stalin's purges and had died in a concentration camp (Bosch Gimpera 1980: 121).

The IV International Congress of Archaeology was held in Barcelona from 23 to 29 September 1929. It was organised by Bosch Gimpera, who had mentioned the possibility of organising such an event to Francesco Pellati in 1928, after the Florence conference and the Rhodes trip, when he had then visited Rome (Bosch Gimpera 1980: 125). The doyen of Spanish archaeology at the time, José Ramón Mélida, was chosen as president of the event. He was then at the end of his life (he died two years later, in 1933) but precisely on those years he was invited to form part of the Associazione Internazionale per gli Studi Mediterranei led by Count David Constantini (Casado Rigalt 2006: 384, García Sánchez 2010: 106). However, there is no proof that the 86-year-old archaeologist was ever very active in it or sent anything to its bulletin. The Barcelona Conference of 1929 was attended by a few Italian archaeologists. In addition to Francesco Pellati, there was at least another Italian archaeologist, Antonio Taramelli (1868-1939), then a professor at the University of Cagliari and one of those chosen to give a welcome address (Bosch Gimpera 1980: 129, Casado Rigalt 2006: 379). It should be noted that the Barcelona conference was key for the organisation of the International Union of Prehistoric and Protohistoric Sciences, whose first meeting would take place in London in 1932. Before London, however, another archaeology conference was held in spring 1930, organised in Algiers by the French archaeologist Eugène Albertini. Taracena, Mergelina, Serra Ráfols and Bosch went from Spain and Bosch Gimpera mentions Pellati and Calza, the excavator of Ostia, as those representing Italy (Bosch Gimpera 1980: 137).

In addition to the international conferences, Spanish and Italian archaeologists had other opportunities to meet during the last years of the Primo de Rivera dictatorship in order to organise a series of international projects. One of the most important of these was the Map of the Roman Empire (Tabula Imperii Romani). The idea for a Roman map had emerged from the geography-trained, but then author of an archaeological doctoral thesis, O. G. S. Crawford. He had mentioned the idea of drawing up such a map at a geography meeting in Cambridge in 1929 (Plácido *et al*. 1993). Having found support for his idea, a further meeting was organised in Florence on 30 April that year. At it there were representatives from Italy (Francesco Pellati, Giuseppe Lugli [see Pellati and G. Lugli (1931)] and Thomas Ashby), Spain (the future head of the Spanish Ordnance Survey -Instituto Geográfico, Catastral y de Estadística (IGCE)– Honorato de Castro) and the United Kingdom (E. M. Jack and Crawford himself) (Plácido *et al*. 1993: 57-58). The Spanish commission was later organised and led by the director of the IGCE, José de Elola, and made up of the archaeologists José Ramón Mélida, Manuel Gómez Moreno, Pedro Bosch Gimpera and Antonio Blázquez (later replaced by Claudio Sánchez Albornoz), and the geographers Lorenzo Ortiz and Honorato de Castro (Plácido *et al*. 1993: note 14). However, of all of the meetings that took place before World War II, only that of Rome in 1932 was attended by a Spanish archaeologist, Claudio Sánchez Albornoz. At all the others –Paris (1931), Rome (1932), Warsaw (1934) and London (1935)– the Spanish representative was a non-archaeologist (Plácido *et al*. 1993: notes 15-19). The impression is that, as this idea had emerged at a geography conference, the archaeologists were not allowed to say much to start with, and therefore the opportunities for international contacts between them were very limited.

There is some other information regarding the contacts between Spanish and Italian archaeologists. It refers to three more –young at the time– scholars: Martín de la Torre y Villar, Julio Martínez Santa-Olalla and Leopoldo Torres Balbás. Martín de la Torre y Villar obtained a JAE fellowship for eight months in 1926-1927 (Bellón 2010: 121). He taught Archaeology at the Catholic Seminary and worked in the National Library in Madrid. His focus was Christian archaeology and therefore his work

does not fall under the remit of this article (for more information about other JAE fellows in Italy see Sánchez Salas in this volume). It is interesting to note, however, that while not many archaeologists applied for the JAE fellowships to go to Italy, the opposite was true regarding Germany, which was clearly the favourite destination at that time. A combination of Germany and Italy is what we can see in our second young scholar to be mentioned in this paragraph, Julio Martínez Santa-Olalla (1905-1972). Gracia Alonso (2010) has argued that he was the specialist with the highest number of contacts with Italian archaeologists before 1936. However, a closer look at the dates focusing on the years of the Primo de Rivera dictatorship produces nothing. At that time he was still young and his first professional assignment was in Germany. There he worked as a simple Spanish Lektor from 1927 until 1931 and it was in this setting that he met the linguist Vittori Bertoldi. However, all the information about the contacts and the consequences they had for archaeology dates from the years after the Primo de Rivera dictatorship (Gracia Alonso 2010: 427-8). Lastly, Leopoldo Torres Balbás (1888-1960) should be included in this final section because he also received a JAE fellowship to spend some months in Rome in 1926. Although he was the architect and conservator of the Islamic palace of Alhambra, he was also a member of the Archaeology Section of the Centre for Historical Studies led by Gómez Moreno in Madrid. In fact it was during his stay in Rome when he seems to have taken an interest in classical archaeology, as he visited the Forum and the Palatino and met Prof. Adolfo Venturi (1856-1941) and the deputy superintendent of the monuments of the Lazio area, Antonio Muñoz (1884-1960) (Bellón 2010: 121, García Sánchez *et al*. 2010: 320). However, this visit to classical sites did not seem to have aroused in him any further interest in the Roman period.

6. Conclusions

This article began by commenting on the importance of analysing the international relations in the history of any discipline –and also therefore of archaeology– to be able to understand changes in practice and interpretation. However, anybody enquiring about this may soon realise that relationships cannot be taken for granted. Scholars are members of their society and as such they are influenced on the one hand by the cultural policies promoted by their governments, and on the other, by their own perceptions of these other countries. In terms of the former, governments may or may not facilitate many fundamental aspects of scholars' research life, from funding for the practice of their discipline –laboratories, excavations, foreign schools, etc.– and foreign communication –travel fellowships, for example. In the analysis undertaken in this article of the contacts between Spanish and Italian classical archaeologists during the dictatorship of Primo de Rivera (1923-1930), it has been demonstrated that during those years Spain had nothing similar to the Italian funding. Whereas Mussolini's Italy generously endowed classical archaeology, in Spain the level of sponsorship for archaeology remained the same as before. Although in many ways this was not good, this lack of political will did allow Spanish archaeologists to avoid the strings attached to such types of political funding. In Italy, for example, the prioritisation of the Roman period had resulted in the widespread destruction of later layers. It cannot be said that this did not happen in Spain, but it was never on the same scale and was not due to political demand, but rather because medieval archaeology had not developed sufficiently for experts in that period to understand that archaeological remains were able to complement and even challenge the information they were recovering from the written sources. Basically, the lack of political will in the 1920s meant that the funding system created for excavations at the start of the century continued uninterruptedly until the Civil War. This lack of extra funding put Spain at a disadvantage in terms of international relations, as there were fewer archaeologists, no journals specialising in classical archaeology and no established institute. The lack of political will also prevented the revival of one of the institutions that would have allowed international communication: the Spanish School of History and Archaeology at Rome, which remained in lethargy during the years of the dictatorship. All of this meant that the political climate for communication was not positive.

In decisions taken regarding their international relations, scholars are also affected by the perceptions they have of other countries, which are often connected to the official backing the discipline has in

the other place. Thus, scholars are more prone to travel to countries in which they think that they are going to be invited to participate in meetings, where they will be able to talk about their work and where they will be invited to write in internationally acclaimed journals in which the impact of their work will be greater. In this context, although nothing impeded the younger generation from initiating communications with Italy, this did not happen, with the limited exception of Bosch Gimpera, who indeed attended several meetings in Italy. The opposite direction was only taken once, when the Catalan professor organised a Congress of Archaeology in Barcelona at the end of the period under study.

Regarding international travel, at the beginning of the century the Spanish government had set up the JAE fellowships and it is interesting to see which destinations the applicants were applying to travel to, as this gives us an idea of the value they placed on the different European countries. Bosch Gimpera himself was one of the earliest recipients and the country he chose was Germany. It is interesting to note that during the 1920s he sent his disciples with JAE fellowships not to Italy, but to Germany (Díaz-Andreu 1996). This means that Spanish archaeologists did not hold their Italian peers in such high regard as they did their French and, especially, their German colleagues.

The comparison between this study on the relationship between Spanish and Italian classical archaeology and a previous one focusing on the Palaeolithic (Díaz-Andreu 2014), shows an interesting contrast. It seems that, whereas from the protohistoric period to the early Middle Ages the lead was taken by Germany, this was not the case for the earliest period, where France had absolute predominance. This may have been due to the failure to institutionalise Palaeolithic studies in Germany, where the Bronze Age was considered to be the earliest 'national' historical period. This led young archaeologists who wanted to specialise in the Stone Age to travel to France. All other students of later periods went to Germany. Spanish archaeologists also followed this route. It would only be when state funding began to favour trips to Italy during the early years of the Francoist period that youngsters started to move east instead of north. But all of those many trips undertaken at that time are beyond the remit of this article.

In summary, this article has argued that the lack of interest in classical archaeology during the dictatorship of Primo de Rivera marked a stark contrast with what was happening in Italy. The situation in Spain did not affect either negatively or positively the funding of Roman archaeology, as the practice of the previous decade was continued. It has been explained that from early in the century it had been decided that well-funded archaeological excavations would be limited to those sites promoted for tourism. All the sites chosen were of a monumental nature and most were from the classical period. The lack of political enthusiasm for Italian-Spanish relations resulted in a lack of special encouragement of research trips to Italy and therefore in difficulties for the development of contacts between members of the scholarly community at that time. In any case, the attraction of Germany and France as international scholarly poles explains why youngsters decided to head in that direction instead of choosing Italy. This pattern would only change partially in archaeology during the early years of the Franco regime, when both countries were ruled once again by dictatorships and the political establishment in Spain became influenced by Italian fascism and its positive regard for classical archaeology. This created new opportunities that some used opportunistically in the best possible way, while others abused it, a situation that has been analysed by other authors elsewhere.

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Archaeological connections: tracking and tracing international relations throughout Portuguese colonialism

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Abstract

Although recent in Portugal, research into archaeological discourse and practice within the framework of twentieth-century colonialism leads us to believe that archaeology did not play a prominent role in the scientific colonial agenda, but was rather a subsidiary field of studies often promoted by personal enterprises. Nevertheless, the analysis and comparison of the means through which different protagonists engaged in the production, circulation and reception of archaeological and prehistoric knowledge, as well as the networks that emerge from its scrutiny, might contribute to an external and comparative approach between the different colonial powers.

Key-words: *Archaeology; Portuguese colonialism; scientific networks, Angola, Mozambique*

Résumé

Encore récente au Portugal, la recherche autour des discours et des pratiques archéologiques conduites dans le cadre du colonialisme du vingtième siècle nous montre que l'archéologie n'a pas joué un rôle de premier plan dans l'agenda scientifique coloniale, mais constitue plutôt un champ d'études subsidiaire et souvent promue par des entreprises personnelles. Néanmoins, l'appréciation des moyens par lesquels les différents protagonistes s'engagèrent dans la production, circulation et réception de la connaissance archéologique et préhistorique, ainsi que des réseaux qui se dégagent de son examen peuvent contribuer à une approche extérieure et comparative entre les différentes puissances coloniales.

Mots-clés: *Archéologie; Colonialisme portugais; Réseaux scientifiques, Angola, Mozambique*

1. Opening Considerations

Among the studies of the history of archaeology, the scrutiny of the discourses and practices conducted within the framework of twentieth-century European colonialism is most significant. From this perspective, we should note the ways in which the discipline was helpful to the colonial processes, conditioning the representation of the colonised *others*, as well as their pasts, and obliterating their agency in the world narrative. But there is more. The late-nineteenth-century universalist legacy comprised both a standardised ethnocentrism in favour of a western model of civilisation and a scientism which sought to empirically demonstrate racial prejudices. It is important to distinguish the contexts and moulds through which archaeology was conducted and promoted, serving the different colonial agendas seeking to assert them on the international stage. In this respect, the *rapport de forces* between the various European nations may also be evaluated by considering the agents and resources involved in the production, circulation and reception of archaeological knowledge in and regarding their colonised territories.

Although still recent in Portugal, the investigation of the archaeological practices carried out in and about the former Portuguese colonies has shed light on the case of the Board of Geographical

Missions and Colonial/Overseas Research (Junta das Missões Geográficas e de Investigações Coloniais/do Ultramar) (1936-1951/1952-1973). This was an institution under which the so-called 'Anthropological Missions' addressed the knowledge of the most remote past of the territories then under Portuguese sovereignty. Such were the cases of the Anthropological Mission of Mozambique (1936-1956), led by Joaquim Rodrigues dos Santos Júnior (1901-1990), and the Anthropobiological Mission of Angola (1950-1955), headed by António de Almeida (1900-1984). Still largely unexplored, however, are the activities of individuals and entities which, acting locally, contributed to the production, circulation and reception of archaeological and prehistoric knowledge. Such are the works promoted by the Geological Services of Angola and Mozambique (1919), the Commission for Monuments and Historical Relics of Mozambique (1943), and the Dundo Museum (1936) attached to the Diamond Company of Angola (DIAMANG) (1917-1975).

From the joint consideration of these two lines of analysis, which are not mutually exclusive but complementary, there also emerges an almost unexplored approach that might bring new data and insights into this field of study. That is the study of the national, regional and international scientific networks that shaped theories, terminologies and methodologies. Indeed, related to coetaneous colonial contexts and agendas in which archaeology was becoming institutionalised in research centres, universities and museums, different protagonists and institutions from the Portuguese metropolis and its colonies engaged in a wide dynamic that took shape in congresses and conferences, internships abroad and fieldwork conducted in collaboration with leading figures in African archaeology, often resulting in the publication of studies and reports. In addition to these more noticeable features, correspondence between individuals and institutions, both from within the country and abroad, reveals less detectable aspects regarding the diverse ways archaeologists addressed questions about Africa's past. These encompassed a wealth of information over a broad range of issues which provide a valuable framework in which to situate archaeology in different political, economic, social, cultural and geographic contexts during colonial times in the twentieth century.

In this article, we will use a historical approach try to track and trace some of the international relations that emerge from a scrutiny of the archaeology conducted during Portuguese colonialism. In doing so, we will refer mainly to written primary sources, i.e. the documentation in the custody of the Portuguese Tropical Research Institute (Instituto de Investigação Científica Tropical), the current successor to the Board of Geographical Missions and Colonial/Overseas Research.

2. Archaeology in the context of overseas missions – the Anthropological Mission of Mozambique (1936-1956)

In the mid-1930s, the Portuguese Estado Novo (1933-1974)[1] opened a new chapter in the administration of its overseas possessions. The imperialist nature of the regime was promoted internally and externally by exhibitions and conferences which put the colonies at the epicentre of the nationalist agenda. In this political programme, the interplay of science, mostly backed by the academic elite, was noteworthy as the mainstay of colonisation and the rational usage of resources outside the metropolis. Included as part of the First Portuguese Colonial Exhibition (at the city of Porto, 1934), the First National Congress of Colonial Anthropology was held under the chairmanship of António Augusto Esteves Mendes Correia (1888-1960), a professor of Physical Anthropology at the University of Porto. Emphasis was then placed on the usefulness of studying overseas populations as a consideration for establishing local legislation and governance, reaffirming claims pronounced years before: 'If a great distance separates the white European man from the black African man in body, mind, character, traditions and other aspects, then there are also high dividing walls between the indigenous people of the colonies themselves, under such a view. [...] Is any colonial man

[1] Political dictatorship regime resulting from the military coup of 28 May 1926 which overthrew the First Republic (1910-1926). Its leading figure was António de Oliveira Salazar (1889-1970), President of the Council of Ministers (1933-1968), who was succeeded by Marcelo Caetano (1906-1980), who was in turn deposed by the military coup of 25 April 1974 that allowed the implementation of democracy.

truly worthy of such a name able to ignore such flagrant realities in his work?' (Correia 1918: 284-285).[2]

Illustrating the anthropobiological view that directed much of Portuguese colonialism in the 20th century,[3] the broad programme of the Portuguese Society of Anthropology and Ethnology initiative – of which Mendes Correia had been one of the founding members (1918) – also hosted communications dedicated to overseas prehistory and archaeology, reflecting 19th-century assumptions forged by the practice of anthropological and archaeological analysis nourished by the use of ethnographic parallels. Although far from the evolutionist, convergent and diffusionist extremisms (Martins 2010: 100), Mendes Correia would declare: 'Knowing the possibilities of a population demands [...] the study of its past, [of] its origins' (Correia 1936: 29).

Nevertheless, the resulting work from the third section of the meeting denounced the need for adequate archaeological research in the Portuguese colonies. The precursor studies by Ricardo Severo (1869-1940), Félix Alves Pereira (1865-1936), Paul Choffat (1849-1919), Nery Delgado (1835-1908) and Leite de Vasconcelos (1858-1941) of artefacts collected from different contexts in Portuguese West and East Africa were dispersed, and the most recent contributions from the late Rui de Serpa Pinto (1907-1933), as well as presentations of the few finds from Angola to reach the Anthropological Museum and Laboratory at the Faculty of Sciences of the University of Porto (MLAFCUP), were also scarce (Matos 1934; Silveira, Santos Júnior 1934). Indeed, Joaquim Rodrigues dos Santos Júnior (1901-1990), who was then préparateur (laboratory assistant) and conservator (1926-1937) at the MLAFCUP established by Mendes Correia (1912), would notice: 'If we look at the great extension of our colonies, we can conclude that this is very little, as what we are currently doing, which although somewhat more, it is still very little compared to what could and should be done' (Santos Júnior 1934: 433).

The attention of national researchers had already begun to focus on the prehistory of Angola, although there were no systematic exploration campaigns and only a series of casual and isolated finds were addressed. Given this situation, Mendes Correia decided to focus on Mozambican prehistory, which had been completely or almost completely ignored except for a few projects undertaken by foreigners (Correia 1936: 3).

Far from being a stranger to contemporary contexts in which archaeology was becoming institutionalised within research centres, universities and museums, Mendes Correia had been strengthening his connections to prominent figures in the archaeology being conducted on African soil. The Australian anatomist Raymond Dart (1893-1988), director of the Department of Archaeology at the University of Witwatersrand (Johannesburg), sent the Portuguese congress the unpublished communications of his collaborators and members of the South African Association for the Advancement of Science (1902), Margaret Orford (1912- 1957) (Orford 1934) and York Mason (1910-?) (Mason 1934), dealing respectively with rock art and South African ruins.[4]

The search for a relationship between South African rock paintings and carvings and European Upper Palaeolithic art was then an important issue under discussion and relevant to the context of Mozambique. Not only due to the similarity in size of the archaeological area of the western Transvaal, but mainly because '[...] the only findings of this nature in our colony are those from Mano, Cachombo and Chifumbaze in Zambezia, which are attributed to foreigners [...]' (Correia 1934: 2). Also the programme to be held should embrace the on-going debate on the origins of the

[2] Regarding Mendes Correia and the articulations between anthropology, nationalism and colonialism, see Matos (2012).

[3] On the evolution of the paradigm of Portuguese colonial anthropology, see Pereira (2005) and Note (2).

[4] Initially expected to be held between 7 and 11 October 1934, the Congress was brought forward and held between 22 and 26 September of the same year. This fact prevented the presentation of the reports from Johannesburg, but not their inclusion in the congress proceedings. Furthermore, the iconographic documentation attached to them was the subject of an exhibition organised the following year by the Anthropology Institute of the University of Porto (1923) directed by Mendes Correia. On this subject, see Instituto de Antropologia da Universidade do Porto (1935).

'fortified' settlements of the Iron Age (*Madzimbabwe*), namely by claiming the historical priority of its discovery as it had already been recorded in the Portuguese travel chronicles of the 1500s (Correia 1936: 3-10). Assuming the importance of methodical research in Mozambique to the study of the constructions of Southern Rhodesia (now Zimbabwe), York Mason would still declare: 'The evidence has suggested that the South African ruins owe their inspiration to those of Rhodesia, while these in turn seem to be connected directly or indirectly with the trading activities along the East Coast. Portuguese East Africa, from which we may expect important evidence, is as yet a closed book' (Mason 1934: 528).

Mendes Correia had enough reasons, therefore, to consider archaeology to be a subject of study by the Portuguese missions sent to Mozambique. He drew up a plan which included researching the vestiges of ancient lithic cultures and prehistoric human remains; investigating rock art sites; inventorying old mining operations; exploring the ruins related to Southern Rhodesia; expanding the inventory of post-Portuguese conquest ruins; gathering ethno-archaeological traditions; establishing measures to safeguard the ruins and archaeological sites and the scientific archiving of objects; and gathering the necessary elements to draw up an archaeological map of the colony, coordinating its results with the neighbouring regions (Correia 1936: 28-30).

The programme conceived by Mendes Correia had its official stamp under the reorganisation of the Ministry of Colonies, which established the Board of Geographical Missions and Colonial/Overseas Research (JMGIC/JMGIU), an entity that linked politics to science in order to improve the knowledge and exploitation of the supervised overseas territories.[5] The government then authorised a proficient technician to be taken on by the Geographical Mission of Mozambique (1932-1973)[6] to carry out anthropological and archaeological studies (Portugal 1936: 870). Mendes Correia was unavailable and on his recommendation this task was assigned to his assistant and disciple, Santos Júnior. In that same year Santos Júnior began the fieldwork of the Anthropological Mission of Mozambique (MAM), which he went on to develop over six campaigns (1936, 1937-38, 1945, 1946, 1948 and 1955-56). The first two campaigns were subsidised by the Institute for High Culture (Instituto para a Alta Cultura) (1936-1952) and carried out in the name of the Ethnographic and Anthropological Mission of Mozambique.

By trying to bring the archaeological investigation closer to what was being produced in neighbouring territories, the plan of the first MAM campaign led Santos Júnior to visit the universities, museums and palaeoanthropological and archaeological sites of the (then) Union of South Africa and Southern Rhodesia. This enabled him to establish a useful scientific network that familiarised him with the main themes of the time.

At the University of Cape Town, Santos Júnior met the archaeologist Astley Goodwin (1900-1959), the first professor of the discipline there, who had published, in partnership with Clarence van Riet Lowe (1894-1956), *The Stone Age Cultures of South Africa* (1929), a pioneering landmark in the revision of the classification and terminology adopted for the study of the Stone Age in African contexts. This was despite its essentialist and statistical nature, for example when considering the Sahara as a barrier only surmountable from North to South, and also in spite of establishing Europe as the central diffuser of culture. At the University of Witwatersrand, Santos Júnior visited the Department of Archaeology headed by Riet Lowe, the director of the newly created Bureau of Archaeology of the Union of South Africa (1935-?), (later the Archaeological Survey [?-1962]), and the Section of Anatomy directed by R. Dart who 'hearing that an assistant of Professor Mendes Correia was there [...] could not hide his excitement over the resolution adopted by the Portuguese

[5] The developments and articulations of scientific research and Portuguese colonial policy through the case study of this organism have been recently reviewed by Castelo (2012).

[6] Led by the commander and hydrographic engineer Gustavo Baeta Neves (1891-?), the Geographic Mission of Mozambique was created by the body that preceded JMGIC/JMGIU, the Cartography Commission (1883-1936), with the aim of carrying out the geodesic survey of the territory.

government to send research missions to our colonies, especially over the mission of anthropological and archaeological studies for which I was responsible' (Santos Júnior 1938a: 19-20). Still in the Union of South Africa, Santos Júnior first heard about the Sterkfontein Caves where, only weeks before his journey, the palaeontologist Robert Broom (1866-1951) had discovered the fossil of what was then called the *Australopithecus transvaliensis*.

In Southern Rhodesia Santos Júnior visited many rock art sites and the ruins of Great Zimbabwe, as well as the National Museum where he met Neville Jones (1880-1954), the curator of the Prehistory Section. Neville Jones offered him some materials from archaeological sites in that territory. Regarding the section of which he was in charge, Santos Júnior wrote: 'The exhibition of the collections is perfect, the pieces are carefully selected and arranged in such a way that the lesson is striking and profitable' (Santos Júnior 1938a: 28). These were far from trivial aspects for someone who (still) held the same job in MLAFCUP and was trying to enrich its collection.

This study mission had repercussions on both the studies carried out in Mozambique and the disclosure of their results. The early campaign of 1936 was marked by the discovery of the first prehistoric deposit, the lithic site of Marissa in the Tete district, whose typology Santos Júnior classified as belonging to the Wilton culture, following the terminology laid down by Goodwin and Riet Lowe. Its study was published in *Mozambique: Documentário Trimestral* and dedicated to Riet Lowe (Santos Júnior 1937). In the pages of that same publication, as a result of on-site observations also made during the second campaign, the paper on the Chifumbazi rock paintings dedicated to Dart was published (Santos Júnior 1938b).

Collecting the data gathered on-site during his first two incursions, Santos Júnior did not forget the use of English as the lingua franca (Santos Júnior 1941), '[...] thus trying to make the English teachers, especially those from the educated circles of the Union of South Africa, Rhodesia and Kenya, aware of what has been done in this broad and important chapter, and what we are planning to do [...]' (IICT-ASC:[7] 1a-1: 1; s / n, 07-05-1941).[8] He gave several lectures at the invitation of the most prestigious international institutions. At the Faculty of Sciences of the University of Madrid, Santos Júnior analysed the rock paintings of Chifumbazi and Chicolone and the architecture of Great Zimbabwe, suggesting a hypothetical Iberian origin for the studied material cultures: 'The similarities between South African rock art and the animalistic paintings found in many of the caves in the east of the Iberian Peninsula are truly impressive. The similarity between the castros of Zimbabwe and the ancient *castros* of Portugal and Spain [...] has led me to the formulation of several hypotheses regarding the possibility of relations and subsequent cultural influences between the Iberian Peninsula and the east of Africa in very remote times' (IICT-ASC: 1-A-1, 1; 37, 23-07-1941).[9]

Meanwhile, Santos Júnior fought for the individualisation of the MAM (IICT-ASC: 48-H-39, 1; 28, 03-03-1938), for its representation at the International Congresses of Anthropology and Prehistoric Archaeology (IICT-ASC: 1-A-1, 1; 17, 02-07-1939)[10] and for a speedy return to Mozambique (IICT-ASC: 1a-1: 1; 57, 10.1.1942).[11] At the same time he remained alert to other European agendas,

[7] IICT-ASC: Tropical Scientific Research Institute – Central Services Archive. References to this archive are made as follows: IICT-ASC: File number (indicating its title in the bibliography), file volume number; document number (where there is none, marked with s/n), and the date of the document. Documental information considered particularly important for this exegesis is noted.

[8] File of the Anthropological and Ethnological Mission of Mozambique. Letter from Santos Júnior to the President of JMGIC. Summary of the Activity of the Anthropological Mission of Mozambique in 1940.

[9] File of the Anthropological and Ethnological Mission of Mozambique. Letter from Santos Júnior to the President of JMGIC. Report on the trip to Madrid at the invitation of Luis Bermejo, Dean of the Faculty of Science at the University of Madrid.

[10] File of the Anthropological and Ethnological Mission of Mozambique. Letter from Santos Júnior to the President of JMGIC. Explains the importance of the participation in the International Congress of Anthropology and Prehistoric Archaeology (Istanbul, 1939), in which Santos Júnior had been prevented from participating by the Minister for the Colonies, Francisco Vieira Machado (1898-1972).

[11] File of the Anthropological and Ethnological Mission of Mozambique. Letter from Santos Júnior to the President of JMGIC. Handwritten. Asks for the 3rd campaign of MAM to be carried out in 1943.

especially that of Spain, in which José Pérez de Barradas (1897-1981) and Julio Martínez Santa-Olalla (1905-1972) were carrying out ethnological and archaeological studies in Morocco and the (then) Spanish Sahara (IICT-ASC: 1-A-1, 1; 37, 23-07-1941).[12] At home he faced some problems, as the Board chaired by the geologist José Bacelar Bebiano (1894-1967) was facing internal epistemological and methodological issues aggravated by financial restraints caused by the World War scenario. This led to some of Santos Júnior's work being held back or postponed. Nevertheless, the autonomy of MAM and its subsequent distancing from other scientific fields, such as geography, still occurred before the restructuring of the JMGIC (1945). Under the scope of the Plan for the Scientific Occupancy of the Portuguese Overseas Territories (Plano de Ocupação Científica do Ultramar Português) (1941)[13] Mendes Correia had registered a research programme in the fields of Anthropology, Ethnography and Archaeology, explicitly stating its interwoven relationships and purposes: '[...] the physical anthropology studies come first, as they represent the means to establish the somatic characteristics and the psycho-physical possibilities of the various peoples and colonial tribes. [...] Ethnography will be a useful auxiliary to these studies as a precious source of information. From the three branches of science, archaeology would thus come in third place. This does not mean that its speculative importance is any less than that of any other study fields. [...] Archaeology in general, and prehistory especially, have not only a scholarly interest but are also an essential basis for the knowledge of ethnic origins and the evolution of a people, an evaluation element of their role in human society' (IICT-ASC: 306-W-105, 1; 1, 12-03-1941).[14]

Although the renewed direction of the JMGIC did not envisage a specific programme for archaeology, generally assigning it an accessory role, this was not an obstacle for Santos Júnior, who shared the ideas of Mendes Correia in order to proceed with the study of the prehistory of Mozambique. His plans included scanning the immense territory in the course of the following campaigns, locating walled enclosures, collecting finds at lithic sites and studying parietal art. In the course of this intense activity[15] we can highlight his participation in the XIII Luso-Spanish Congress for the Progress of Sciences (Lisbon, 1950), in which he was able to publish the *Map of the Prehistory of Mozambique*, calling upon the need to expand it – a task to be accomplished in close cooperation with geologists, considering the many contributions that had been raised locally and which required coordination (Santos Júnior 1950).

3. Regional scientific networks: Mozambique and Angola in the 1st Pan-African Congress of Prehistory

Meanwhile, the First Pan-African Congress of Prehistory was held in Nairobi in 1947. It was the initiative of the archaeologists Louis (1903-1972) and Mary Nicol Leakey (1913-1996), a husband and wife who were both working at the time in the (then) Coryndon Museum (1930) of which L. Leakey was curator (1941-1961). Under the presidency of Henri Breuil (1877-1961), a dominant name in archaeology and well known to the Portuguese Geological Services (1918-1993), where he had carried out studies on the Palaeolithic (Breuil 1944, 1959), the meeting brought together for the first time prehistorians, palaeontologists and geologists, providing a forum for the exchange of information and ideas, and fostering the establishment and strengthening of contacts and scientific collaboration (Clark 1980).

Financial and bureaucratic reasons prevented Santos Júnior from being present at the meeting dedicated to both Quaternary Geology and Palaeontology and at the debate on the standardisation of the nomenclature and research methodologies used in Prehistory and related sciences in the African territories. In a letter sent to Santos Júnior himself, R. Dart had already commented on his absence:

[12] See Note 9.

[13] On this subject see Lobato (1983), p. 117-122; 133-140 and Note (5).

[14] File of António Augusto Esteves Mendes Correia. Letter from Mendes Correia to the President of JMGIC. Anthropological studies plan prepared by Mendes Correia at the request of JMGIC.

[15] For a list of the works published under the Anthropological Mission of Mozambique, see Rodrigues (1990), p. 15-16.

'I was glad to hear that you had returned to Lourenço Marques for a long stay. It seems a pity that, now that you are in Africa, you should not go to the International Congress […]. […] it would be interesting to those there to hear the latest results of your work in Portuguese East Africa' (IICT-ASC: 78.A-K-53, 1; s/n, 08-09-1946).[16] Despite this metropolitan omission, regional participation marked its presence at the congress.

Indeed, the discovery in Mozambique in 1936 of a Palaeolithic site in the region of Magude by the agronomist engineer Lereno Antunes Barradas (1890-1974) (Barradas 1942) marked the start of an intense period of archaeological research, especially south of the Save river, and predominantly in the then Lourenço Marques district. L. Barradas mainly took on the studies of stratigraphy and palaeoclimatology as the necessary basis for establishing a chronology of prehistoric industries. These endeavours were supported by the Technical Office for Industry and Geology (RTIG), a local entity that promoted various surveys and excavations, organised the collections from various archaeological sites in the museums of its services, and developed a close cooperation with the Archaeological Survey of the Union of South Africa. Particularly important in this context was the traineeship attended by the mining engineer Manuel Bettencourt Dias. This cooperation was strengthened by the creation of the Commission for Monuments and Historical Relics of Mozambique (1943), the counterpart to a similar body in the neighbouring territory that promoted the fieldwork conducted by Riet Lowe and H. Breuil, in partnership with L. Barradas and the RTIG mining engineer Alexandre Borges (1898-?). This resulted in the discovery of new sites, as well as the study of already known ones (Riet Lowe 1943; Riet Lowe, Breuil 1944). This work was important for L. Barradas and Bettencourt Dias, and in it they asserted the correlation between geology, climatology and archaeology, and this allowed them to become members of the Mozambican delegation sent to the First Pan-African Congress of Prehistory in which L. Barradas presented communications on the Quaternary (Barradas 1952a, 1952b).

Angola was also represented at the meeting. Sent by the colony's Geology and Mining Service, the mining engineer Fernando de Oliveira Mouta (1899-?) published in its proceedings a report on the scarce finds existing in those services coming from the works carried out by the government and private entities (Mouta 1952).[17] The report highlighted the efforts made by the Belgian geologist Jean Janmart (? -1955), head of the Diamond Company of Angola (Diamang) Prospecting Service (1917-1975), whose studies based on observations and survey results in north-eastern Lunda during the licensed company research and exploration work on diamond alluvial deposits were presented at the Congress (Janmart 1952).

Indeed, much archaeological research was promoted by Diamang in Angola. In addition to the discovery of lithic finds resulting from the company's intense activity, especially in the thirties, these studies were boosted by the establishment of the Dundo Museum (1936). Originally conceived as an ethnographic device '[...] to gather and collect all the characteristic objects used by the region's indigenous races, especially Lundas and Tshokwes [...]' (Diamang, Serviços Culturais, Arquivo Documental, Museu do Dundo Annual Reports [RA] 1936-1940: 3), the museum soon expanded its scientific horizons, as '[...] archaeological search is recognising lithic sites along the north-eastern Lunda valleys. Ethnography, archaeology and fauna now represent a much broader and more diverse group, which is nevertheless related in its elements' (*Idem* RA 1942: 1). J. Janmart played a decisive role in this context, promoting the identification of many archaeological sites through his direction of the Survey Campaign of the Route of the Portuguese Expedition to Muatiânvua (1884-1888)[18] (1942). His work was stimulated by the correspondence with A. Goodwin (*Idem* RA 1943: 125) and

[16] File of the Pan-African Prehistory Congress. Letter from Santos Júnior to the Minister for the Colonies, Marcelo Caetano. Reports on the work underway in Mozambique. Copy of letter by R. Dart attached.

[17] On this subject, Porto (2009: 143) notes that Fernando Mouta did not present a communication.

[18] Between 1884 and 1888, Major Henrique de Carvalho (1843-1909) led an expedition to reach the Mussumba Calanhi, the official residence of Muatiânvua and the Court of the Lunda Empire, by crossing the Lunda from west to east, the area that later became the Diamang concession.

the journey he took to the Union of South Africa (1943) (*Idem* Monthly Reports 1943, October: 2). There he was welcomed at the Archaeological Survey by Riet Lowe and H. Breuil who introduced him to the study of prehistoric industries from several periods in the South African and Congolese regions (Breuil 1959: 8).[19] This became fundamental for his analysis, allowing correlations with the prehistory of Lunda in the first edition of the *Publicações Culturais da Companhia de Diamantes de Angola* published a year before the First Pan-African Congress of Prehistory (Janmart 1946).

The congress commission chaired by H. Breuil expressed its admiration for the work already undertaken in Angola and Mozambique, even though it was conducted by a small group of enthusiasts (IICT-ASC: 78.A, 1; 2, 10-04-1947),[20] probably implying that there was still much to do in the context of archaeological research in the Portuguese colonies. However, attending the meeting provided significant contributions to that end, especially in the case of Angola, and these were recorded in Diamang's Publicações Culturais. The collaborations of L. Leakey (Leakey 1949) and H. Breuil (Breuil, Janmart 1950) were instrumental in this respect. At the company's invitation, they all visited Diamang, and to their visits we have to add that of John Desmond Clark (1916-2002), a British archaeologist and director (1937-1961) of the (then) Rhodes-Livingstone Museum of Northern Rhodesia (now Zambia). After the death of Janmart in 1955 he began to visit the mining operations and the Archaeology Section of the Dundo Museum regularly (Clark 1963, 1966, 1968).

4. The Anthropobiological Mission of Angola (1950-1955)

The Nairobi Congress had some repercussions on the work conducted by the metropolis and Mendes Correia, who had become president of JMGIC (1946), stated that this entity 'must keep in constant contact with the Pan-African Congress and above all foster African prehistory studies through missions' (IICT-ASC: 78.A, 1; 2, 10-04-1947).[21] This he thought especially important in Angola because 'Aside from the research in the region of Lunda [...] those studies are regrettably delayed [...], in contrast with the progress in other parts of Africa [...]. This delay is an even greater problem for the prestige of Portugal given that the recent Nairobi Pan-African Congress and the International Conference of Western Africanists, held in Bissau [1947], have made it clear that it is necessary for us to participate in such research' (IICT-ASC: 474-A3-129, 1; 14, 13-02-1948).[22]

This obstacle was overcome by the experience of the physician António de Almeida (1900-1984). He was acquainted with the Dembos region, where he had been assigned in 1934 by the Colonial College (ESC) (1927-1954). He was funded by the National Board of Education (1929-1936) to carry out linguistic, ethnographic and medical assistance work with the local populations and at the request of the ESC he also carried out extensive anthropological research in Angola during 1948 and 1949. This he did more or less simultaneously with the census operations of 1950 (IICT-ASC: 255, 1; 8, 14-05-1949), having received a grant from JMGIC to continue the office work on the gathered materials, particularly those of an archaeological nature (IICT-ASC: 255, 1; s / n, 06-12-1949).[23] This work was continued following the establishment of the Anthropobiological Mission of Angola (MAA). During the three campaigns he led (1950, 1952 and 1955), António de Almeida discovered several archaeological sites and studied rock paintings and walled enclosures (Instituto Superior De Estudos Ultramarinos 1956: 2). He became particularly interested in what were then called the Bushmen, who were the subject of several international lectures he gave, namely at the Musée Royal de l'Afrique Centrale (Tervuren) and the Musée de l'Homme (Paris) (1952) (IICT-ASC: 255, 1; 68, 28-03-1952).

[19] On this subject, Porto (2009: 142) notes that during this trip J. Janmart also met A. Goodwin, having also travelled to the (then) Belgian Congo, Northern Rhodesia and Southern Rhodesia, where he met with Francis Cabu, John Desmond Clark and Neville Jones respectively.

[20] File of the Pan-African Prehistory Congress. JMGIC information. Acknowledges receipt of the resolutions adopted by the First Pan-African Prehistory Congress in plenary session and gives an opinion on them.

[21] See the previous note.

[22] File of José Camarate de Andrade França. Letter from Mendes Correia to the Secretary of the Executive Committee of JMGIC. Reports on the desirability of hiring José Camarate França to carry out prehistory studies in Angola.

[23] File of António de Almeida. JMGIC information. Authorises the exhibition of archaeological finds gathered in Angola by A. Almeida in JMGIC facilities.

The setting up of the Overseas Ethnology Studies Centre (1954), the predecessor of the Anthropobiology Studies Centre (1962), both directed by António de Almeida, enabled him to continue the studies initiated in Angola. In the context of prehistory he received the cooperation of the former MAA auxiliary, José Camarate França (1923-1963), the South African linguist Ernst Wetsphal (1919-1990) and H. Breuil (Centro De Estudos De Etnologia Do Ultramar 1957: 1). The results of this last partnership were the papers presented to the Fourth Pan-African Congress of Prehistory and Quaternary Studies (Léopoldville [now Kinshasa], 1959) (Breuil, Almeida 1964a, 1964b). However, António de Almeida still noted in the early 1960s that: '[...] Portugal is not doing anything worthy and valid in the field of African archaeology. Archaeology requires techniques that are complex and costly [...]. We do not train people, we have no money and we keep making a capital mistake [...] which is carrying out the archaeology of Africa [while sitting] in an urban building in Lisbon using specimens that arrive inside a box by steamship.' (IICT-ASC: 255, 2; 128, 25-04-1960).[24]

5. Final Considerations

The centrality of the colonial issue in the political agenda of the Estado Novo allows us to consider the institutionalisation of knowledge produced about overseas territories as a form of legitimacy and governance over these territories. The projects and work promoted by the JMGIC/JMGIU and the assessment of the archaeological practices developed in that context suggest that archaeology was not a priority in the colonial scientific program. Rather, it was inserted into the scope and extent of disciplinary fields pragmatically better suited to the colonial enterprise. On the one hand there was anthropology, in which progressive precepts were often reaffirmed by an ethno-archaeological approach to the studied societies and analysed material cultures; on the other the geological and climatic studies provided chronological constructions for the interpretation of lithic cultures that were associated with diffusionist premises.

The underlying assumptions of archaeological narratives were also shared by other colonial agendas. It is important, however, to note the positioning of the archaeology carried out in the Portuguese overseas territories when compared to contemporary contexts. In this respect, the sidelining of archaeological studies in favour of other (related or unrelated) scientific domains was reflected institutionally in the absence of institutions exclusively dedicated to archaeology and the lack of adequate human and financial resources. A comparison with other colonial programmes, such as that of Britain, shows clear differences: in British Africa archaeology became institutionalised and was autonomous through research centres, associations, universities and museums that issued regular publications.

Despite the institutional indifference towards archaeology in the Portuguese colonies, we should however highlight the many personal and private initiatives which aimed to promote archaeological research. On the one hand the metropolitan scientific and academic elite established and took part in international knowledge networks; on the other the local colonial entities benefited from the proximity to neighbouring territories and the scientists residing there. However, not always were the efforts of both parts coordinated for a better use of the activities to which they were dedicated. Likewise their claims for a greater participation in the archaeological knowledge communication networks were not always heard.

At this point, we should also underline the importance of the legacies, highlighting for this purpose, of the archaeological data raised by the activity of the Anthropological Mission of Mozambique, today in the custody of the Tropical Scientific Research Institute. Its inventory amounted to 7,728 lithic pieces, 173 pottery sherds and the referencing of 96 archaeological sites or places from the Stone and Iron Ages (Roque 2002). Furthermore, the excavations carried out during the fourth campaign

[24] File of António de Almeida. JMGIU information. Regarding António Almeida's mission to the Belgian Congo, Mozambique, South Africa and Angola in 1959 and the IV Pan-African Congress of Prehistory. Quotes a report from A. Almeida.

in the shelter of Riane (Nampula Province) and in the settlement of Malessane in the mountains of Gurué (Zambezia Province), both with evidence of occupation in the First Iron Age, have been readdressed and recent studies of the gathered artefacts present new data for our understanding of the Bantu migrations on its eastern facies (Senna-Martínez *et al.* 2013). Going beyond the context of their production, it is therefore necessary to reassess these contributions, thus trying to see and hear the many invisibilities and silences of history.

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Africanism and international relations in Spanish prehistoric archaeology (1939-1956)

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Abstract

A struggle for the control of archaeology broke out after the Spanish Civil War. One of the elements of that struggle was precisely for the control of archaeological knowledge in the African territories controlled by Spain. In particular the participation in Morocco was of paramount importance, as it allowed the General Commissar of Excavations, Julio Martínez Santa-Olalla, to check his thesis on the Spanish origin of the North African cultures. However, he was displaced by Luis Pericot in the African context. Moreover, in the context of that time, the presence of Spanish prehistoric and archaeological research in the Protectorate allowed contact with European and American prehistorians. In our contribution we have analysed these contacts. In the final part of our paper we have paid particular attention to the cooperation between Miquel Tarradell and Lionel Balout on the occasion of the Archaeological Congress in Tetuán in Spanish Morocco, as well as to the important Balout's published synthesis on the Maghrebian prehistory.

Key-words: *Aterian, Iberomaurusian, Spanish prehistory, Gibraltar Straits, Morocco*

Résumé

Une lutte pour le contrôle de l'archéologie a éclaté après la guerre civile espagnole. Un des éléments de ce conflit fut précisément le contrôle des connaissances archéologiques dans les territoires africains contrôlées par l'Espagne. En particulier, la participation au Maroc était d'une importance capitale, car elle a permis au Commissaire Générale de Fouilles, Julio Martinez Santa-Olalla, vérifier sa thèse sur l'origine espagnole des cultures d'Afrique du Nord. Cependant, il fut déplacé par Luis Pericot dans le contexte africain. En outre, dans le contexte de l'époque, la présence de la recherche préhistorique et archéologique espagnole dans le Protectorat permis le contact avec les préhistoriens européens et américains. Dans notre contribution, nous avons analysé ces contacts. Dans la dernière partie du papier on a attendu en particulier à la coopération entre Miguel Tarradell et Lionel Balout à l'occasion du Congrès Archéologique de Tétouan au Maroc espagnol, ainsi qu'à la importante synthèse publiée par Balout sur la préhistoire maghrébine.

Mot-clés: *Aterien, Iberomaurusien, Préhistoire de l'Espagne, Detroit de Gibraltar, Maroc*

1. Archaeology and prehistory after war

At the end of the Civil War, Spanish archaeology faced the need to occupy an incipient scientific space within a new political regime. The ruling ideology promoted a view of the Spanish race that stressed its assumed Germanic components. Archaeological cultures, such as the Celtiberian and Visigothic, were highly considered. This situation did not favour a high regard for the links to the African continent (Gracia Alonso 2009). While in the former case researchers were willing to accept the influence of the prestigious 'Aryan' world in conforming Spanish roots, exactly the opposite position was adopted in the second case; the relationship between the Iberian Peninsula and North Africa in pre-Roman times provoked a view of 'Spanish' influence on the African continent. This represented an inversion of the relations suggested until then, as before the Civil War there had been a widespread belief in the African origin of Iberians.

Furthermore, the new view was perfectly in line with the ideological interests of the Francoist regime, which had started the military coup d'état in the Spanish Protectorate in Morocco through the prevailing influence of pro-Africa generals. Africanism was understood as a constituent ideology of the Francoist regime, but also mainly as a natural impulse of Spain towards its hold over North African

territories as a 'natural space', which was then extended into early prehistory. This unusual interest in Morocco and the Western Sahara on the part of Spanish archaeology can only be understood in this way; it was foreign archaeology, but its content was intertwined with Spanish history (Gozalbes 2012).

In Spain the ruling positions in archaeology were soon given to two archaeologists who were keen supporters of the Francoist regime. The first was Julio Martínez-Santa Olalla who, even before the end of the Civil War, had taken steps to set up a National Agency of Archaeology which he planned to direct. This agency was finally established under the name of *Comisaría General de Excavaciones Arqueológicas* (General Commissariat of Archaeological Excavations), which he directed since it began through provincial and local *comisarías* (offices) (Díaz-Andreu 2002). The second archaeologist was Martín Almagro Basch, who, finding himself in a political minority in the official Falange party during the Civil War, focused his attention on archaeology. At the end of the war Almagro managed –with certain ease and acting determinedly– to be appointed both director of the Archaeological Museum in Barcelona and professor at the University of Barcelona. In this way, he practically occupied the void left by the pro-Catalan republican Pedro Bosch-Gimpera, who was exiled after the Civil War (Gracia Alonso 2009).

As can be observed, their respective short-term ambitions in relation to the reach of their posts differed widely. It is also true that considerable differences can be observed in their political influence within the Francoist regime, as Santa-Olalla was the son of a general close to Franco himself. He also wrote at that time an important (and illuminating in terms of his own ideology) synthesis of Spanish prehistory titled *Esquema Paletnológico de la Península Hispánica* (*Palaeoethnological Outline of the Iberian Peninsula*), a work that proposed a fully renovated interpretation of this issue and established the foundations for new and more complete knowledge. As pointed out, up to then the African features of Spanish prehistoric cultures had been emphasised. In contrast, Santa-Olalla inverted this established relationship, referring to 'the collapse of the African myth that conferred on Africa an exaggerated role as creator and propagator of peoples and cultures' (Martínez Santa Olalla 1946a: 20). In his new construct, at least in the Neolithic –which he knew as the 'Hispanic-Mauritanian Neolithic'– and in the Metal Ages in the Iberian-Saharan horizon, Spanish cultures had been the ones to lead the way. From this viewpoint, Morocco had already been a territory for the expansion of the cultural advances produced in Spain since prehistoric times, i.e. Spanish interest in expanding across North Africa had been justified since prehistory.

2. Contacts in Moroccan prehistory

In his first project for the organisation of the Spanish archaeology service, taking the Third Reich Archaeology Institute as a model (Gracia Alonso 2009), Santa-Olalla outlined a series of territories in the style of military districts. Under this plan, archaeology in the Protectorate in Morocco –as well as in Ceuta, Melilla and the 'colonies'– corresponded to the district of Seville. However, after the Civil War, when the General Office was made part of the Ministry of Education, the Protectorate was excluded from this structure (Gozalbes, Parodi & Verdugo 2013). This was congruent if the Protectorate's regime is borne in mind, as it was not a colony per se, but a protectorate, and therefore it had its own administration. Santa-Olalla, however, was very disappointed (Gozalbes 2015) by this situation, as he wished to gain control of the area. Indeed, even before this exclusion, he had taken measures aimed at participating in research in northern Morocco.

In the Protectorate, at the final stage of the Civil War, the victors –led by the military– decided to undertake the task of reorganising and strengthening the administration. This led to the promotion to a prominent position of Tomás García Figueras, who later occupied important posts in the Protectorate. He was deeply concerned with culture and understood Africanism as an ideology in the service of Spain. Since 1939 he had defended the programme known as the 'Hispanic-Arab Cultural Renaissance', within the framework of the 'Hispanic-Moroccan Brotherhood'. This programme can

be understood in the context of the gratitude a sector of the Spanish army felt towards the Moroccans for their participation in the Civil War (Gozalbes 2012).

One of the aspects Tomás García Figueras paid most attention to was archaeology. Thus, he provisionally reinstated the previous director of the Tetuán Archaeological Museum, César Luis Montalbán, trusting him to be in charge of the museum despite the fact that he was under investigation for political reasons and was eventually imprisoned for almost two years. An undated document in the museum archive signed by Montalbán himself, which can probably be dated to around September 1939, lists the necessary actions and expenses for 1940, including maintenance work at the Msoura protohistoric monument: lifting fallen stones and building new doors and wire fences, as well as cleaning and draining the ancient town of Lixus, the *colonia* in Dchar Jdid and the Roman military settlement of Tabernae. This document proves that in the second half of 1939 Montalbán was on duty taking care of heritage management.

It was precisely at this time, around September 1939, when Santa-Olalla undertook a study trip to Morocco. We have rather limited, fragmentary and even contradictory information about this trip. He visited several sites in French and Spanish Morocco, as well as in the international territory of the city of Tangier. In one of his curriculum vitae he listed some study trips to Volubilis, where he was undoubtedly assisted by R. Thouvenot. He also went to the prehistoric site of Tit Mellil in Casablanca, where he was assisted by the researcher Maurice Antoine. There he thought he recognised Asturian industry, although they were actually Lower Palaeolithic flaked quartzite pieces (Souville 1973). From 1941 his publications included the alleged find of (Spanish) Asturian industry in Morocco, which puzzled Maurice Antoine himself, as well as A. Ruhlmann (head of prehistoric archaeology in French Morocco). He had to answer some questions from Anglo-American prehistorians, who wanted to know why the head of Spanish archaeology had certified the alleged presence of Asturian industry in Morocco.

In northern Morocco, Santa-Olalla's visit to Tangier was a preliminary exploration, with the location of a flint-knapping site dated to the Neolithic at the cemetery of Sidi Ammar, which is near the city, but remarkably meant contact with the contemporary excavation in the Mugharet el 'Aliya Cave, at Cape Ashakar. This excavation, which did not have the necessary permits (Coon 1957), was led by two Americans, H. A. Doolittle, a diplomat, and R. Nahon, a physician (Gozalbes 2007). We also know about this visit indirectly, not only from Santa-Olalla's CV, but also from his reference to a second visit to this excavation in 1946. It was a delicate issue, since the activity was taking place unofficially and under rather ill-advised conditions. Despite all this, Santa-Olalla undoubtedly oriented the American researchers, offering them advice and ideas –particularly in relation to Hispanic-African contacts in prehistory– as they later acknowledged.

Santa-Olalla's visit to the Protectorate in Morocco would have gone completely unnoticed had it not been for the inclusion of a picture of the Msoura monument in a 1945 publication (Martínez Santa-Olalla 1945). In this article Santa-Olalla indicated that he had been studying ancient tombs in northern Morocco, including an allegedly systematic study of the Msoura monument, a site in which he had already taken an interest before the Civil War. An unsigned document from the archives of the Tetuán Archaeological Museum –written by Montalbán himself and dated October 19th 1939– includes the conclusions drawn from an action programme inspired by Santa-Olalla mentioned in the foreword of this document. Future plans included Santa-Olalla's three-week research campaign at Msoura, lectures in Tangier and Tetuán, the preparation of the museum's catalogue, and the study of inscriptions, as well as covering certain needs, such as the appointment of a restorer for the museum and keepers for ancient ruin sites. Undoubtedly, it was at this time that Santa-Olalla and his collaborators were charged with preparing questionnaires on archaeology and ethnology to be used in the Protectorate (Alonso del Real *et al*. 1940).

Nevertheless, few weeks after writing this document, the situation regarding archaeology in the Protectorate changed drastically. Montalbán was definitively ousted, and Pelayo Quintero –the former

director of the Museum of Fine Arts in Cádiz– was appointed as the new director of the Museum, as well as Inspector of Excavations. Quintero was no friend of Santa-Olalla, and therefore the latter was not welcomed in the area (Parodi & Gozalbes 2011; Díaz-Andreu 2015). Nevertheless, he visited northern Morocco at least twice more, completing explorations unconnected to those controlled by Quintero. After his 1941 trip he still kept in personal contact with the latter, as in a letter dated 15 July 1942 Santa-Olalla formally wished Quintero success in his work, calling him a 'friend of his', and sending 'affectionate greetings to your wife' (who he must have met on this visit). The publication of his 1941 trip, however, bears no acknowledgement to Quintero, not even the expression of gratitude established by protocol (Martínez Santa-Olalla 1941).

3. Prehistory in the Sahara

Quintero's probable opposition to Santa-Olalla's work in northern Morocco diverted the latter's attention to the Spanish colony of Western Sahara. There Santa-Olalla's expedition unquestionably achieved important results. We certainly believe that this research has not been sufficiently analysed, and that more objective and fair research is therefore necessary. It must be pointed out that, at this time, the Sahara was an important element of study, on the one hand due to its recently-detected wealth of prehistoric vestiges, and on the other because of the increasing documentation of rock art (paintings and rock carvings), which were attracting considerable attention among European researchers. The Saharan cul-de-sac suddenly became the centre for the spread of culture just before desertification.

Santa-Olalla's expedition to the Spanish Sahara was very ambitious and took two months in the summer of 1943, when some changes in his previous interest in Morocco can be observed. In 1945 Santa-Olalla praised this expedition, which he considered the most important undertaken in the Sahara by prehistorians, highlighting the collection of tens of thousands of finds and naming some vestiges, the most important being Lower Palaeolithic in Tagschent's Aguerguer (Río de Oro, Dajla), the Zeluan riverbed near Smara, the slope in El Gaada, terraces in Saguia el-Hamra, etc., as well as pre-Islamic tumuli in several locations, ceramic objects, cave art sites, etc. However, Santa-Olalla only published a volume with an important set of illustrations (Martínez Santaolalla 1944a; see also idem 1944b), but not the essential text to document and present his findings. This fact particularly contributed to the ignorance and lack of evaluation with which the most important foreign expedition in Spanish archaeology before the 1960s is considered today.

Curiously, the only acknowledged expedition to the Spanish Sahara is that made by Almagro in 1944, which was actually a much more modest affair, and in which he already had the information on the locations where vestiges and cave art had previously been found. On the other hand, Almagro's expedition was sufficiently funded by an official institution, the Institute of Political Studies. Although its aims were relatively modest –exploring the territory and collecting prehistoric and ethnologic materials for the Barcelona Archaeological Museum– its publication overshadowed Santa-Olalla's previous effort.

In 1946 Almagro published the data obtained from his explorations in a volume whose first part was aimed at providing a sort of synthesis of North African prehistory. This volume was expressly dedicated –in the style of the times– 'to the Spanish army in North Africa, the keeper of Spain's heroic, civilising and missionary spirit'. As an outstanding feature, it was perhaps the first publication of the recently established Institute of African Studies, which took over the Institute of Political Studies' areas of responsibility in African studies. The former was an organisation backed by the latter, which was also part of the recently established Spanish Higher Council for Scientific Research (CSIC), the establishment of which severely limited Santa-Olalla's areas of responsibility.

Almagro's 1946 volume reported on a vast number of prehistoric sites. The following year Santa-Olalla –in a footnote in one of his publications– accused his 'former pupil' of having followed him, visiting the same sites he had previously explored, and omitting his participation (Santa-Olalla was not

even mentioned in Almagro's works, who claimed all findings for himself) (Martínez Santa-Olalla, 1947: 19). Controversy was openly and gauntly expressed, reproachfully. In the light of the data, we believe that a large part of Santa-Olalla's reproaches were justified, yet it is no less true that Almagro's terminology and classifications were much more useful and understandable for archaeologists. Besides, Santa-Olalla's expedition fell into oblivion as a mere anecdote, while Almagro's work made it into the archaeology catalogues as a perfect example of Spanish archaeological intervention at this time.

Apart from this personal struggle for scientific prominence, Santa-Olalla's schemes of African prehistory were rather archaic, while Almagro's proposals were much more up to date. Indeed, the first part of Almagro's monograph is the first reception in Spain of a review of North African prehistoric archaeology in the chronological sequence set by E. G. Gobert and R. Vaufrey in the 1930s (Gobert & Vaufrey 1932). Problems during the Second Spanish Republic and especially after the Civil War hindered its appropriate dissemination in Spain. Almagro's 1946 monograph presented this chronology –Lower Palaeolithic, Mousterian, Aterian, Iberomaurusian, Neolithic, and Late Neolithic– although rather concisely. Santa-Olalla's antiquated terminology and paradigms could not compete with this.

4. Prehistory in Northern Morocco

As previously pointed out, Quintero managed to keep Moroccan archaeology out of the reach of the General Office. He was actually rather ignorant of prehistoric archaeology and paid no particular attention to it in his criteria and writings (Quintero 1941). We only know one direct intervention of his in this area on the occasion of the excavation of a Bronze Age tumulus in the Oued Laou valley. There is no evidence of him even visiting the Msoura monument and everything we know about this visit is thanks to other authors. Nevertheless, as we will see, he showed true interest in enriching the exhibition of the Prehistory Room in the Tetuán Museum.

In spite of his dynamism, he came up against almost insurmountable problems in international relations. In this respect, he achieved little success through his contacts with the aforementioned American researchers, Nahon and Doolittle. It must be borne in mind that Spain had occupied Tangier in the summer of 1940. The reports on the excavations in El Aliya handed to Quintero, which included pictures, were of rather limited value and were sent not by the excavators but by a Spaniard residing in Tangier (as found in the archive of the Tetuán Museum).[1] In spite of all this, the diplomat Doolittle, who was in the process of transferring to a different consulate, showed interest in visiting the Tetuán Museum. Documents point out that this visit finally took place and Doolittle undoubtedly gave Quintero verbal information on this occasion. There is no evidence of any subsequent collaboration between them.

The political circumstances during the Second World War prevented Quintero from developing international cooperation. Nevertheless, this cooperation was planned. The document of May 15th 1941 titled 'Regulation for the Operation of the Excavation, General Inspection and Management of the Tetuán Archaeological Museum' provided in its seventh article for, in the future, archaeological excavations in the Protectorate to be undertaken by both Spanish and foreign scientific societies. However, the war and subsequent international political isolation of Spain prevented him from making the relevant contacts. Quintero's correspondence –preserved at the Tetuán Archaeological Museum– includes only a small number of contacts with Portuguese archaeologists.

Domestically, Quintero supported a close collaborator, Father César Morán, who visited him during the summer period to complete works Quintero had commissioned from him for the museum. For this reason, a wide exploration of the Bani Gorfet area was carried out, rendering numerous Palaeolithic finds that were published in a monograph in 1941 (Morán 1941). The criterion followed for their

[1] The museum archive is in need of further organisation and therefore no precise signature can be provided.

classification was still archaic and deeply influenced by Obermaier's and Pérez de Barradas' previous ideas (Obermaier 1925, Pérez de Barradas 1921-1922). In his opinion, the prehistoric sequence in Morocco was as follows: Lower Palaeolithic (Cheulian and Acheulian), Middle Palaeolithic (Lower, Aterian and Upper), Iberomaurusian Palaeolithic (Lower and Upper), Mesolithic and Neolithic (Morán 1941). These data reflect the considerable confusion derived from the outdated nature of the information, as well as the simple application of a European model. Significant examples of this are the negligence of the Aterian period, as well as of the true Iberomaurusian dating, which were the two main types of lithic assemblages to be found in that area.

Finally, between 1944 and 1948, explorations were undertaken in the eastern Rif by Carlos Posac, a teacher at the Melilla's High School. Posac completed his studies within the framework of the Seminar of Primitive History directed by Santa-Olalla at the University of Madrid. Posac's fieldwork led to the location of around twenty open-air sites, among which the one at Kerker Cave stood out. Two main industries were found: bifacial pointed Aterian and Iberomaurusian, characterised by pieces worked on backed blades (Posac 1951).

5. Internationalisation (1948-1956)

After Quintero's death, the incorporation of Miguel Tarradell in 1948 as director of the Tetuán Archaeological Museum and Excavation Inspection in the Protectorate involved an important change: the introduction of a university-trained professional archaeologist. Yet, the models applied in the field of prehistoric archaeology were certainly those traditionally applied in Spain, which insisted on Spanish prehistory's dependence on that of the Maghreb. It is no less true that this position was kept to in the first years, but was practically abandoned later on, in agreement with French prehistorians. An essential aspect of the work developed by Tarradell lay precisely in the opening of new, very important international contacts.

Tarradell's international relations in prehistoric archaeology were at first weaker than those in classical archaeology. Regarding the latter, from the outset Tarradell maintained intensive correspondence with R. Thouvenot, his counterpart in French Morocco. As regards prehistoric archaeology, his arrival in Spanish Morocco coincided with the death of the head of French Moroccan prehistoric archaeology, A. Ruhlmann, who Tarradell had never met. Ruhlmann's post was left unoccupied for a long time and there is no available evidence of any communication with Maurice Antoine, who finally occupied it. Besides, Antoine (unlike Thouvenot) did not attend the archaeological congress organised by Tarradell in Tetuán in 1953. During that time Tarradell wrote a bibliographic review of one of Antoine's works on the prehistory of Morocco; Tarradell's corrections of his theses might not have pleased Antoine at all, especially given the latter's character.

Tarradell's foreign relations in the field of prehistory were developed mainly under the patronage of his master, Luis Pericot, who was in frequent contact with Anglo-Saxon archaeologists (Díaz-Andreu 2012) and opened the door for him to contact researchers from Anglo-American spheres, especially Americans such as B. Howe, H. L. Movius, C. Sterns, and H. E. Doolittle, who had researched in the El Aliya Cave and particularly in Tangier. It was Pericot who represented Tarradell with his contribution in Alger for the 2nd Pan-African Congress on Prehistory in 1952. Indeed, Pericot was a determined defender of the thesis of African dependence on the Spanish Palaeolithic, which was probably influenced by Tarradell (Pericot 1953).

Tarradell also made contact with Lionel Balout, the main researcher in the Maghreb, who was researching in Algeria and lecturing at the University of Alger. Relations with Balout allowed Tarradell to make a qualitative improvement in his foreign contacts, which had a decisive influence on him. On the one hand, he needed advanced models regarding the state of the art in North African prehistory. At the time, no one could outshine Balout in this respect. On the other hand, Tarradell provided Balout with knowledge on the finds from northern Morocco that the latter used in the

introduction of his synthesis of North African prehistory (Balout 1955), which was praised by Tarradell in a review article the following year (Tarradell 1956). Documents available at the Tetuán Archaeological Museum show the existence of scientific correspondence proving the importance both gave to this communication.

Undoubtedly, a key aspect in the internationalisation of Spanish archaeology during Spain's political isolationism was the holding of the first (and only) Archaeological Congress of Spanish Morocco (1953) organised in Tetuán by Tarradell himself. The prehistory session included important contributions from foreign researchers, although not all of them attended the event. The Congress proceedings include 17 studies on prehistory, and 18 and 12 respectively on the pre-Roman and Roman periods, as well as 15 contributions catalogued as 'varied'. This makes a total of 62 contributions, among which prehistory studies represented 27.4%, a rather respectable figure.

The seventeen papers on prehistory were presented by a total of 20 participants, of whom eleven were Spanish (55%), three French, three American, and three Portuguese (15% each). Bruce Howe and Charles E. Stearns dealt with geology and archaeology at Cape Espartel (Tangier); C. A. Apffel provided the first information on Gar Cahal Cave; Abbot Jean Roche presented some notes on Taforalt Cave; Balout gave an important paper on the geographical extension of prehistoric cultures in the Maghreb; G. Esperandieu contributed information on goats and their representation in cave art; the Portuguese researcher, F. Russell, reported on data from the Neolithic in Portugal, while A. do Paço and M. L. Costa Arthur presented the settlement of Vila Nova de São Pedro. The ratio of papers by foreign researchers (45%) clearly exceeded that of the pre-Roman- and Roman-period sessions (16.6%: one French and two Italian papers in the first case, and two French in the second) (all these articles were published in Tarradell 1954).

A major debate took place between Pericot and Balout at this congress. The former defended the existence of intense contacts in prehistory between the Maghreb and the Iberian Peninsula, focusing on the Aterian influence on the European Solutrean. The latter denied these relations, pointing out the limitation of the Palaeolithic crossing of the Strait of Gibraltar. This congress and his relationship with Balout were key factors in making Tarradell change his mind on this issue.

Curiously, it was from this period that Tarradell focused his attention on classical archaeology. Indeed, none of his papers at the 1953 congress were on prehistory. In 1954 he excavated Gar Cahal Cave and the following year did the same with Caf Taht el Ghar Cave. He attempted to document the Early Neolithic with his results, as well as the Metal Age cultures, and contributed data for reaching conclusions that differed from Pedro Bosch Gimpera's Africanist theses. Working on these data, in subsequent years Tarradell wrote important syntheses on these stages.

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Internationalism and lake-dwelling research after the Second World War

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Abstract

After the Second World War some Swiss prehistorians tried to reposition their discipline in the field of science, using lake-dwelling research as a showcase. This paper examines how this research subject developed at the turn of the 1950s, when internationalism in science emerged as a new virtue in post-war Europe.

Key-words: *Internationalism, lake-dwelling research, history of science, Switzerland*

Résumé

Après la Seconde guerre mondiale, quelques préhistoriens suisses ont cherché à repositionner leur discipline dans le champ scientifique suisse en utilisant la recherche lacustre comme une vitrine. Cet article examine comment ces recherches se sont développées autour des années 1950, un moment charnière où l'internationalisme scientifique émerge comme une nouvelle vertu dans l'Europe d'après-guerre.

Mots-clés: *Internationalisme, recherches lacustres, histoire des sciences, Suisse*

1. Introduction

Lake-dwelling research contributed to redefining the line of Swiss prehistoric research in the immediate post-war period. This paper examines the place of internationalism in this process. We will focus on three events: the organisation of the International Congress of Prehistoric and Protohistoric Sciences (CISPP) in Zurich (1950), the commemoration in 1955 of the 100th anniversary of the discovery of the lake-dwellings, and the inauguration of the Swiss National Science Foundation in 1952. These three examples reveal the intertwining of internationalism with other determining values such as objectivity, neutrality and interdisciplinarity that Swiss prehistorians were keen to support during this period.

2. Scientific internationalism and prehistory

Scientific internationalism in prehistory was not an invention of the 1950s. During the second half of the 19th century internationalism had been part of the institutionalisation of prehistoric archaeology as a scientific discipline. The first specifically prehistoric association dedicated to archaeology was the International Congress of Prehistoric Anthropology and Archaeology (CIAAP after its French name) founded in 1865 (Kaeser 2002, 173). However, the power of this internationalist institution was in decline at the turn of the 20th century. The institutionalisation of prehistoric archaeology was completed and the discipline had acquired its scientific credibility. It was then necessary to develop new research structures on a national level (Kaeser 2002, 174). In addition to this disciplinary motive, there is an ideological explanation, as the International Congress of Prehistory (CIAAP) had been founded in the 1860s with 'a cosmopolitan ideal of a global republic of scholars', an idea that was no longer compatible with the European frame of mind at the 19th century (Kaeser 2002, 176). The CIAAP did not do well in a context of strengthening of nationalism.

The ideal of the universality of science was profoundly affected by the First World War and the crisis of values resulting from this conflict was accompanied in the 1920s by a tentative of renewal of international cooperation between scholars. During the inter-war period, the CIAAP was incorporated

into the International Institute of Anthropology (IIA), although with limited success. In 1931 the International Congress of Prehistoric and Protohistoric Sciences (CISPP) was founded at a small meeting held in Berne (Díaz-Andreu 2009, 93, 95).

Scientific internationalism was again weakened by the Second World War. In 1945 the general desire was to establish non-governmental institutions. These were aimed at founding the bases of international cooperation in the political and military spheres, as well as in the domains of culture, education and science. This was the basis on which UNESCO was founded (Joye-Cagnard 2010, 242). In this context, interdisciplinarity, alongside internationalism, was considered to be a new model of scientific research (see Belloc 2007) in which each discipline contributed in a positive interaction to the global production of knowledge. The functioning of science could be compared to the civilising project undertaken by the United Nations and UNESCO (ibid.; see also Petitjean *et al*. 2006).

Historians of science have shown that scientific internationalism was also on the agenda during the Cold War. The discourse of scientific internationalism referred to a depoliticised and demilitarised practice of science, as well as to the categories of neutrality, objectivity and universality in science (Strasser 2009). However, the *modi operandi* of such an internationalist science were at the same time closely linked to the pursuit of national interests and scientists were well aware of this duality (Joye-Cagnard 2010, 199). The most eloquent example is probably the leadership of American Big Science in the Atoms for Peace project, when *Pax Atomica* did in fact depend on the United States (ibid.). Presented and conceived as knowledge shared among scientists on an international level, scientific internationalism was at the same time a tool for American foreign policy and this also came to be emulated by European states.

The new concept of science in the 1950s, whether it concerned internationalism or interdisciplinarity, was decisive for the development of research in the second half of the 20th century. Actually, its achievement was facilitated by the creation of institutions such as the Swiss National Science Foundation in 1952, which contributed to supporting scientific projects in all the basic research domains. Conceived as an observatory of the development of scientific research, this institution also had the mission of disseminating a model of scientific practice which took into account the expectations of the Swiss government regarding the question of science.

3. Lake-dwelling research and the 'new internationalism' in the post-war period

As Christopher Evans explained in the case of the United Kingdom, the Second World War signified a turning point for internationalism in prehistoric research. It became a central topic in the discussions British archaeologists were having about their own practice and the future of their discipline (Evans 1995). However, while the renewal of internationalism in British archaeology was part of a programme (cf. the *Proceedings on the Future of Archaeology* in 1943; CFA 1943), this was not the case in Switzerland. If Swiss archaeologists were influenced by this new trend, they did not expound it as part of a clear and settled programme for the development of the discipline. Internationalism was not directly assumed, but rather intertwined with other values defended in the immediate post-war period, as we will show.

3.1. A popular research topic scientifically à l'avant-garde

In the 1950s lake-dwelling research was placed at the centre of the renewal discourse in prehistoric research. Actually, this field had two values: it was both popular and methodologically innovative.

The popularity of the lake-dwelling civilisation first defined by Ferdinand Keller in 1854 can be explained by the strong potential identification of the Swiss population with these imagined ancestors, within the context of nation-building (Kaeser 2004). The mundane dimension of the archaeological remains, which illustrated the ordinary life of prehistoric farmers and stockbreeders living in small

wooden houses built on the lake shore, contributed to this phenomenon. Following the discovery of the first lake-dwelling settlements in the mid-19th century, reconstruction attempts emerging from scholarly circles inspired many artists and contributed to the dissemination and popularisation of this research subject (Kaeser 2008).

This popularity also included the scientific milieu. If prehistoric archaeology benefited from the marked visibility of the lake-dwellers, they, as well as being the imaginary ancestors who took part in building the Swiss nation, also provided prehistorians with a highly interesting field of scientific research. Indeed, the wide diversity of well-preserved archaeological remains – wooden building structures and pottery, metal and stone objects – revealed a concrete picture of the day-to-day life of prehistoric communities. In particular, the spectacular conservation of organic remains such as wood, seeds and plants, contributed from the end of the 19th century onwards to the development of naturalist methods such as palaeobotany, palynology and later dendrochronology, in close cooperation with archaeologists who were investigating wetland settlements along with naturalists (Delley & Kaeser 2013). The popularity and considerable scientific potential of these prehistoric settlements had placed the lake-dwellings *à l'avant-garde* of prehistoric research, a place it still occupied in the 1950s.

3.2. The renewal of lake-dwelling research in the 1950s

The reconstruction of lake-dwelling villages had largely contributed to the nationalist dimension of the topic. During the interwar period, questions of reconstruction had launched an important debate with Swiss and German prehistorians in opposition to each other. This gave birth to what in German would be called *Das Pfahlbauproblem* ('the lake dwellings problem'). After the Second World War however, although the popularity of lake-dwelling research remained intact, its nationalist dimension was no longer conceivable with the new internationalist trend in science. At that time certain influential Swiss archaeologists considered that lake-dwelling research needed to develop within a more scientific perspective (Vogt 1951, 215; Guyan 1955, 7). To them 'scientific' meant different things, including 'neutrality' and 'objectivity'. By these words they meant re-evaluating the lake-dwelling question, insisting less on interpretations and more on field observations, data recording and sampling. They also expanded the role of natural science in lake-dwelling research. These prehistorians considered that the cooperation between the natural sciences and archaeology could offer a novel, sounder perspective to the old *Pfahlbauproblem*. This relationship with the natural scientists allowed prehistorians to distinguish their own savoir faire from that of their predecessors.

By expanding the methodological aspects, these prehistorians, with Emil Vogt and Hans-Georg Bandi at their head, intended to transform lake-dwelling research into a modern, innovative field of research, in contrast to its traditionalist and nationalist origins. If internationalism was a necessary condition to attain this, we will see that interdisciplinarity, another component of post-war rhetoric (Belloc 2007, 54), occupied a central place in the discourse and practice of these scholars.

This renewal actually coincided with three important events: the CISPP congress in Zurich (1950), the commemoration of the 100th anniversary of the discovery of the lake-dwellings (1955) and the inauguration of the Swiss National Science Foundation (1952).

4. The CISPP Congress of Zurich in 1950

I have already mentioned the place internationalism occupied in the *Proceedings on the Future of Archaeology*, an important conference held in London in 1943 (see Evans 1995). We should add here the expectations Christopher Hawkes formulated to his Spanish colleague Luis Pericot as regards internationalism at the CISPP which would take place in Zurich in 1950:

> *Our task at Zürich must be – as I see it – to get the Congress organization to set up 'Comisiones', to work through the 4 years until the next Congress; Each Commission to work at some subject of international value, and each one international in its personnel. For, now, it is not enough to be*

> *international only at the stage of conferring about results of work already done inside national compartments! It is necessary also to be international at the stage of the *the work itself*. (...)*
> (Hawkes to Pericot 28.12.1949 cited by Díaz-Andreu 2009, 108).

Swiss prehistorians in contrast did not clearly affirm their intentions of renewing this scientific internationalism. The organisation of the first post-war CISPP in Zurich chaired by Emil Vogt, one of the main Swiss prehistorians *en vue* in the 1950s (Delley 2015, 77-78), is a good illustration of this phenomenon. Vogt's involvement in the project to reorganise internationalist prehistoric research appears to have been rather limited and his vision of internationalism did not appear to be compatible with the position of some of his foreign colleagues.

Actually, the organisation of the CISPP in Zurich in 1950 was a last minute decision, as it was initially due to have been held in Budapest (Díaz-Andreu 2009, 107). However, the fact that Vogt agreed to organise it certainly confirms his interest in such an internationalist institution. However, Vogt did not make a good impression on his colleagues as chairman of the congress. The main criticism levelled at him concerned his reluctance to fulfil his duties regarding the dissemination of the minutes of the council meetings held in Zurich (Díaz-Andreu 2009, 108, 111). Moreover, he was accused, along with his Norwegian colleague Johannes Bøe, of sabotaging the attempt to affiliate the CISPP with UNESCO. This was a project submitted by Pedro Bosch-Gimpera that would have ensured funding for international programmes through the International Council of Philosophy and Human Sciences[1] (Díaz-Andreu 2009, 111). In fact, rather than an opportunity for renewing modes of cooperation between scholars and the place of prehistoric archaeology in the existing international structures such as UNESCO, Vogt perceived the organisation of the CISPP in Zurich primarily as a good occasion making Swiss prehistoric research more visible (precisely what Hawkes had criticised; see quotation above), as his keynote speech revealed:

> *The long interruption of international teamwork did not bring archaeological research to a complete standstill in Switzerland, so foreign prehistorians have found it difficult to keep up with our progress. All the more so because we have important new finds, as yet unpublished, and some new theories. We have taken a step forward, not only as regards our own little country, but also concerning the prehistory of Central Europe. So we Swiss are delighted to have this opportunity to put some aspects of our prehistory before such a numerous body of eminent foreign workers.*
> (Vogt 1953, 31).

The organisation of an international congress in Zurich was seen by Vogt as an occasion for summing up the state-of-the-art of prehistoric research in Switzerland. Vogt suggested in his discourse that Switzerland had been preserved from the interruption of the war, but despite this, the situation of prehistoric research was far from satisfying. In fact, between the end of the 19th century, the golden age of Swiss prehistory, and the 1950s, the activity in this domain had progressively lost its dynamism. In 1939 Rudolph Laur-Belart had already underlined the almost complete absence of academic professorships in prehistory (Laur-Belart 1939). After the war, another problem, which would be exacerbated in the early 1960s, was the lack of trained archaeologists.

The organisation of the CISPP must have been perceived by Vogt and his Swiss colleagues as a signal to encourage prehistoric research, a task Vogt and Bandi would undertake focusing especially on wetland archaeology.

5. Fieldwork observations as a new epistemic virtue[2]

As mentioned above, the beginning of the 1950s saw a major change of perspective in lake-dwelling research. This shift would consist of tackling the old *Pfahlbauproblem*, leaving aside the debate that

[1] This affiliation, which necessitated changing the name of the CISPP to the UISPP (Union of the Prehistoric and Protohistoric Sciences), took place in 1954.

[2] As required qualities necessary to demonstrate verity in science.

had been going on since the 1920s between Swiss and German archaeologists on the question of the position of the lake-dwelling villages. During this long period, the tense political atmosphere had led both parties to stick doggedly to their positions and in the 1950s the result of the discussion was far from conclusive.

5.1. The commemoration of the 100th anniversary of the discovery of lake dwelling

As a second important event, the commemoration in the mid-1950s of the discovery of the lake dwellings offered an opportunity to redefine the principal orientations of lake-dwelling research. Moreover, this event and the related publication (Guyan *et al*. 1955) served as a showcase for demonstrating a 'modern', 'more scientific' archaeology in the lake-dwelling context. These two terms – modernity and scientificity – are not self-evident. While they clearly referred to the use of new methods, especially those developed in the field of the natural sciences, they also referred to an ideal of impartiality and objectivity within the scientific approach. Such epistemic virtues were associated with an important activity in the field and a decisive place given to empirical observations. Globally, the interpretative aspects of the archaeological approach would be minimised in favour of methodological aspects and observation protocols.

From this perspective, a group of scholars – Hans-Georg Bandi, Walter Guyan, Josef Speck and Emil Vogt – were conspicuous in their approach to introducing a wide range of analytical tools coming from the natural sciences. Following these procedures, prehistorians expected to gather the maximum amount of information so that they could understand lake-dwelling settlements. Two important scientific media illustrated the diversity of these approaches: *Das Pfahlbauproblem* (Guyan *et al*. 1955), an important volume published for the anniversary, and a one-hour documentary entitled *Pfahlbau-Forschung in der Schweiz*, filmed by Bandi between 1952 and 1960 (Bandi 1960). While the impact of the film is difficult to evaluate, although we know it was presented to a wide audience (schools, archaeological circles, delegates to the congress), the publication considerably influenced the future development of lake-dwelling research in Switzerland. Conceived as a model of modernity in the 1950s, these experiences would be recalled by the new generation of prehistorians who undertook the first preventive excavations in the lakes of Zurich and Neuchâtel in the 1960s and 70s (Delley 2015, 155-157).

5.2. When specialism requires internationalism

In the 1950s, the diversity of approaches envisaged required the cooperation of foreign specialists competent in the use of specialised methods such as ^{14}C, dendrochronology, palynology, sedimentology and malacology. In other words, this specialism required internationalism. Regarding ^{14}C dating and dendrochronology, before 1957 Switzerland had no ^{14}C laboratory and the first tree-ring dating laboratory would only be set up at the end of the 1960s. To obtain ^{14}C dates, samples were sent to Denmark, the Netherlands, England or the United States, whereas the dating of prehistoric wood by means of dendrochronology was mainly undertaken by the Forest Botany Institute of Munich (Delley 2015).

Foreign laboratories were also interested in wood samples taken at lake-dwelling settlements. In 1950, a few months before the opening of the Zurich Congress, Gordon Childe wrote to Vogt saying that he had met Libby, the inventor of the ^{14}C method, and that he was anxious to get 'good wooden material' for developing the process. Talking about the forthcoming organisation of the CISPP Congress in Zurich, he added: 'perhaps the Congress might do something towards collecting samples. This is a subject, after all, that ought somehow to be mentioned in the course of our deliberations'.[3]

Cooperating with foreign scholars became necessary even in domains where Swiss archaeologists were used to cooperating with naturalists on, for instance, palaeoenvironmental questions. This

[3] Childe, G. – [letter] 15.2.1950, [to] Emil Vogt. 1950. National Museum Zurich. Correspondence Emil Vogt.

was the case of palynology and sedimentology, where significant progress had been made abroad. Compared to these, the approaches of Swiss scholars would be seen as outmoded. Vogt did not hide his enthusiasm for the work of the Danish palynologist Jens Troels-Smith at the Moorlaboratorium in the National Museum of Copenhagen. Troels-Smith came to Switzerland several times between 1949 and the early 1950s and took part in the excavation of Egolzwil 3 with Vogt.[4] He also worked with other Swiss prehistorians involved in lake-dwelling research and his observations and records led him to compare the beginning of agriculture in Denmark with that of Switzerland, whose results he published in the journal *Science* in 1956 under the title *Neolithic period in Switzerland and Denmark.* At the Zurich Congress his colleague Therkel Mathiassen presented a paper on the new research into the early Neolithic culture in Denmark. In 1952 Vogt went to Copenhagen to visit Troels-Smith's laboratory. In a letter to his colleague Walter Guyan he expressed his admiration for the new approach developed by the Danish naturalist. Vogt said he was quick to publish these new results,[5] which would be presented in his important contribution to *Das Pfahlbauproblem* (Vogt 1955).

The technological aspects of prehistoric constructions also encouraged the comparison of distant case studies. During the excavation of the settlement of Egolzwil 3, Vogt wrote to Grahame Clark. Clark had also taken part in the Zurich Congress, where he had presented the results of the excavations of the Mesolithic bog settlement of Star Carr. The discussion had concerned the details of the technique used by prehistoric populations in bogs and on lakeshores to insulate the floors of their houses from damp. Four years later, Vogt included the conclusions reached by Grahame Clark at Star Carr in his contribution to the commemorative volume of *Das Pfahlbauproblem* (Vogt 1955, 156).

By the beginning of the 1960s, Switzerland could no longer postpone a proper professionalisation of archaeology. Important excavations were programmed within the framework of construction projects, but there was a lack of qualified archaeologists. This was the case for example in 1962 at the bog settlement of Niederwil. After repeated attempts to find a competent prehistorian, Tjalling Waterbolk, a specialist in bog archaeology, finally undertook the excavation with a team from the University of Groningen. Another example was Neuchâtel, where important excavations had been launched in 1964 during the construction of the motorway. The lack of experienced local archaeologists was made up for by the involvement of those from abroad.

6. The establishment of the Swiss National Science Foundation

Internationalism in the 1950s was not only in the *air du temps*, it was also supported by important institutions that had been set up during the interwar period and mainly after the Second World War. These institutions contributed to the definition of the new internationalism, its dissemination and also its accomplishment. In answer to governmental expectations, some of these institutions were also a godsend for the development of disciplines on an international level. The establishment of the National Science Foundation (SNF) in Switzerland was one of these realisations.

In 1945 the promoters of the SNF, which was not inaugurated until 1952, presented their project for 'reconstructing European science' (Joye-Cagnard 2010, 243). Whereas in most countries science had been involved in military projects, in Switzerland neutrality had preserved its destiny and it had not been diverted from its initial aim. The founders of the SNF presented the neutrality of science as an advantage the Swiss government should take advantage of. Through the SNF, Switzerland would then have the mission of defending and promoting the internationalism of science in post-war Europe (Fleury & Joye 2002, 105, 118).

The model of science the SNF was defending recalled several principles we have already mentioned as regards the practice of science in the post-war period. Besides neutrality and internationalism, the SNF also encouraged exchanges between disciplines, a model of science that echoed the practice of

[4] Vogt, E. – [letter] 21.7.1950, [to] Jens Troels-Smith. National Museum Zurich. Correspondence Emil Vogt.
[5] Vogt, E. – [letter] 12.5.1952. [to] Walter Guyan. National Museum Zurich. Correspondence Emil Vogt.

prehistorians engaged in lake-dwelling excavations. Their research gained a sudden visibility thanks to major financial contributions from the SNF, which considerably exceeded the standard budgets for archaeology in those years (Delley 2013). The most ambitious research conducted in the 1950s and 60s was on the lake-dwelling settlements of Burgäschisee, Thayngen-Weier, Zug-Sumpf and Niederwil.

It appears that, compared to other actors in the humanities (known as the 'moral sciences' in those years), prehistorians, given their long tradition of cooperation with the natural sciences, were particularly well prepared to meet the expectations of the SNF. In the 1950s, however, interdisciplinarity had taken on a new meaning. Encouraged by the International Council of Philosophy and Human Sciences, an offshoot of UNESCO (Belloc 2007), and the SNF, it had become a factor of modernity for prehistorians. Rather than a simple coincidence, this simultaneity should be interpreted as the result of the performative discourse disseminated by the politics of science, a discourse that Swiss prehistorians tried to adapt quickly, given the unsatisfying situation of prehistoric research in those years.

7. Conclusion

This article has shown how values and practices already constitutive of the development of prehistory in the mid-19th century were reinvented and renewed in the immediate post-war period. In the 1950s internationalism was particularly at stake for the politics of science and non-governmental organisations created just after the war, such as UNESCO and the International Council of Human Sciences. On the one hand internationalism referred to a depoliticised and demilitarised scientific practice that was neutral, objective and universal; on the other, its implementation was linked to the pursuit of national interests.

Focusing on three events during the 1950s, this article has indicated that the position of Swiss prehistorians regarding internationalism was rather ambivalent compared to that of their international colleagues. The organisation of the International Congress of Prehistoric and Protohistoric Sciences in Zurich (1950) illustrates this difference in attitude. For Emil Vogt, who agreed to organise the Congress in Switzerland after the last-minute withdrawal of Hungary, this internationalist manifestation was conceived above all as an opportunity to revitalise prehistoric research in Switzerland and give it more visibility. Similarly, the commemoration of the 100th anniversary of lake-dwelling research in 1954/1955 offered an occasion to exhibit the new results of lake-dwelling research. But not just any kind of results: the natural sciences occupied a decisive place in this so-called 'modern research'.

In fact, the diversification of the approaches and the specialism some prehistorians were seeking required international collaborations. Internationalism turned out to be a necessary condition for re-evaluating 'more scientifically' the question of the lake-dwelling settlements. Finally, the inauguration of the SNF in 1952 contributed to the dissemination of two of its founding principles: internationalism and interdisciplinarity. As a source of state financial support for scientists and as an observatory of the development of science in Switzerland, the SNF contributed to guiding Swiss prehistoric research in these two perspectives, internationalism and interdisciplinarity, the former being a consequence of the latter.

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An Influential Outsider. Georges Laplace between French institutions and Italian prehistory

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Abstract

This paper scrutinises the relationship between Georges Laplace and Italian prehistoric research during the second half of the 20th century. The intellectual and institutional consequences of Laplace's scientific mobility are analysed both as regards the evolution of Italian Palaeolithic research and Laplace's own professional career. This individual-centred perspective also appears as a relevant proxy to depict the institutions and actors that formed the French-Italian part of the internationalised scientific prehistoric archaeology community, as well as some effects of the scientific policy of each country.

Key-words: *prehistory, Italy, scientific migration, international relations, science studies*

Résumé

Cet article examine les relations tenues entre Georges Laplace et la recherche préhistorique italienne au cours de la seconde moitié du XXe siècle. Les conséquences intellectuelles et institutionnelles de sa mobilité spatiale sont analysées tant du point de vue de l'évolution de la recherche paléolithique italienne que de celui de la trajectoire personnelle de Laplace. Cette approche centrée sur un individu est également un moyen de rendre compte des acteurs et institutions qui constituèrent la partie franco-italienne d'une communauté archéologique internationalisée, ainsi que de certains effets des politiques scientifiques de chacun de ces deux pays.

Mots-clés: *préhistoire, Italie, migrations scientifiques, relations internationales, sociologie des sciences*

1. Introduction: mobility in scientific activities

Social and historical studies of science have proposed numerous ways to account for mobility as a prominent property of scientific activities and their dynamics. When taken into consideration, spatial mobility is frequently perceived either as a normal and transhistorical 'brain drain' (Laudel 2005) or as an effect of the hegemony and domination of central scientific nations over those on the periphery (Keim 2008). Some authors also link mobility to nationalisation and denationalisation processes (Crawford *et al*. 1992), producing a persistent tension throughout the history of scientific development.

Most of these studies aim to capture the mobility of scientists at a macroscopic level of analysis. In this paper, we propose a biographical approach focusing on French prehistorian Georges Laplace (1918-2004) and his relations with archaeology in Italy. Starting in the second half of the 1950s in Italy, Laplace developed a statistically-based method which he first called *typologie analytique* and later changed to *typologie analytique et structurale* (Cabon 2004). This research programme later became a standard for decades in that country, although it was hardly ever used in France. This paper aims to describe a scientific migration in its multiple dimensions from an individual-centred perspective. Focusing on an individual gives us a starting point for depicting the relationships between the multiple institutional and personal actors that formed the Italian and French prehistoric research communities, while considering their respective science policy, social and intellectual features.[1]

[1] The potential of a biographical approach for the history of science is well stressed by Marc-Antoine Kaeser in his methodological reflections based on his study of Édouard Desor (Kaeser 2008).

In this particular case, spatial mobility will be thus analysed when it also relates to international mobility. What can impel a scientist to cross the borders of his nation?[2] In terms of social position, what does working abroad imply for a scientist? What possibilities of action are facilitated or made harder? And, ultimately, do national borders have any effective consequences on the evolution of a scientific field? Our analysis of Laplace's scientific migration career will start before his departure from France with an examination of his position in the French academic institutions. His relationships and scientific agreements with several key French prehistorians will be emphasised. We will then turn to the state of Italian prehistoric archaeology while Laplace was involved in it and finally we will look at how the reception of his work there evolved.

2. The French research institutions and Laplace's position

2.1. An unstable position at the CNRS

It is necessary to start with some background to the scientific situation in France during the formative years of Laplace's career. The establishment of the *Centre national de la recherche scientifique* (CNRS) in 1939 was a crucial step in the development of a national policy concerning scientific research in France. During the post-war period, it became increasingly a matter of national interest (Guthleben 2009). The government supported the development of the CNRS, whose budget showed a constant progression (Marnot 2010). Furthermore, Frédéric Jolliot-Curie, head of the CNRS from 1944, wanted to pay greater attention to scientific research in the regions outside Paris. The project for creating several '*Centres Régionaux d'études préhistoriques*' proposed in 1947 by Henri Breuil, Louis-René Nougier and André Leroi-Gourhan appeared as an avatar of this policy concerning prehistory (Gran-Aymerich and Gran-Aymerich 1990). This situation of national effort in scientific development was highly favourable for the recruitment of young researchers from the south of France like Laplace.

Georges Laplace was born in 1918. Before the Second World War he had worked as a teacher. After his demobilisation in 1947[3] he benefited from legal regulations aimed at helping students who were keen to continue their studies after the war.[4] Laplace obtained his UG degree at the University of Toulouse in 1950. In the same year he obtained a position as an 'attaché de recherche' at the CNRS, thanks to the support of Henri Breuil.[5] Louis-René Nougier, a professor at Toulouse, was his scientific supervisor. Starting in October 1956 he stayed for two years at the *École française de Rome* as a 'member'.

2.2. Science and international relations in Rome: a view from the Palazzo Farnese

Established in Rome in 1875, the *École française de Rome* was mainly devoted to hosting the most legitimate French academic elites from Paris. Several factors help to explain why, nevertheless, a researcher from the southern mountainous region of France, lacking a prestigious academic background, was sent to Rome.

The *École française de Rome* played – and still plays – an important role in the French cultural and scientific presence in Italy. As is well-demonstrated by the annual reports of Jean Bayet (1882-1969), director of the institution from 1952, the *École* operated in Rome in a context of international

[2] These questions are answered, although from a different perspective, by Margarita Díaz-Andreu in her study of Lluís Pericot and his trips to the United Kingdom (Díaz-Andreu 2012).

[3] École française de Rome Archives: Laplace files, document entitled 'états de service'.

[4] *Arrêté du 9 août 1945 'fixant le régime des études et examens de certaines catégories d'étudiants et élèves victimes de la guerre de 1939-1945'* and *Ordonnance du 4 août 1945 'relative à l'exonération des droits scolaires et universitaires et à l'aide aux étudiants victimes de guerre'.*

[5] In a letter to Breuil dated 19 October 1951, Laplace thanked Breuil for '*votre intervention en ma faveur auprès du CNRS*' (Breuil Archives, BR 35, Paris MNHN).

competition, alongside the conventional statements sketching an ideal international scientific city. A few years after Laplace's arrival, Jean Bayet submitted a 'note' to the French Minister of National Education:

> 'Mais il suffit de comparer ce 'séminaire' de 8 membres […] à l'équipement scientifique que toutes les nations développent à Rome et en Italie pour se rendre compte de la nécessité de considérer la question d'un point de vue plus général et plus conforme aux exigences de la science moderne.'[6]

After this he gave a detailed description of the German, American and Swiss scientific institutions in Rome and contrasted them with the poverty of the French presence. With that international comparison, Bayet put forward the argument of 'French backwardness',[7] a rhetoric commonly used by French politicians and decision-makers since the 18th century (Bouchard 2008).

At that time, prehistoric archaeology was a growing field in Italy. Bayet was in touch with one of its most prominent figures in Italy, Alberto Carlo Blanc (1906-1960), an internationally known scholar with important political connections (particularly among the higher echelons of the Vatican). Blanc was able to convince Bayet of the importance of Palaeolithic research. Despite having been trained as a classical Latinist, Bayet was sensitive to Blanc's arguments and managed to create a strong position for France in Italian prehistoric archaeology. Explaining his choice, he later wrote:

> 'While Italian prehistory is booming, it seems appropriate to establish links between [Italian] scholars working in this field (Baron Blanc in particular) and the young French School.'[8] (our translation).

2.3. The Roman disciplinary strategy of Jean Bayet

The *École française de Rome* hosts several disciplines (philology, history, archaeology and art history). Balancing these disciplines is a point of crucial importance for the École's policy. At that time, it was dominated by classical history and philology,[9] and Bayet wanted to enlarge the fields of expertise of his institution. He stressed the process of specialisation in scientific practices[10] and the École's need to adapt itself to this evolution. Because of the members' historical education, Bayet observed that archaeological remains were still often considered as documents for history rather than as sources in themselves.[11] In his opinion, there was a crucial need for improvement in archaeological methods and education. This issue was also a primary concern in France: only one training excavation was available for classical archaeology (the oppidum of Glanum in Provence). By encouraging the opening of prehistoric training excavations, the prehistorians were particularly innovative in methodological terms. One of these places, for example, was Leroi-Gourhan in Arcy-sur-Cure from 1946 (Gran-Aymerich and Gran-Aymerich 1990).

Thus Bayet recruited two archaeologists: a prehistorian, Georges Laplace (1956-1958) and a specialist in classical pottery, Colette Bémont (1957-1959). It was clear that his interest in Laplace's work included its methodological concerns. As he put it, the recruitment of Laplace

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[6] 'One only has to compare this 8-member "seminar" […] to the scientific equipment that all nations are developing in Rome and Italy to be aware of the need to consider this issue from a more general point of view and more in line with the needs of modern science.' Bayet 1959, *Note à l'attention de Monsieur le Ministre de l'éducation Nationale* (EFR Archives, Bayet files).

[7] In French: '*retard français*'.

[8] 'À un moment où la préhistoire italienne est en plein essor, il a paru opportun d'établir des liens entre les savants qui s'en occupent (M. le baron Blanc en particulier) et la jeune école française.' Bayet, 1958, *Rapport sur l'activité de l'Ecole française de Rome. 1956-1957* (EFR Archives).

[9] The situation was quite similar at the *École française d'Athènes*: during the period 1919-1952 classical archaeology and art history strongly dominated (Treuil 1996, p. 416).

[10] Bayet 1959, *Note à l'attention de Monsieur le Ministre de l'éducation Nationale* (EFR Archives).

[11] *'Les "Romains" sont plus portés à utiliser le matériel archéologique comme documentation de l'histoire qu'à l'étudier pour lui-même. […] la complexité croissante de cette science [l'archéologie] recommande une formation plus poussée des futurs "Romains" en ce sens (et surtout pour l'architecture)'* (Bayet 1959, in Gras 2010, p. 247).

> 'is justified by […] the interest raised from the comparison between different excavation and typological methods.'[12]

During the 1950s, the best recruitment recipe was considered to be a balanced mixture of the most prestigious Parisian schools: one "agrégé" from the *École normale supérieure*, one archivist from the *École des chartes* and one graduate from the *École des hautes études*. A fourth member was included at the director's discretion (Bayet 1959 in Gras 2010: 245): Laplace benefited from this last option. This choice was sufficiently unusual to compel Bayet to make his reasons explicit in his annual report:

> 'A novelty may seem audacious: the choice (as a recent graduate) of a prehistorian, M. Laplace. This is justified by the recent progress of the prehistoric sciences in Italy, concerning the issues related to the proto-history prelude…' (Bayet 1958: 2, our translation).[13]

3. Reaching an honourable position: research topics, personal networks and academic kinship

3.1. A Mediterranean perspective

Laplace's research objective fitted in well with the research subjects at the École française de Rome from another point of view. Between 1953 and 1955 Laplace made many research trips to Algeria[14] and Tunisia,[15] where he both carried out excavations and studied artefacts. Among the numerous lithic tool facies he studied was the Romanellian industry, named after the Romanelli Cave in southern Italy. Laplace aimed to link the North African and Italian data and, at the same time, verify the validity of his new method of analysing lithic industries over a large area. This comparative perspective appears as an important reason for justifying Laplace's place at the École française de Rome and it was heavily stressed in a 1958 report by Jean Bayet:

> Mr Laplace's research for a doctoral thesis in the humanities forced him to criticise and test theories on the relationship between coastal industries in the Maghreb, Italy and on the Ligurian coast during the Upper Palaeolithic and early Neolithic (Bayet 1958: 9, our translation).

Laplace's interest in Africa converged with the École's own research interests. The institution had been undertaking archaeological fieldwork in North Africa since 1890 (Bayet 1959). In the CNRS structure, research on Italy and Africa was bound together. The 16th 'commission' was dedicated to excavations in foreign countries and included a section labelled 'Athènes-Rome' which also oversaw research in Tunisia and Morocco (Gran-Aymerich and Gran-Aymerich 1990). The presence of the École in North Africa was an important issue. Laplace's arrival in Italy also appears to have been the result of a convergence between his own research concerns and those of French scientific foreign policy in which the CNRS and the *École française de Rome* were embedded.

3.2. International support among prehistorians

Another factor helps to explain why the *École française* decided to open a door to prehistory and summon Laplace. As we have mentioned, Palaeolithic research experienced strong growth in Italy in the 1950s. In 1953, for example, Alberto Carlo Blanc organised the IV International Congress of the International Quaternary Association (INQUA) in Rome, a grand event with around 300 participants from 42 different nations. Opening the École to prehistory at that moment was perhaps also a way to reinforce the strong influence that France had always exercised over Italian prehistoric research.

However, Laplace's position was also the result of a real scientific partnership between Italy and France in Palaeolithic studies. It is appropriate to mention here that the main institution in the field was

[12] Bayet 1958, *Rapport sur l'activité de l'Ecole française de Rome. 1956-1957*, p. 2 (EFR Archives).

[13] 'Une nouveauté peut paraître audacieuse: le choix (au titre de jeune qualifié) d'un préhistorien, M. Laplace. Il se justifie par le progrès récent des sciences préhistoriques en Italie, les problèmes proto-historiques auxquels elles servent de prélude…'.

[14] 1953: Faïd Souar; 1954: Djebel Sidi Rgeiss and Aïn Zitoun.

[15] 1954: Mansourah; 1955: Aïn Kouka, Djebel Long and Sidi Bou Dzer.

the Italian Institute of Human Palaeontology (IIPU), which had been founded in 1913 and modelled on the Institut de Paléontologie Humaine founded two years earlier in Paris on the scientific initiative of Henri Breuil (Tarantini and Parenti 2011). Laplace's main supporter was Abbé Breuil, with whom Alberto Carlo Blanc had enjoyed a close relationship since the 1930s. In 1935 they jointly discovered the second Neanderthal skull at Saccopastore (Breuil and Blanc 1935) and afterwards they maintained a continuous correspondence[16] in which we can see a scientific partnership and a sincere mutual affection. In 1955 Breuil wrote a letter of support to Jean Bayet in which he mentioned the existing relationship between his 'ami' Georges Laplace ('très zélé, méthodique, intelligent préhistorien – l'un de nos meilleurs jeunes') and Alberto Carlo Blanc.[17] Once Laplace had arrived in Italy, as expected Alberto Carlo Blanc was his main point of reference, although Luigi Cardini (1898-1971) was also important to Laplace because he managed almost all the practical aspects of the IIPU.[18]

3.3. The prehistoric research field in Italy

At that time Blanc was the heart and soul of the IIPU. He made Laplace a member of the Institute[19] and placed all its lithic collections at his disposal. However, Blanc ran the IIPU much as a family business and in 1954, precisely for that reason, after a decade of tension a deep split developed in the Italian scientific community (Tarantini 2004). Nevertheless, the contrast between Blanc and the other Italian scholars did not prevent Laplace from accessing the collections. Neither did he come up against any obstacles in studying other Italian collections, including unpublished ones; for example the lithic industries under study by A. M. Radmilli (Fig. 1). Thus in his 1966 monograph he published the lithic industries related to 41 Italian sites (Fig. 2).

Openness towards foreign students was a constant feature of Italian prehistorians: although they closely guarded their finds from their fellow countrymen, they did not hesitate to open the drawers of their collections to foreign scholars (during the same period, for example, Hermann Müller-Karpe was assembling his large proto-historical corpus). The presence in Rome of sixteen foreign institutes involved in archaeological research was surely an important factor in creating this attitude. On the whole, foreign colleagues were not considered primary competitors on the academic level.

More generally, in Italy, Laplace's analytical typology became in a very short time a widely-shared means of analysis for characterising and standardising Italian research on the Palaeolithic. This development led to the formation of a common language and the definition of a series of very specific issues to be explored according to the logic of the 'puzzle', typical of what Thomas Kuhn called 'normal science'. These included such issues as the significance of the statistical relevance of a type, and the analysis of a site at the level of primary or secondary types.

4. Laplace's reception in Italy

Why did Laplace's analytical typology enjoy so much success in Italy, in contrast to its reception in France? Among several factors, we emphasise the fact that Laplace's typology filled a large void. Typologies of lithic industries on a regional or national level had been established in other European countries in the 1950s, and particularly in France, whereas Italy had not yet adopted shared descriptive criteria. Furthermore, the deep rift between the scholars mentioned above did not favour the elaboration of a common language and the periodisation of the Italian Palaeolithic had not progressed beyond the attempts of the 1920s. Thus in Italy there was great need for a rigorous standard for the study of lithic industries. This fact helps to explain the ready reception of a universal

[16] Under study.

[17] Only the year is written. We wish to warmly thank Arnaud Hurel for his help in deciphering Breuil's handwriting. Breuil Archives, BR43, MNHN, Paris. However, there are no references to Laplace in the letters of A.C. Blanc in the Breuil Archives.

[18] The letters between Cardini and Laplace show Cardini's central role in 'mediating' the relationship between Laplace and Blanc – sometimes he wrote on behalf of Blanc himself… (IIPU Archives).

[19] Letter from Laplace to Breuil, 29.1.1957, Breuil Archives, MNHN, Paris.

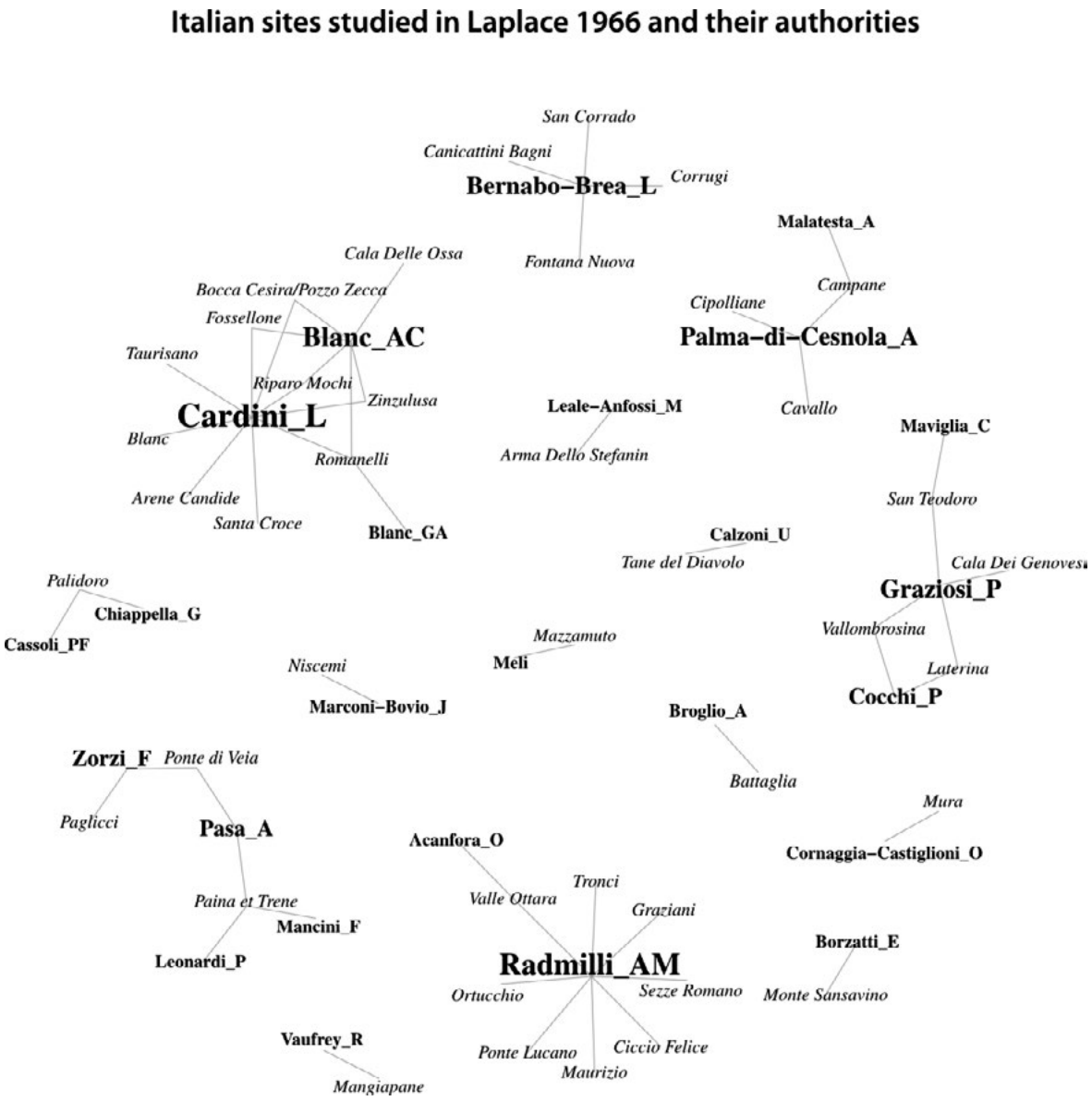
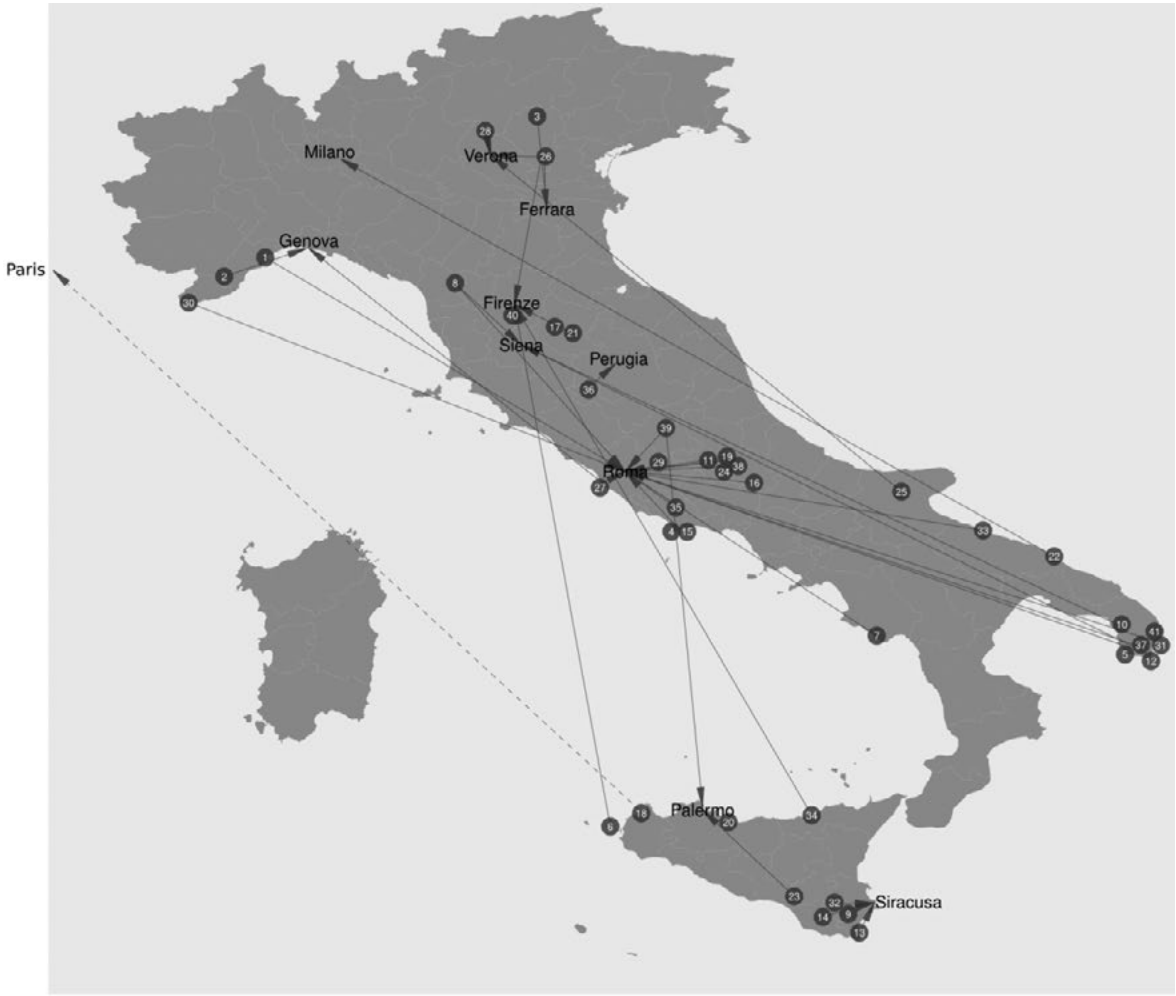


Figure 1. Bipartite network showing the relations between the sites (in italics) studied by Laplace in his 1966 PhD thesis and the prehistorians (bold font) who had authority over their archaeological materials (as excavator, curator, administrator, etc.). The size of the archaeologists' names is proportional to their rank (number of adjacent lines). Note that the only French archaeologist is Raymond Vaufrey, Laplace's CNRS sponsor until 1960.

typology directly applicable to Italy. Laplace's typology allowed the systematic analysis of lithics, wherever they had been found.

4.1. A weak debate in Italian Palaeolithic studies

The success of Laplace's typology did not give rise to an open controversy. Of course, in Italy it did not have to overcome typological proposals that had already been consolidated from both a scientific and an academic point of view, as in France. But the substantial absence of controversy depended also



1: Arene Candide	8: Campane	15: Fossellone	22: Mura	29: Ponte Lucano	36: Tane del Diavolo
2: Arma Dello Stefanin	9: Canicattini Bagni	16: Graziani	23: Niscemi	30: Riparo Mochi	37: Taurisano
3: Battaglia	10: Cavallo	17: Laterina	24: Ortucchio	31: Romanelli	38: Tronci
4: Blanc	11: Ciccio Felice	18: Mangiapane	25: Paglicci	32: San Corrado	39: Valle Ottara
5: Bocca Cesira/Pozzo Zecca	12: Cipolliane	19: Maurizio	26: Paina et Trene	33: Santa Croce	40: Vallombrosina
6: Cala Dei Genovesi	13: Corrugi	20: Mazzamuto	27: Palidoro	34: San Teodoro	41: Zinzulusa
7: Cala Delle Ossa	14: Fontana Nuova	21: Monte Sansavino	28: Ponte di Veia	35: Sezze Romano	

Figure 2. Sites studied by Laplace in his 1966 PhD thesis linked to the location of the archaeologists who had authority over their archaeological materials. Rome and Florence clearly appear as two hubs of this network.

on the fact that Laplace's reception was limited to typology considered as a means of analysis. The reception of Laplace's typology as a mere means of analysis, and not as part of a broader scientific view, is also confirmed by the fact that the subsequent and also profound revisions proposed by Laplace were not accepted, with the paradoxical result that Italian scholars have continued to refer to the typology developed in 1964, ignoring the changes of 1968 and 1971. This refusal arose from

the fact that adoption of the new typological proposals meant complicating the comparison with the lithic industries already studied (Arturo Palma di Cesnola, pers. comm. 7.4.2014, interviewed by the authors).

The questions raised by the theory of the *synthétotype*, as well as the evolutionary perspective inherent in Laplace's theories, were largely ignored. Even the deep differences between Laplace's approach and that of the school of François Bordes were largely neglected, so much so that the same researchers applied Laplace's typology to the Upper Palaeolithic and Bordes' to the Lower and Middle Palaeolithic. The aim was mainly to create chrono-typological reference series.

This point of view is clearly evident in the article by Palma di Cesnola (1962), which was the first application of Laplace's typology in an Italian context. For Palma di Cesnola, the many typological lists developed during the 1950s were all 'similar in general principle'. In his view, if preference was given to Laplace's, it was because it seemed the 'simplest' and especially the most suitable for comparative statistical evaluations of the lithic industries. The statistical approach used by Laplace, as well as by Bordes (see e.g. Bordes, 1950), was the central point.

4.2. The claims for more rigorous methods

Above all, the statistical approach had all the appearance of science: it transformed archaeological data into scientific fact that was considered neutral and measurable. In doing so, it took part of that '"new mentality", based on the rigour and accuracy of mathematics, from which it cannot be divorced in the investigation of the modern spirit' (Palma di Cesnola 1962, p. 2). After all, these were the years when Italy experienced a real infatuation with science crossing all cultural and political orientations and no different to the neo-positivist perspective popular throughout the West, including the USA. The search for general laws of progress is inherent in Laplace's approach, as also observed by A. Broglio (1970, p. 261). For him, Laplace's method led, positively, to a realisation of 'the existence of general laws that seem to regulate the evolution of lithic assemblages'.[20]

In addition, Palma di Cesnola believed that statistical comparisons were a necessity for the Italian Upper Palaeolithic which, unlike the European Palaeolithic, did not have index fossils that made it easy to distinguish between the different chronological layers (Palma di Cesnola 1962, p. 2: unlike in Italy, 'in Western Europe there were cultures […] whose index fossils are unmistakable'). Although we may be slightly forcing the argument, we can say that Laplace's typology was adopted as a substitute for index fossils (see some critical examples in Bietti 1978, p. 14-15). We are therefore far from the universalist perspective of Laplace. From this point of view, the spread of the use of Laplace's typology in Italy becomes a clear example of the fact that, in analysing the spread of archaeological theories, it is necessary to take into account the distortion of the theory itself. It is sufficient to consider that Laplace himself was a critic of what he called 'the fetishism of the "fossil director"' ('*le fétichisme du "fossile directeur*"'), considered the lowest level of the traditional typological nomenclature (Laplace 1968, p. 15).[21]

Nonetheless, many Italian researchers of the generation following Palma di Cesnola attended the summer seminars organised by Laplace in Arudy,[22] and the reception of analytical typology in Italy

[20] See Broglio 1970, p. 260-262, who was open to Laplace's theory even while cautiously awaiting further evidence. Radmilli instead criticized the idea that 'the history of culture follows processes and is done with mechanisms substantially similar to those identified in evolutionary biology' (Radmilli 1974, p. 186). For a comparison with the Spanish discussions, see Estévez and Vila 1999, p. 130-132. With all due differences, the need for a scientific approach expressed by Palma di Cesnola is not so different in spirit from that which motivated New Archaeology in the United States (is it the success of Popper's logic?).

[21] This point was nevertheless perceived by A. Broglio in his broad review of Laplace 1966 (Broglio 1970).

[22] Throughout the history of the Arudy Seminar (1969-1986), 22 Italian archaeologists participated a total of 44 times. Most of these appearances (75%) occurred before 1975 (Laplace archives, *Musée national de Préhistoire*, Les Eyzies; data cross-checked with various sources): i.e. until the time these young scholars obtained academic positions in Italy (Broglio in Ferrara in 1970, Gambassini in Siena in 1971, who was joined by Martini in 1971).

grew rapidly. A journal entitled *Archivio di tipologia analitica* was founded in 1973 at the University of Siena; it was devoted to the publication of raw lithic data following Laplace's system and was published until 1998. Another important example of the success that the Laplace approach had in Italy, also in the following generations, is the volume in memory of him edited by F. Martini (Martini 2005).

4.3. Criticisms

In the 1970s and 1980s the Laplace typology did not only meet with praise but also endured some criticism. Some were internal to the typological paradigm and supported the greater validity of Bordes' typology (see Bietti 1978, who analysed the scientific logic of the Laplace typology in depth); others criticised (rarely) the epistemological foundations of the typology. The most influential critic in this respect was Antonio Mario Radmilli (1922-1998), a leading scholar in Italy, professor at the University of Pisa and president of the UISPP from 1991 to 1996. Radmilli mainly criticised the fact that typological statistical data derived from a single site were considered valid on a large scale, a criticism that clearly shows a superficial understanding and poor application of Laplace's method in Italy.

More generally, Radmilli considered the objective of prehistoric research to be the reconstruction of the economic bases of subsistence in relation to the specific environmental context and its transformations. So while Radmilli considered the Mesolithic, on the basis of faunal remains, as a case of cultural adaptation to new environmental conditions (the last post-glacial period), Laplace argued, on the basis of the lithic typology, for the need to 'dismiss as illusory and misleading the concept of Mesolithic' (Laplace 1968, p. 16, our translation), even if he conceived cultures as an evolutionary response to the pressures exerted by the environment (Lippé 2010, p. 312-313). But Radmilli criticised radically the idea that it was possible to arrive at cultural conclusions on the basis of the statistical typology of lithic industries. Discussing Laplace's interpretation of the Polesini Cave, Radmilli argued that 'in this way lithic industry […] is pigeonholed in a pattern that has a meaning of relative chronology, but is unimportant in terms of culture' (Radmilli 1974, p. 71).

5. Return to France: institutional effects of a migration abroad

Laplace officially left the *École française de Rome* in September 1958, although he continued to visit Italy and publish in Italian journals on a regular basis. His stay at the *École française de Rome* was actually a peculiar academic migration: he was geographically abroad, but still in a French institution that was very well connected to the metropolitan academic institutions. In France, he was again employed by the CNRS as an 'attaché de recherche', but was unable to immediately obtain a better academic position. This situation garnered protests from Jean Bayet, who wrote to the CNRS suggesting implicitly that refusal to promote Laplace challenged the scientific authority of the *École française de Rome*.[23] This makes clear how, although Laplace's position in the elitist club of French academic archaeology was strengthened by his stay in Italy, in the long term it did not have a positive effect on his academic promotion. The *École française de Rome* was the first and the last prestigious academic appointment he received during his career.

As Elizabeth Crawford and her colleagues have stated, 'assessing the effects of migration on the transplantation of ideas, intellectual approaches or whole specialities' is a thorny issue (Crawford *et al*. 1992, p. 26). Thorny does not mean that it is an impossible task, but that the effects of migration are probably easier to capture at the actor level of analysis. In Georges Laplace's case, these effects

[23] '*J'exprimai le vœu que ce savant, Attaché de Recherches depuis 9 ans, pût être reclassé par promotion au grade de Chargé de Recherches. Dans l'ignorance de la jurisprudence intérieure du CNRS je m'étonne qu'il n'ait pu être donné satisfaction à une demande qui me paraissait si naturelle. Considérant que l'Ecole Française de Rome est au plus haut degré un institut de Recherches Spécialisées et qu'ainsi un chercheur qui y est détaché remplit éminemment sa fonction.*' Letter to the CNRS by J. Bayet, 3th April 1959 (EFR Archives).

can be clearly identified, and there is no doubt that national boundaries matter in archaeological activities. Clearly he benefited from being a foreigner and, somehow, an outsider, in terms of the conflicts within the community of Italian prehistorians. However, the spread and success of his method in Italy also implied its standardisation, which Laplace always regretted since he made continuous improvements to it once back in France. Thus Laplace's reception in Italy appears as further confirmation that the spread of a theory or a method is also the history of its reinterpretation, as is proved for example for the reception of Darwin in Italy (Pancaldi 1991). In the last few decades, scholars have stressed the dilution of national frameworks in general and in science especially.[24] Georges Laplace's experience and the evolution of his method clearly show that national boundaries still matter in scientific activities, at least in the field of archaeology, as is also demonstrated by K. Kristiansen (2011) from bibliographic citation data. This result urges us to examine the empirical effects of such borders, rather than addressing their ontology and (rhetorically?) asking if they still exist.

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The 'Tagus Generation' in Portuguese archaeology: transition, innovation or 'revolution'? (a first analysis)

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Abstract

In terms of transition, par excellence, the years between the end of World War II and the 1970s are crucial for understanding the change in archaeological activity in general, and in Portugal in particular, largely in the wake of the New Archaeology. *The reasons for this phenomenon were many, underpinned by the growing role played by universities in archaeological training; the rise of archaeological internationalisation; new excavation methods; the mentors of a new generation of archaeologists; and the presence of foreign experts in Portugal, such as those from the German Archaeological Institute (1971). Evaluating the many ways in which the* New Archaeology *was received, circulated and disseminated in Portugal will enable us to understand whether the 1960s were years of revolution or transition when compared to coeval examples. Reference will be made to some of the protagonists, institutions, outcomes and outputs.*

Key-words: *Eduardo da Cunha Serrão, 'Tagus Generation', Rock Art, Archaeology in Portugal,* 'New Archaeology*'*

Résumé

Années de transition par excellence, celles entre la Seconde Guerre Mondiale et les années 70 sont essentielles pour comprendre l'évolution de l'activité archéologique en général, et au Portugal en particulier, en grande partie à l'aube de la New Archaeology. *De nombreux facteurs sont à l'origine de ce phénomène, notamment le rôle grandissant des universités quant à la formation en archéologie; l'éclosion de l'internationalisation archéologique; les nouvelles méthodes d'excavation; les mentors d'une nouvelle génération d'archéologues; la présence d'experts étrangers parmi nous, comme l'Institut archéologique allemand (1971). En évaluant les nombreuses formes de réception, de circulation et de dissémination de la* Nouvelle Archéologie *au Portugal, nous pourrons alors comprendre si les années 60 furent synonyme de révolution ou de transition par rapport à des exemples contemporains, nommant certains protagonistes, institutions, aboutissements et productions.*

Mots-clés: *Eduardo da Cunha Serrão, 'Génération du Tage', Gravures rupestres,* Archéologie au Portugal 'Nouvelle Archéologie*'*

> 'We observe that,
> if any laudable attempts [*practical training courses*]
> made in Portugal in this regard
> do not manage to achieve such efficiency,
> that results more from a lack of material resources,
> the general incomprehensibility of the science of archaeology,
> than from the intentions of its very rare promoters.'
> (Serrão and Vicente 1959: 319)

1. Contexts

Since the late nineteenth century, the Iberian Peninsula has received, discussed and applied ideas from European scientific communities working on archaeological studies and, within these, prehistoric ones. Portugal was not ignored in this context, although the influences were less intensely felt than in Spain, where Franco-German rivalries ultimately rendered archaeology (supposedly) more scientific.

However, the correspondence between Portuguese archaeologists and well-known German and French researchers illustrates increasing interest in the peculiarities of the past in Portugal, especially the more distant past. This interest was reaffirmed at the 9th session of the International Congress of Prehistoric Anthropology and Archaeology (CIAAP) (Lisbon, 1880), which was followed by visits to Portugal by Emil Hübner (1834-1901) and Émile Cartailhac (1945-1921) in light of a lack of governmental action to institutionalise the practice of archaeology in the country.

In the late nineteenth and early twentieth centuries several events led to a consolidation of Portuguese archaeology. These were the inauguration and opening to the public of the Portuguese Ethnological Museum (MEP) (1893; 1906) and the rise of José Leite de Vasconcelos (1858-1941). These two events were complemented by the strengthening of the Association of Portuguese Archaeologists (1863), the expansion of excavations and the founding of other learned societies devoted to the study of the past. In addition we should mention the reproduction of local and regional collections and museums with archaeological materials, the establishment of university chairs linked to archaeology, the publication of the first list of classified national monuments (1907/1910) and the decisive performance of the First Republic in heritage management. Due to all of these events it finally seemed possible to consolidate personal and collective agendas in the archaeological area, raising expectations for their final ratification in most scientific production.

In contrast to Spain, however, archaeology did not receive the official support that allowed it to advance, mainly under the influence of the German school. Due to various factors, Portugal would remain on the edge of this production, transmission and reception of knowledge. Nevertheless, a few archaeologists became acquainted with the principles of the German school and applied them to the archaeological study of Portugal and its colonies. Later in the twentieth century, however, some German archaeologists worked in Portugal, including Vera Leisner (1885-1972) and Georg K. Leisner (1870-1957), specialists in megaliths and linked to the Deutsches Archäologisches Institut (German Archaeological Institute). Despite this, due to the historically close relationship between France and Portugal, most of the influences came from the French school.

2. The First National Congress of Archaeology

Decades after the end-of-the-century zenith of archaeology in Portugal, substantiated in essence by the 9th CIAAP Congress of 1880 and the inauguration of the MEP museum in 1893, as well as all the other events referred to above, the situation of Portuguese archaeology underwent a dramatic (although necessary) change. The beginning of the 1970s brought a new way of studying, preserving and disseminating the past. This change occurred due to the rise of new axioms and praxis that had been developed and disseminated within the major Western schools since at least the late 1950s. The changes took place in the last years of the Estado Novo (New State) (1933-1974) and continued with the renewed hope raised by the revolution of April 1974.

Prior to the 1970s there had been several initiatives related – directly and indirectly – to the practice of archaeology. One of them was fostered by the National Education Board (1936-1977), which deliberated on excavation applications and proposals for the classification of monuments and sites, as well as encouraging, supporting and organising scientific events.

The Association of Portuguese Archaeologists (AAP) fostered academic debates, museum activities and university curricula. However, in the long term they were not very successful, as archaeology was considered dispensable within the framework of the different ideologies and agendas of the Establishment. Using various arguments, Portuguese leaders and intellectuals considered that there was a lack of data accounting for the existence of the nation before the medieval period. Besides, the practice of archaeology centred on the capital, specifically on the MEP and the AAP, especially in the latter, possibly due to its scope, inclusive leanings and private nature at the service of the public interest. And, whether due to the importance of the AAP leaders or to its proximity to Spanish archaeology, connection to a central power, and even perhaps because it was the only society to truly

operate nationally, the AAP generally managed to unite knowledge and take on, with greater vigour, archaeology. It thus became *the* home for Portuguese archaeologists. Even so, the archaeological record in Portugal was still overshadowed by the conviction that:

> Unfortunately, in our country, archaeology has not yet reached scientific forums worthy of the attention of the authorities, who consider it a kind of obstinacy on the part of some maniacs tolerated outside the law (Paço 1951: 60-61).

In the meanwhile, several efforts were made to modernise archaeology in Portugal. An example of this was the reception of Grahame Clark's (1907-1995) palaeoeconomic theories, and the contributions of the natural and exact sciences to a more comprehensive understanding of the past. In 1958, Lisbon hosted the first National Archaeological Congress (I CNA), evoking the first centenary of the birth of J. Leite de Vasconcelos, mentor and first director of the MEP. Suggested by Manuel Heleno (1894-1970), his successor as leader of that museum and of the Faculty of Arts at the University of Lisbon (FLUL) (1911), the meeting was divided between the different institutions where J. Leite de Vasconcelos had worked as a lecturer and researcher. The congress was held in the new premises of the FLUL which had been opened that same year. The I CNA brought together Portuguese archaeologists for the first time, and they presented and discussed theories, working methods and the preliminary findings of studies conducted in the field and in the office. Likewise, it provided a forum for receiving ideas from invited foreign experts. More than that, it allowed those responsible for archaeology in Portugal to emphasise the importance of this science in a country where it had never been central to the political programmes put into place since the decline of the monarchy. The message was heard, as the official opening was attended by government figures, in addition to prestigious Portuguese and foreign archaeologists. In any case, the success of the Congress was due largely to its organisation, led by Manuel Heleno, together with Joaquim Moreira Fontes (1892-1960), professor, president of the AAP and of Sintra City Council, and Mendes Correia (1888-1960), professor, researcher and a figure with close ties to the prevailing political regime.

By combining different interests and efforts, and considering the internal impact of the congress, the proceedings were published in two volumes, the first in 1959. Its pages unveiled the position of Portuguese archaeology at a crossroads, in which archaeologists were searching for new knowledge, procedures and paths. Pressure for change, renewal and development were clear among the reasons claimed for holding the congress. We can emphasise two of them: to discuss and disseminate recent methodological and technological guidelines and to streamline contacts between Portuguese and foreign archaeologists. These were essential aspects when science had evolved significantly over the last 20 years, without the Portuguese archaeological community having (apparently) reacted to these changes. Even so, individual attempts were made to update knowledge through reading, attending international meetings and inviting foreign speakers, even if rather randomly and according to personal interests and projects.

Among the approximately one hundred texts laid down in the minutes, we may highlight that co-authored by Eduardo da Cunha Serrão (1906-1991). At the age of 52, Eduardo da Cunha Serrão was the only participant in the I CNA to give an assertive, structured talk on the situation of Portuguese archaeology and to compare it with that of other major Western schools. He had the freedom to express his ideas in this way, we would argue, due to his independent status. Listing problems and solutions, he began by highlighting the ineffective supervision of fieldwork and continued by stressing poor archaeological training and scant knowledge of auxiliary scientific methods. He argued that there should be an effective scientific monitoring of all archaeological work. He also proposed that there was a need to train future archaeologists in field schools by providing them with access to study methods taken from the natural and exact sciences, spreading and practising the latest methods of archaeological excavation. Only when archaeology became more scientific could it convince the Portuguese population of its relevance. Last but not least, he advocated the need to organise public and private courses in archaeology.

Portuguese archaeologists were not ignorant of the literature produced, for example, in England. Vere Gordon Childe (1892-1957) had visited Portugal, and he was not alone. Other professors and students from British universities took part in excavation campaigns, especially in the north of the country, and one example of this was the prehistorian and Oxford professor, Christopher Hawkes (1905-1992). The British Institute, the Geographical Society and the FLUL also served as a point of attraction for several foreign archaeologists, including the Britons Jacquetta Hawkes (1910-1996) and Glyn Daniel (1914-1986). Partly connected to these visits some books were translated. Jorge Borges de Macedo (1921-1996) and Vitorino Magalhães Godinho (1918-2011) translated and annotated Childe's *Man Makes Himself* (1936), which was published by Cosmos in 1947. Those responsible for its translation were not archaeologists, but already distinguished historians from the FLUL. However, this had happened before Eduardo da Cunha Serrão travelled to England (1952) on a study visit organised by the British Council, for which he obtained a grant. He spent some time at the dynamic Institute of Archaeology of University College London, where he came into close contact with the advantages of the new field work methods.

In his talk at the I CAN Eduardo da Cunha Serrão did not limit himself to identifying and listing the problems affecting archaeology in Portugal. As outlined above, he also presented an authentic programme of measures to solve them practically and objectively. As regards activity in the field, he stressed the importance of the grid system, which had been used for several decades in Anglo-Saxon archaeological circles. His knowledge of it had been acquired during his stay in London (see above).[1]

The example and the words of Eduardo da Cunha Serrão were not in vain. The conclusions and general desires of the I CNA included the need to promote new working techniques, organise specific fields of training for university practice, encourage national contacts and build networks with foreign researchers, and finally to set up a commission to define and standardise archaeological terminology in Portugal. These measures and efforts were recognised by all, although especially by those dedicated to prehistoric research, who appeared to be more attentive to foreign writings than their colleagues working on the classical period, judging by the dates of the references included in the texts of the proceedings.

But what was the true scope of the work of the I CNA? It was not as obvious as expected by some, and certainly not as broad as demanded by others. Strictly speaking, the majority of Portuguese archaeologists continued to disregard the grid excavation system, whose adoption had been so strongly recommended by Eduardo da Cunha Serrão. On the contrary, they continued to excavate using the old system until at least the 1970s, when they finally broke with the past and adopted the use of the grid system, adding the increased care of stratigraphic and three-dimensional recording of artefacts. It was, in any case, an almost unique opportunity to assess the impact of archaeological science among the new generations, as well as the territorial extent of the interest aroused among various sectors of society and spheres of influence. Moreover, this forum allowed the most widely studied issues, geographies and timelines to be understood, identifying working methods and learning from exchanges of ideas with the Spanish experts who had travelled to Lisbon at that time. The Congress also enabled full awareness to be gained of the clear abyss between Portugal and that which had long since been theoretically produced outside her borders, which went beyond a typological analysis – although this was essential – of the artefacts.

It was as if the older generation of Portuguese archaeologists was not prepared to internalise and accept, in full, the new guidelines issued by the major Western schools. This was regardless of the presence in Portugal of foreign archaeologists of some renown, visits by so many others, the contributions of some of them to summer archaeological campaigns, particularly in the north of

[1] One of the first results of this foreign ascendance had occurred years before, in 1957, during Eduardo da Cunha Serrão's excavation of the Lapa do Fumo cave, identified in the previous year, where the grid system had been used.

the country, and the constant exchange of correspondence. Most Portuguese archaeologists did not master the English language, which was becoming the *lingua franca* par excellence for the circulation of scientific knowledge. There was an effective isolation of Portuguese archaeologists who only very occasionally participated in fieldwork outside the country, and when they did they only went as far as Spain. Among the few exceptions was Adriano Vasco Rodrigues (1928-), who travelled to Germany in the late 1950s, publishing *A técnica alemã de escavação arqueológica* ('Technique of archaeological excavation') (Rodrigues 1961), although with no significant impact on the Portuguese archaeological community.

3. The 'Tagus Generation'

The arrival of the 1960s was undoubtedly decisive, as it saw robust and durable measures being taken in the areas of teaching, field study, office work, conservation, presentation, dissemination and management.

In 1963, the first centenary of the AAP was commemorated. The events organised included conferences and bibliographic exhibitions, with the collaboration of most of the Portuguese institutions devoted to archaeology and the presence of senior political dignitaries. This highlighted, once again, the relevance and central importance of the AAP in Portuguese archaeology, as well as the lessons that had been gained from the I CNA and the increased attention being paid to archaeology by society. In addition, the AAP brought together the elite of Portuguese archaeology, burgeoning new lines of research, particularly with respect to the study of prehistory. Many of the members of this elite were employed by the Geological Services of Portugal (1918), which recognised that scientific output was inseparable from national culture. This does not mean that there was a complete break with the past. A significant number of the leading Portuguese archaeological institutions continued to employ those who insisted on a historical-cultural practice. Despite this, there were a few scholars who were enthralled by the neopositivist processualism of *New Archaeology* that was just emerging in the USA.

There were, however, some changes in personnel that allowed a transformation to take place. This was the case of the AAP in which Joaquim M. Fontes' death allowed the rise of Fernando de Almeida (1903-1979), who, along with Eduardo da Cunha Serrão, enthused a new generation encouraged by the prospects witnessed abroad. They scrutinised theories, applied methodologies, integrated multi- and interdisciplinary projects, examined knowledge, absorbed foreign literature and exhibited this in their early works; and all this took place outside universities. For the believers in New Archaeology the way forward was clear and this included demanding more forcefully archaeological internationalism, i.e. to internationalise archaeology in Portugal, to communicate and publish in other languages, mainly English, and to approach and cooperate with foreign schools and figures to nullify Portugal's epistemic isolation in archaeology. Especially now that science was being deprived of doctrinarism and metaphysics in order to embrace the triumphant optimism of Big Science, despite the harbinger of the existentialist crisis.

The change was simmering among a whole new generation of young university students on the History Course at FLUL in the late 1960s and early 1970s, led by figures of the stature of Fernando de Almeida and, especially, Eduardo da Cunha Serrão. Although he was still influenced by Childe's historical-culturalism, he became energised by functionalism. He managed to bring together this generation encouraged by structuralist debates derived from recent critical readings – notably those by the Lévi-Strauss school – at his private residence, which had become an unofficial academy of free thought and debate. There, he and his followers met to organise work campaigns, while, unhappy with the official courses in archaeology taught in Portugal, they sought new axioms and worked out methods, diving eagerly and wholeheartedly into the latest foreign literature. They also opened up new horizons and paths leading towards other views of the past.

However, the metamorphosis also resulted from the actions implemented by the newly formed Group for the Study of the Portuguese Palaeolithic (GEPP)[2] led by FLUL finalist, Vítor Oliveira Jorge (1948-). The quality of the work performed by this group gave rise to the so-called 'Tagus Generation'. In this new context, its members experienced, with increasing tenacity, analytic, neopositivist archaeology, combining attributes with computer programs, and discussed, for example, '[...] how an Acheulean hand axe should be analysed in order to establish typological frameworks' (Lemos 2011: 6). However, 'occasionally, we went into the field. But we quickly grew tired, at least I did, of the repetitive and somewhat inconsequential surveys on plateaux and coastal gravel beds without stratigraphic contexts and without 'guide fossils' (a concept which, incidentally, we had proscribed)' (Raposo 2011: 3).

Another event took place in these years that would have a great impact on the renovation of –rather than a 'revolution' in- Portuguese archaeology. On 31 October 1971 a small group of enthusiastic university students, including the Spanish archaeologist Maria de los Angeles Querol,[3] travelled to Fratel in the municipality of Vila Velha de Ródão. Their visit was aimed at corroborating the existence of rock engravings identified a short time before (Lemos 2011: 4). They returned there a month later, this time in the company of Eduardo da Cunha Serrão, and faced a large-scale rescue operation which had to combat a general disbelief as to its prehistoric dating (Lemos 2011: 5). They started a detailed inventory of existing rock engravings in the valley. They established an organisation based on scientific methods and ongoing development of programmes to establish rules for the work to be done in the field (Lemos 2011: 3).[4]

This unexpected discovery on the ground led to an escalation of interest in the subject on the part of the national press. It also led to a feeling that there was an urgent need to increase and improve archaeological expertise in rock art studies. As a result some of the members of the group travelled to Paris in 1972, thanks to the financial support of the Ministry of Education of Portugal. Upon arrival in the French capital, they were welcomed by André Leroi-Gourhan (1911-1986) at the *Collège de France*, Annette Laming-Emperaire (1917-1977) at the *Musée de l'Homme*, and Pierre Biberson (1909-1992) and Jacques Texier (1932-2011) at the *Institut de Paléontologie Humaine*. They also travelled to the Magdalenian site of *Pincevent* at the suggestion of Michel Brézillon (1924-1993), director of *Antiquités Pré-Historiques de la région parisienne*, from whom they obtained explanations regarding the method for recording the engravings he was studying in the Sahara (Lemos 2011: 9).

In general, the work was conducted in the same way with the scientific support of Fernando de Almeida, who was then the figurehead of archaeology in the country, having taken over the Chair of Archaeology at FLUL, the direction of the –by then– National Museum of Archaeology, and the presidency of the AAP. But the study of the Tagus River Valley likewise became possible thanks to the financial support of the Ministry of Education, primarily through João Manuel Bairrão Oleiro (1923-2000), Director of Cultural Affairs, and the Calouste Gulbenkian Foundation (1956), through Artur Nobre Gusmão (1920-2001). Fernando de Almeida, Manuel Bairrão Oleiro and Artur Nobre Gusmão carried out survey campaigns[5] and topography, photography[6] –carried out at night– and

[2] Some members of this group had been influenced by João Salvado. He had been a mentor of the future National Youth Centre for Archaeology (Lisbon), commonly known as the Archaeology Pilot Centre. This centre shows the interest of younger generations in archaeology (Salvado 2008), and also a certain link –albeit tenuous– between archaeological science and the institutionalised political system.

[3] M. de los Angeles Querol brought students from the Complutense University of Madrid to Portugal, including Manuela Barthélemy González, Pilar López García and José Luis Poma Sanchez, who participated in the second campaign of 1972 (Lemos 2011: 12).

[4] They also did so, to a large extent, thanks to the common sense, wisdom, commitment and leadership of Eduardo da Cunha Serrão, justifying his appointment as a delegate of the National Education Board, member of the AAP and vice-president of the Archaeology Section of the Geographical Society of Lisbon (1875), before assuming the presidency of the AAP in the late 1970s.

[5] Around 4,000 inventory records.

[6] Around 5,000 negatives.

moulding with latex,[7] turning Ródão into a comprehensive field of learning, improvement and dissemination of archaeological knowledge on Portuguese soil. This journey was interrupted in 1973 with the flooding of the Fratel Dam.

The feats achieved by this innovative working group, disclosed in different places by different means,[8] allow us to state that it led to an epistemological break. This took place in Portuguese archaeology, paving the way for a new type of archaeology in the country, promoting its institutionalisation and academic and social recognition, while encouraging its internationalisation and creating legal instruments of protection. Even if it was not marked by truly revolutionary features, it was a major transition, although its consolidation and development were only fully observed after the establishment of the new political regime in April 1974. It was then that the members of this group refocused and began to fearlessly lead archaeology in the country. By then an institution had already been active and had greatly contributed, and would continue to do so, to the development of this science in Portugal: the Lisbon headquarters of the German Archaeological Institute, which had been established in 1971.

This was a significant page in the history of Portuguese archaeology in the second half of the twentieth century, in which many spaces and protagonists increasingly interacted. There is much more work to do about this period, scrutinising the data, analysing them in depth and detail by collecting other primary and secondary sources, establishing at the same time the oral testimonies of those who experienced, at first hand, some of their central episodes, at the same time as evaluating the production, transmission and reception of the knowledge accumulated throughout this process. The changes in this period were due, first of all, to an intrinsic desire to innovate archaeology in the country, and secondly to the creation of scientific networks.

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[7] Around 1,650.

[8] In addition to newspapers, the meetings were publicised, for example, in a special session of the –so-called at the time– Society of Lisbon Studies, headed by Manuel Braga da Cruz (1946-), at the AAP itself and at the III National Archaeological Congress (CAN), held in Porto in 1973. In the latter there was a paper with the title '*The rock art complex of the Tagus: surveying process*', following some of the lessons learned from linguistic structuralism. In general, the central archaeological projects to be developed in the country were presented during the opening ceremony of the III CNA: an archaeological map of the country; supervision of public and emergency works; and the study of the Tagus Valley rock art.

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Learning to be scientific. The introduction of '*New Archaeology*' in Spain, 1975-1990

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Abstract

The late arrival of New Archaeology *(NA) methodological and theoretical innovations in Spanish archaeology is analysed using bibliometric techniques. NA was first influential in the field of Americanist anthropology and archaeology in Spanish universities, although this first wave did not affect the bulk of the Spanish discipline. This was eventually achieved through the influence of British schools of 'Spatial archaeology' and 'Territorial analysis' and reached its peak at the Teruel congresses of 1984 and 1986. Subsequently, the subjects of published articles changed drastically, although more in some quarters than in others, as is shown by an analysis of the most important journals. The conclusion is that NA prompted a methodological and theoretical revolution in Spanish archaeology that eventually went beyond the original principles of the movement.*

Key-words: *Scientific revolution, methodology, theory, bibliometry*

Résumé

L'arrivée tardive des innovations méthodologiques et théoriques de la Nouvelle Archéologie *(NA) dans l'archéologie espagnole est analysée en utilisant des techniques bibliométriques. La NA a exercé en premier lieu une influence dans le domaine de l'anthropologie et de l'archéologie américaniste dans les universités espagnoles, bien que cette première vague n'a pas affecté la majeure partie de la discipline espagnole. Ce fut finalement atteint grâce à l'influence des écoles britanniques de 'l'archéologie spatiale' et 'l'analyse territoriale' et a atteint son apogée lors des congrès de Teruel de 1984 et 1986. Par la suite, les sujets des articles publiés a radicalement changé, bien plus dans certains quartiers que dans d'autres, comme le montre une analyse des journaux archéologiques les plus importants. La conclusion est que la NA a provoqué une révolution méthodologique et théorique dans l'archéologie espagnole qui finalement est allée au-delà des principes originaux du mouvement.*

Mots-clés: *révolution scientifique, méthodologie, théorie, bibliométrie*

1. Introduction

One of the main objectives of the history of research is to understand the past as a useful way of assessing and improving the present. Analysing the development of international contacts between archaeologists of different nations and schools can shed some light, firstly on the intrinsic features defining those scientific communities and how they evolve, and then on the crucial matter of whether it is possible for a unique, international and normalised archaeological science to exist.

Among the many threads that can be followed when studying international relations in archaeology, the appearance and dissemination in the 1960s of 'New Archaeology' (NA) –which was to evolve later into the somewhat different 'Processual Archaeology'– was one of the most important events in the history of our discipline. Not the least of its assets was to be the first global 'Kuhnian' scientific revolution in our field of study, which affected the theory and practice of archaeology as a whole (Renfrew 1987; Cowgill 1993; Shanks and Hodder 1995).

In Spain, the novelties of the NA were not acknowledged at first because the archaeological profession was in a quite poor state during the 1960s and 1970s –the declining years of General Franco's dictatorship– and its practitioners were very few in number. It is surely no coincidence that a 'revolutionary' thinking such as NA was not taken note of in Spain until the radical changes that

complemented the restoration of democracy after the new constitution had been passed by Parliament in 1978. A few years later, especially after the setting-up of the first socialist government (1982-1996), the number of universities and other research centres increased dramatically and a whole new generation of young archaeologists quickly entered the profession; the amount of university students also multiplied accordingly (Albert 1998).

It would have been possible to tackle the subject of this article in several ways. An obvious one was to ask the archaeologists involved, most of whom are still active (albeit near retirement). With this aim a round-table was organised by Margarita Díaz-Andreu and myself at the Faculty of History of the Complutense University of Madrid on 7 May 2015. The contributors came from several institutions in Spain and Portugal, namely the universities of Zaragoza (Francisco Burillo), Jaén (Arturo Ruiz), Valencia (Carmen Aranegui), Cantabria (Manuel González Morales), Complutense (Miguel Rivera) and Lisbon (Joaquina Soares). They all expressed their memories of that period, when and how they had become acquainted with the new trends coming from the Anglophone world and how they had applied them to their own research. The overall historical picture they painted was of great interest to the audience.

Another way of approaching the issue, and the one chosen below, was to analyse the published literature of the time, the first articles applying the new methods, and the congresses organised to follow up the tendency. I will start with a general overview of Spanish archaeology before the arrival of NA and conclude by analysing the clear differences noticeable in the publications of the subsequent decades.

2. Spanish archaeology in the 1960s and 70s

According to the apt diagnosis of the Americanist archaeologist José Alcina Franch (1975), Spanish archaeology in the late Francoist period could be generally described as utterly descriptive, i.e. interested only in data gathering, and 'aprogrammatic', i.e. almost totally ignorant of theoretical issues. The external influences still came from the French tradition in the field of Palaeolithic studies (especially from the Geological and Palaeontological Sciences), and from the German tradition in the archaeology of the Roman period (i.e. 'classical archaeology', influenced by art history and old-fashioned antiquarianism). To this scheme I would add the cultural historicism of British pedigree and the Austrian 'Kulturkreis' school, predominant in protohistoric studies, but also influential in the other archaeological spheres.

In the same article Alcina presented the results of a survey of the main archaeological journals in Spain at the time (*Ampurias, Archivo de Prehistoria Levantina, Caesaraugusta, Pyrenae* and *Trabajos de Prehistoria*), analysing the characteristics of the articles published between 1966 and 1971. The survey outcome clearly illustrated the state of Spanish archaeology at that time: 131 articles out of a total of 172 (76.2%) were mainly 'descriptive', dealing with archaeological excavations or surveys (mostly derived from fortuitous finds and not from planned research projects), museum collections or artefactual typologies. Only 18 articles could be classified as 'historical interpretations' or more global studies (10.5%) and only 19 presented 'scientific' studies (geology, edaphology, archaeozoology, archaeobotany, radiocarbon, metallography and physical anthropology). Later in this article we will evaluate the radical changes that in this model brought about the incorporation of NA.

3. Some of the main features of the 'New Archaeology'

Although NA was a multifaceted movement, the main features of its original, 'American' branch can be summarised in a triple scheme, which can be categorised as being from less to more theory-laden and, at the same time, with a wider to narrower acceptance within the discipline. The lower step on the 'ladder' of the NA tenets was a closer reliance on natural science methods with their implied regularities, quantification and data modelling, a trend that has continued to grow ever since at an apparently unstoppable rate. Today we can still find remnants of this acceptance in the opinion of

many archaeologists who think that the advances in scientific methods, especially genetics, will eventually be able to answer all or most of our social questions (see, for example, Kristiansen 2014).

The second level of NA was a return to evolutionism, a theory that had been abandoned both in archaeology and anthropology in the early 20th century. This implied a revival of universal principles in human behaviour and, as a result, ethnoarchaeology was favoured. This led to the application of ethnographic information from all over the world to any archaeological site, regardless of its geographical location or even its chronology. Also connected with neo-evolutionism, NA archaeologists adopted anthropological terms such as 'band' or 'complex chiefdom'.

The upper step of the NA revolution and the most important –although the least disseminated– was the advent of 'theory'. This meant that many archaeologists dared to try and construct general interpretations about human behaviour in the past and, therefore, also in the present. The most radical representatives of the movement audaciously defended the 'unity of science', i.e. a thesis that propounded that all the sciences constitute a unified and undistinguishable whole. Consequently, the method of reasoning used in the natural sciences could also be applied to the social disciplines. This led to the then epistemological procedures of the former –especially the 'deductive-nomological' model– being applied to archaeology (Watson, Leblanc and Redman 1971). The aim was to propose and confirm specific 'laws' about plausible relationships between particular events or variables under certain circumstances, which were called 'middle-range theories'. Very often those variables described certain aspects of human behaviour and their associated material remains. Perhaps the most popular of these 'middle-range theory' laws was the causal connection between the degree of dependence on food storage in a cultural group and the 'effective' (an estimate of the average) temperature of its surrounding environment (Binford 1980). Not many archaeologists today would totally endorse this position, perhaps with the exception of some working in more 'natural' fields such as palaeoanthropology and taphonomy, and some neo-Darwinists who continue to adhere to the strict scientific model with partial yet quite interesting results (e.g. Shennan 2002; Escacena, García and García 2010).

4. New Archaeology arrives in Spain

The year 1968 was not only highly significant in cultural politics (the 1968 student revolutions); it was also the year in which two of the most influential NA works were published. The first was a compilation of articles by Lewis Binford (*New Perspectives in Archaeology*) and the book that was to introduce the new American ways to Europe became *Analytical Archaeology*, written by the Cambridge-based archaeologist David L. Clarke. The former was never translated into Spanish (edited books are rarely translated and this was no exception), but a later book that popularised its main tenets, *In pursuit of the Past*, was first translated twenty years later (Binford 1988), whereas the translation of Clarke's book appeared sixteen years after its original publication (Clarke 1984).

In contrast to the delay in the translation of these two key books, other volumes that had first been published in the early 1970s received better treatment. This was due to the personal interest and dedication of Miguel Rivera Dorado, an archaeologist working in Latin America who was affiliated to the Department of American Anthropology at what was then known as the University of Madrid.[1] They were K. C. Chang's *Rethinking Archaeology* (Chang 1976) and the aforementioned book by Watson, Leblanc and Redman (1974). In 1972-1974 Rivera also translated seminal articles by Binford, Plog, Fritz, Trigger, Klejn and other authors in his department's short-lived mimeographed journal, *Cuadernos de Antropología Social y Etnología.*

The reason for the aforementioned department at the University of Madrid being one of the first points of diffusion for NA in Spain was not only that its affiliates undertook fieldwork on the American continent and were therefore familiar with the new winds flowing from the north; in a

[1] The name of the University of Madrid was changed in 1970 to Complutense University of Madrid.

personal interview, Miguel Rivera emphasised to me the importance of the Spanish anthropologist Claudio Esteva Fabregat. Esteva, born in 1918, went into exile in Mexico at the end of Spanish Civil war in 1939 and returned to the University of Barcelona in the 1960s. Whilst in America he became acquainted, both personally and intellectually, with the most prominent figures in US anthropology and on his return he was crucial to the foundation of the first university departments of 'American anthropology' in Barcelona, Seville and Madrid. According to Rivera, the course he organised in Madrid in 1968, to which he invited many important scholars from abroad to lecture at the National Museum of Ethnology located in Atocha district (Madrid), where he was director (1965-68), was decisive to the knowledge of foreign theoretical currents among Madrid academics and intellectuals interested in those subjects (Aguirre 1994).

Turning back to the archaeological domain, several members of the American Anthropology departments were also archaeologists. One of the professors, and later head of the Madrid department, the aforementioned José Alcina Franch (1922-2001), was also very influential through his multiple writings championing what he labelled 'anthropological archaeology', which he summarised in a book published some years later (Alcina 1989).

Notwithstanding those movements, and perhaps due to the archaic factionalism of Spanish universities, where even departments with neighbouring subjects rarely interact, the Americanists following NA in their research hardly affected the far more numerous centres investigating in Spanish archaeology. For historical reasons, Spanish researchers were keener to accept new trends from other European circles, and the closest and most influential in relation to New Archaeology was Britain, which had had a relatively long history of contacts with Spain, for example through several of the most important figures working in England, including Gordon Childe and Grahame Clark (Díaz-Andreu 1998, 2012).

Put in simple terms, British archaeologists were generally prone to accept the methodological changes of NA rather than the theoretical ones. Even the aforementioned book by David Clarke was mainly based on statistics and ethnoarchaeology, relying less on general systems theory, in spite of its frequent assertions of the latter's importance. Another significant example of the American-British divide can be seen in the field of archaeostatistics. The American practitioners (Spaulding, Cowgill, Whallon, Kintigh, Ammerman, Aldenderfer, etc.) were more or less close followers of the NA tenets, and consequently emphasised 'inferential' statistics, i.e. hypothesis testing and probability significance. In contrast, British archaeostatisticians (Kendall, Doran, Hodson, Orton, etc.) favoured 'descriptive' statistics and multivariate analysis, (today known more elegantly as 'Exploratory Data Analysis'), which was much less theoretically committed and more pragmatically adapted to the imperfect nature of most archaeological data (Fernández 2015: 26-27).The situation has not changed much over the years, as in one of the most recent textbooks on the subject by American archaeologists (Van Pool and Leonard 2011), the chapters describing hypothesis testing play a significant role in the overall argument.

Two main streams of what could be labelled 'British New Archaeology' influenced Spanish practice in the 1980s, namely 'Spatial Archaeology' (Hodder & Orton 1976) and 'Site Catchment Analysis', the latter also known as the 'Palaeoeconomy School' (Vita-Finzi & Higgs 1970). The inflow of ideas took shape in 1984, with the organisation by Francisco Burillo of the first congress of Spatial Archaeology at the University College of Teruel, where he worked. While still a student of archaeology at the University of Zaragoza in 1973, Burillo had participated in the prehistoric survey conducted by Eric Higgs and his Cambridge student Iain Davidson in the southern Pyrenean foothills. Even though it is the opinion of this author that ideas travel better and farther by published means, the role of personal contacts cannot be underestimated and this is yet another example of their importance. In a personal communication made by Burillo to Margarita Díaz-Andreu (2012: 212), together with other idiosyncratic data about the foreign researchers, such as the scarcity of food rations and the dearth of information allowed to be given to the local participants, he acknowledged his experience

at that systematic survey –a type of research then almost unknown in Spain– as the origin of his later interest in spatial archaeology.

The first Teruel congresses, which continued until 2010 with a total of 28 published volumes in the *Arqueología Espacial* series, brought together researchers from all over the country to discuss the 'macro' and 'micro' levels (in 1984 and 1986, respectively) of spatial analysis in archaeology. In this first 'mass phenomenon' of NA in Spain, 61 research groups from 19 provinces participated, with Madrid, Barcelona and Jaén predominating. Most articles dealt with the results of surface surveys, which were then beginning to be carried out in many regions, often promoted by the new heritage authorities from the recently established autonomous regions, rather than by specific research projects. Their authors belonged to the youngest generation of Spanish archaeologists, then at the beginning of their academic or museum careers. From a methodological and theoretical viewpoint, however, most of the articles were mainly descriptive and only a few applied techniques borrowed from geography (e.g. Thiessen polygons); two contributions by Gonzalo Ruiz Zapatero and this author were about 'territorial analysis', the name then slowly replacing the original 'site catchment analysis' label. A greater complexity in the methods, with more statistical apparatus, was conspicuous in the 66 articles presented to the Teruel 'micro' congress of 1986, which analysed the distribution of artefacts in open sites and closed dwellings. They came from 22 provinces with a preponderance of Barcelona, Madrid and Granada.

The 1980s also saw the inception of sophisticated statistical analysis in Spanish archaeology, from which it was hoped a kind of 'statistical thinking' would emerge to enrich our theoretical basis. The influential study of the Argar culture by the Barcelona-based Vicente Lull (1983) relied heavily on multivariate analysis of the Bronze Age material remains from SE Spain, a thread later picked up by another participant in those early studies, Joan Anton Barceló (1988). Also related to the Argaric culture were the studies of the multivariate taxonomy of artefacts by the team from Granada University headed by Francisco Contreras (1984) and Juan A. Esquivel. The author of this article also contributed with the first articles in automatic seriation of closed contexts and stratified levels, as well as a computer simulation of the relative advantages of different survey methods over theoretical distributions of sites (Fernández 1985a & 1985b).

Meanwhile, Palaeolithic studies continued along its own path, although several contributions from Teruel referred to data from that period. Historically influenced by France, they relied more on environmental and archaeometric studies, including statistical analysis, than the researchers working in more recent archaeological periods. This notwithstanding, the main theoretical orientation continued to be the typological and cultural-historical classification following Bordes' seminal works. As Lawrence Straus states in this volume, it was through the participation of American Stone Age researchers from the University of Chicago that NA entered the Spanish Palaeolithic scene. The connection began with the excavation of the Lower Palaeolithic sites of Ambrona and Torralba by F. Clark Howell and continued with the participation of Leslie G. Freeman, Geoffrey Clark and others, including Straus himself, in the excavation of important Middle and Upper Palaeolithic caves in northern Spain, associated with Spanish scholars such as Joaquín González Echegaray and Manuel González Morales (González Echegaray & Freeman 1978). This collaboration was essential in the conversion from culture history to human adaptation as the main goal of Stone Age studies (Straus in this volume).

In parallel with these developments, other theoretical trends directly inspired by Marxist thinking took shape in Spanish archaeology during the nineteen-eighties. The works by Vicente Lull (1983) and Juan Vicent (1991) are usually considered some of the starting points of a movement that usually asserted itself in strong opposition to NA, which they considered, following Jonathan Friedman (1974), as a part of the weak 'vulgar materialism' (Lull 1983: 19). Vicent (1982) had previously published the first attempt at interpreting the theoretical currents in archaeology in the light of the concept of paradigm in the philosophy of science. Though not specifically related to NA, Vicent's

article was one of the first essays on archaeological theory that can be judged to have been an antecedent of the theoretical outbreak that would take place in Spanish archaeology in the following years.

5. Spanish archaeology after NA

What happened next? Fortunately we have at our disposal the aforementioned article by Alcina (1975) scrutinising the situation before the advent of NA. Following the same classification scheme used by him, we can categorise some of the articles published in Spanish journals after the 1980s. To begin with, a straightforward comparison can be made with *Complutum*, the newly published (after 1991) magazine of the Department of Prehistory at the Complutense University. I have categorised the articles as 1) descriptive (analysis of a single site or archaeological level, an outstanding artefact or collection from a museum or site, a typological or technical analysis, etc.). It should be noted that the word 'descriptive' is not used here as a derogatory label, since many of these articles excelled in state-of-the-art concepts and methodologies. It only indicates a limited scope for the subject; 2) scientific (archaeometric, environmental, etc.); 3) regional studies (analysis of a geographical region, a cultural phase, etc.); this class can be roughly equated with Alcina's 'historical interpretations', although after the 1980s many of the articles followed the trend of the aforementioned 'spatial archaeology'; 4) ethnoarchaeology, including experimental archaeology for the sake of simplicity; 5) heritage studies; 6) the history and sociology of archaeology; and 7) 'theory', including not only exclusively theoretical articles but also those dealing with recent subjects such as feminist and gender archaeology or the archaeology of childhood. As was to be expected, the last three categories were not present in the 1975 analysis. A contrast between the situation in the 1960-1970s and that of the 1990s is shown in Figure 1.

As can be easily appreciated, a decade after the arrival of NA influences in Spain the relative number of descriptive studies had decreased significantly from around 75% to less than 30%. Scientific and

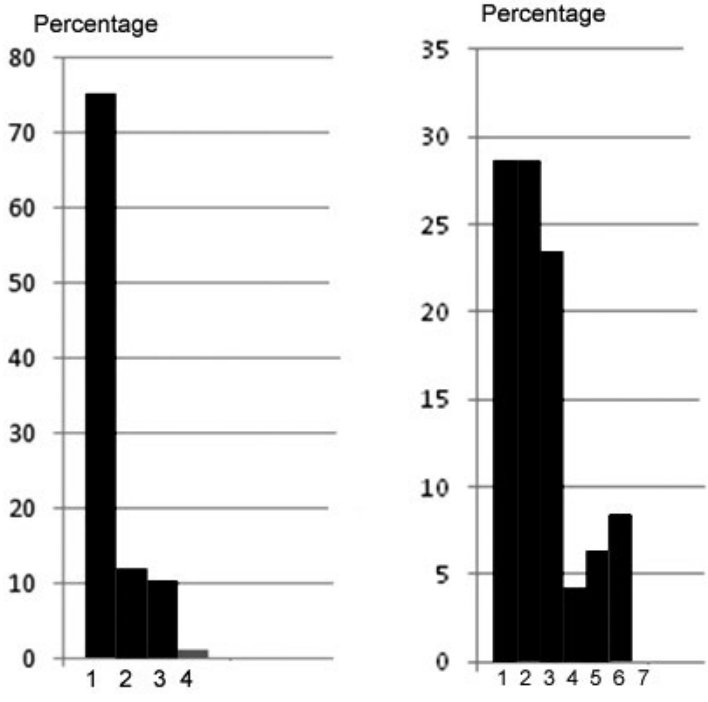

FIGURE 1. PERCENTAGE BAR DIAGRAMS OF THE DIFFERENT TYPES OF ARTICLES PUBLISHED IN THE SPANISH ARCHAEOLOGICAL JOURNALS BETWEEN 1967-1971 (AFTER ALCINA 1975) ON THE LEFT AND IN THE JOURNAL COMPLUTUM DURING THE 1990S ON THE RIGHT. THE ARTICLE CATEGORIES ARE 1) DESCRIPTIVE, 2) SCIENTIFIC, 3) REGIONAL STUDIES, 4) ETHNOARCHAEOLOGY-EXPERIMENTAL ARCHAEOLOGY, 5) HERITAGE STUDIES, 6) THE HISTORY AND SOCIOLOGY OF ARCHAEOLOGY, 7) THEORETICAL ARTICLES.

regional articles had increased from around 10% to roughly the same figure as descriptive analyses and several new categories had come into view. The change was not only evident in the new journal, *Complutum*, but also in *Trabajos de Prehistoria*, by then almost 50 years old. A contrast can be seen of the journals from the 1990s in Figure 2. A tendency to publish more descriptive studies, as well as more articles on theoretical issues, appears clearly in the latter journal.

A different approach to assessing the changes in Spanish archaeology would be to tally the articles quoting theoretical NA works in their bibliographies. The frequency of such articles in *Trabajos de Prehistoria* from 1980 to 2000 is shown in Figure 3, together with those that cited works from the newly emerging post-processual movement. The figure shows that after 1982 in almost every annual number a few articles (1-3) quoted NA references, but also that after 1987 the number of articles citing post-processual works seems to be replacing the NA citations. In December 1986 I arranged for Ian Hodder to visit Madrid. The Cambridge scholar gave a week-long introductory course on post-processual theory at the University Complutense (I have to confess that his ideas were totally new to me and probably to the rest of the audience as well). Only two years later his first introductory book written in 1986, *Reading the Past*, was translated into Spanish (Hodder 1988). The same trend of reinforcing of post-processual positions continued in the 2000s, especially in the journals more committed to theoretical matters following that date, such as *Complutum*. Statistical analysis, the other NA 'brand' in the methodological sphere, never reached a wide level of acceptance and only a few (average around 10-20%) of the articles published every year in both journals drew on complex statistics between 1980 and 2000.

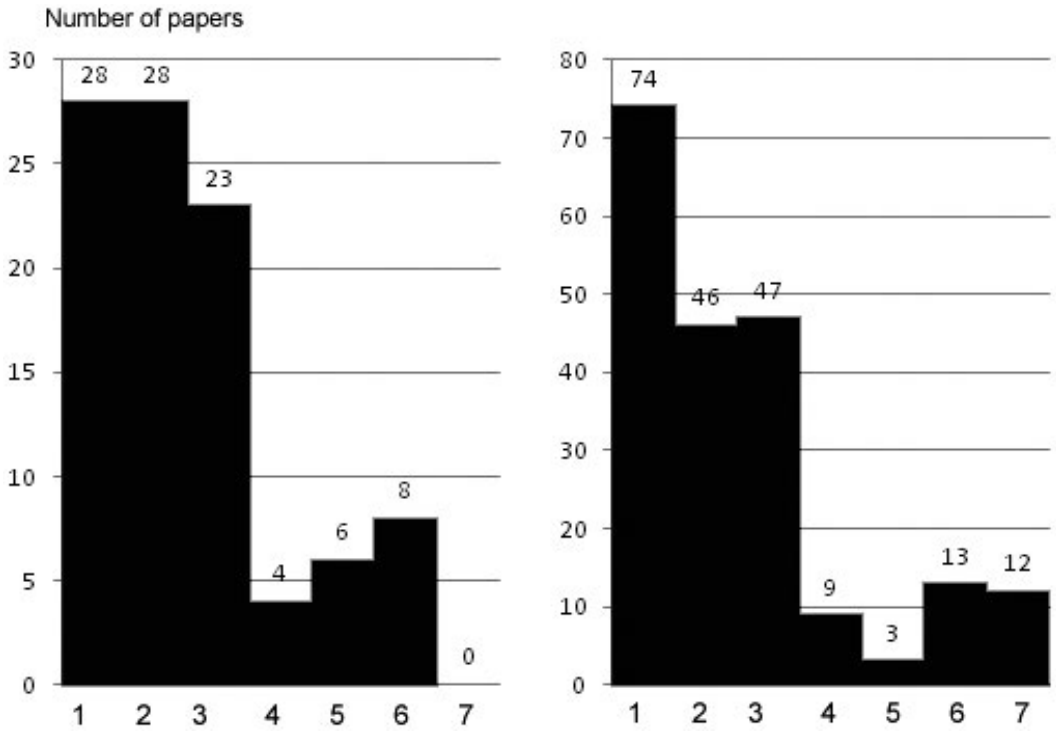

Figure 2. Frequency bar diagrams of the different types of articles (according to the same labels as Figure 1) during the 1990s in the Spanish journals Complutum (74 articles), on the left, and Trabajos de Prehistoria (204 articles), on the right.

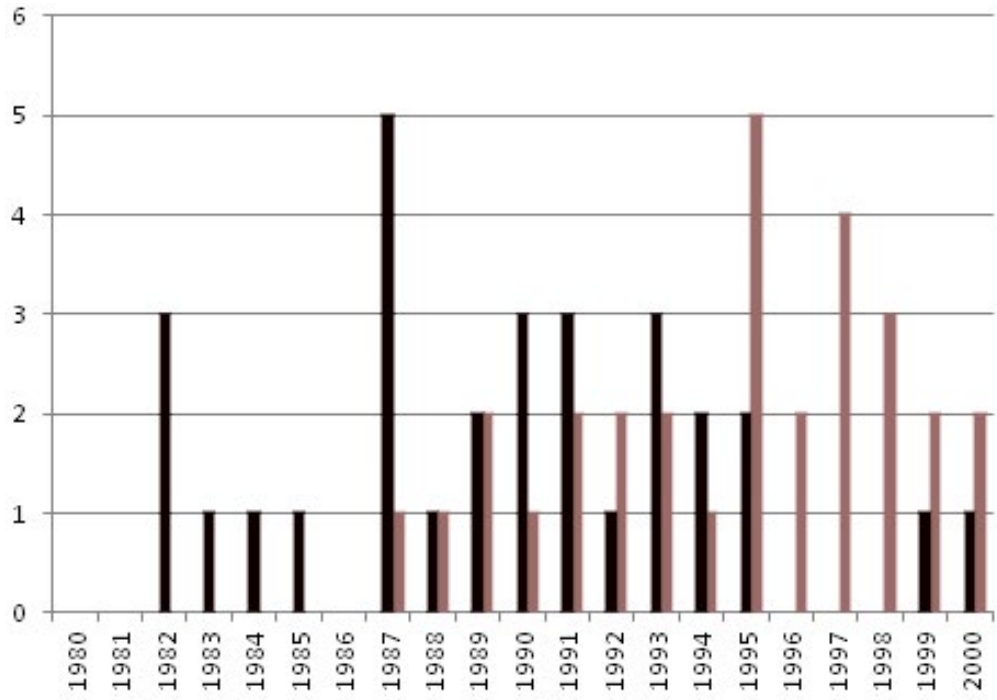

Figure 3. Frequency of articles citing NA (black) and post-processual (grey) references in Trabajos de Prehistoria from 1980 to 2000.

And what about today? An extension of the analysis shown in the previous pages to the years after 2000 may prove useful for assessing the present situation. Figure 4 shows the variation of article types in *Trabajos de Prehistoria* between 1990 and 2014 divided into three periods, while Figure 5 illustrates the same evidence for *Complutum* between 1993 and 2014. The most striking difference lies in the preponderance of descriptive articles in the former, the number of which has even increased over the years, always surpassing those dedicated to scientific analysis and regional studies; in contrast, articles dealing with historiography-sociology and theory are far fewer and have tended to diminish throughout the time range. In contrast, *Complutum* is distinguished by its heavier reliance on articles about theory and the history-sociology of research, which have increased over the years; in the other article categories, this periodical has maintained a balance between descriptive, scientific and regional studies.

The sharp difference between the journals is surprising, all the more so because they are published by very closely related institutions (the University Complutense and the Higher Council for Research, both in Madrid), frequently with several scholars belonging to the editorial boards of both publications. A plausible explanation could be that since it began, *Complutum* has dedicated the whole or part of its annual volumes to a monographic subject, and since 2008 the second of the two volumes published each year has also been devoted to a specific topic. Each of those monographic sections or volumes has had one or several people in charge of editing, collecting related articles from different parts of the country or abroad. Thus, the call for specific articles about novel themes every year during two and half decades has led to the publication of many studies that would possibly not even have been written without that incentive. *Trabajos de Prehistoria*, on the contrary, has followed an editorial policy of opening up the journal to any article, in principle on any topic provided it is positively reviewed, and with very few monographic issues (only two during the whole period). This suggests

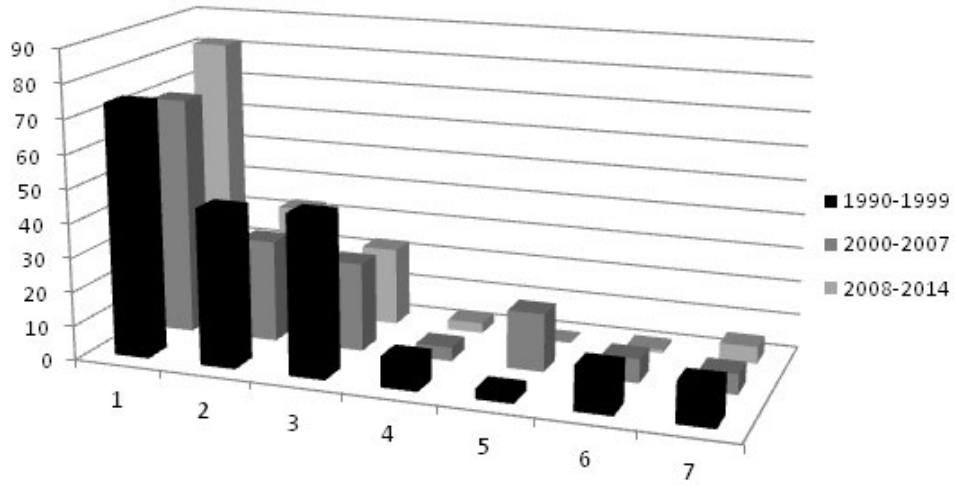

Figure 4. Frequency bar diagrams of the different article classes (same labels as Figure 1) published in Trabajos de Prehistoria between 1990-2014.

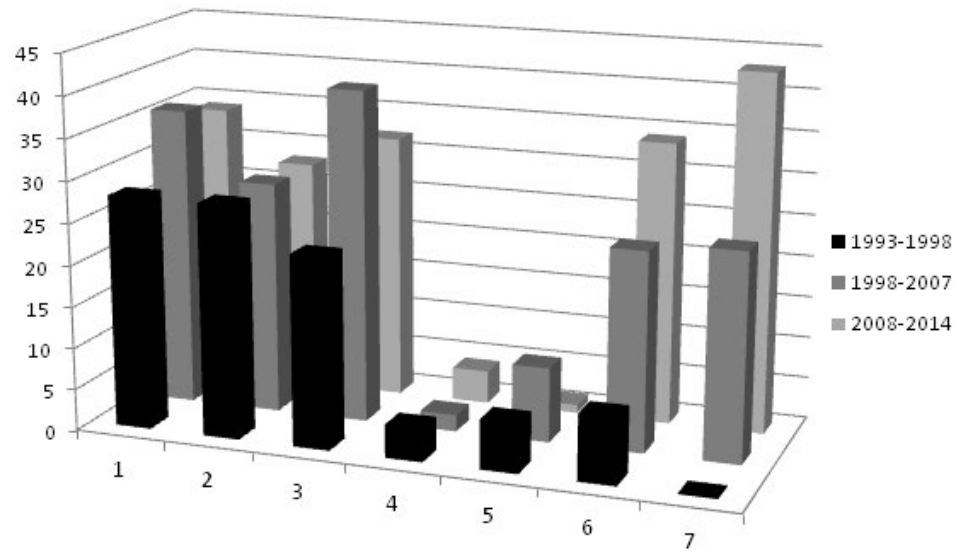

Figure 5. Frequency bar diagrams of the different article classes (same labels as Figure 1) published in Complutum between 1991-2014.

that *Trabajos* offers a more accurate image of the current situation in Spanish archaeology, while *Complutum* has chosen a more 'cutting edge' role with the promotion of ever newer topics.

The abundance of theoretical and historiographic articles in *Complutum* is not only the result of a particular editorial policy. Surprisingly for an academic community outside the Anglo-American world, Spanish archaeologists have written an astoundingly large number of books about

archaeological theory and historiography. Some examples are Martínez-Navarrete 1989, Hernando 2002 and 2012, González-Ruibal 2003, Lull 2007, Lull & Micó 2007, Moro 2007, Fernández 2006, Criado 2012, Díaz-Andreu 2012 and Barreiro 2013, and this list is by no means complete. There can be little doubt that this profusion contributes to the enrichment, both theoretical and methodological, of Spanish archaeology, as it widens the range of possible interpretations for any given reality of the past. The study of this influence, however, exceeds the limits of this article and it could perhaps be undertaken in the near future.

A succinct evaluation of other Spanish journals of archaeology was also made in order to test the models seen in the previous paragraphs. The journals were *Pyrenae* (University of Barcelona, a total of 58 articles examined), *Zephyrus* (University of Salamanca, 90 articles), *Archivo de Prehistoria Levantina* (Museum of Prehistory of Valencia, 50 articles), *Cuadernos de Prehistoria y Arqueología de Granada* (University of Granada, 68 articles), and *SPAL* (University of Seville, 67 articles). The classification system was the same as in the preceding analysis, and the years analysed were from 2010 to the present day.

The model of a sheer preponderance of descriptive analyses seen in *Trabajos de Prehistoria* is also very clear in most of the newly assessed journals (following the order of the previous paragraph): 53%, 63%, 56%, 35%, and 67%. Only the Granada journal shows a more balanced distribution, with 35% descriptive articles, 35% scientific, 21% regional, and 9% historiographic and theoretical essays. This difference is most probably explained by the fact that *Cuadernos* has a monographic section in its annual volumes, similarly to *Complutum*, thus justifying the search for novel themes every year. Theoretical and historiographic articles were also present in the Barcelona (12%) and Seville (10%) journals, but completely absent from those of Salamanca and Valencia. On the other hand, the main Spanish journal devoted to classical archaeology (with a few contributions from the medieval period), *Archivo Español de Arqueología*, is still more biased towards descriptive analyses (84% in the last five years), with practically no scientific or theoretical studies. This raises the important question of the extent of NA influences in the fields outside prehistoric archaeology in our country. Although these contributions undoubtedly existed, it seems they did not reach the core of the discipline, at least in the classical studies field.

6. Conclusions

The theoretical currents of New Archaeology arrived late in Spain, this delay being cogently explained by the poor situation of the profession in our country before the end of the Francoist dictatorial period. The explosion of enthusiasm that benefited every facet of Spanish life with the arrival of democracy can also account for the rapid influx and relatively wide acceptance NA enjoyed among that generation of young archaeologists.

That notwithstanding, the late arrival and consequent overlap with the inception of post-processual positions only a few years later undoubtedly contributed to a certain fading of NA's appeal before its advantages had been completely acknowledged. However, although many traditional circles saw the post-processual critique as an excuse to continue with the old historic-cultural paradigm, for other smaller but influential groups, the starting signal that NA implied for Spanish archaeology was definitely an extraordinary incentive to search for more scientific methodologies and more profound theories. Seen in retrospect, we must feel deeply grateful to those courageous people who dared turn the building of archaeological thinking upside-down and who opened the door to the many advances that, seemingly endlessly, enrich the variegated styles we apply to interpreting the past today.

Acknowledgements

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The Chicago Connection in Spanish Paleolithic Prehistory

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Abstract

Beginning in 1961, paleoanthropologists from the University of Chicago have been collaborating with Spanish colleagues in the study of Paleolithic and Mesolithic hominin adaptations in Spain, initially bringing with them new anthropological perspectives and methods in the study of Stone Age prehistory. The excavations of the late F. Clark Howell at the Acheulean sites of Torralba and Ambrona (Soria) led to the long-term involvement of his student the late Leslie Freeman (as well as others, including the late Karl Butzer and Richard Klein) in the Middle and Upper Paleolithic prehistory of Cantabrian Spain. Excavations in Cueva Morín, El Juyo and Altamira were at the core of the extremely productive collaboration (and friendship) between Freeman and the late Joaquín González Echegaray and they helped produce both new generations of Chicago-trained archeologists and a group of Spanish prehistorians who are (or were) leaders in their profession.

Coinciding with the final decade of the Franco regime and the early years of the democratic 'Transition', the Freeman-Echegaray collaboration played a central role in the transformation of Cantabrian (and, more generally, Spanish) prehistory from traditional (French-dominated) culture history into a new, hybrid version of paleoanthropology strongly influenced by the ideas and goals of Americanist 'processual' archeology. Collaborative, international, interdisciplinary research involving Americans and Spaniards directly or indirectly linked to the University of Chicago's 'school' of paleoanthropology continues into the present and has increasingly become a 'normal science' enterprise that involves influences flowing in both directions, as the 'newness' of processual archeology faded.

Key-words: *University of Chicago, paleoanthropology, processual archeology, Spanish prehistory, F. Clark Howell, Leslie G. Freeman, Joaquin González Echegaray, Torralba, Ambrona, Cueva Morin, El Juyo*

Résumé

*Depuis 1961, des paléoanthropologues de l'Université de Chicago collaborent avec des collègues espagnols dans l'étude des adaptations des homininés paléolithiques en Espagne. Cet article décrit et analyse depuis un point de vue personnel et non-objectif les rôles de Clark Howell, Leslie Freeman, leurs anciens élèves et leurs amis espagnols (surtout Emiliano Aguirre et Joaquín Gonzalez Echegaray) dans le développement de la discipline moderne de la préhistoire en Espagne et dans la formation d'une nouvelle génération de préhistoriens espagnols. Les américains apportèrent des nouveaux idées, méthodes et moyens, mais au fil du temps la relation est devenue plus égalitaire et **pluri**-nationale (surtout après l'entrée de l'Espagne dans l'Union Européenne). Les fouilles plus importantes pour cette histoire de collaboration hispano-américaine sont Torralba et Ambrona (Soria–Acheuléen), Cueva Morín (Cantabria–Moustérien et Paléolithique supérieur ancien), La Riera (Asturias–Paléolithique supérieur récent et Mésolithique), El Juyo (Cantabria–Magdalénien) et El Mirón (Cantabria–Paléolithique supérieur récent et post-Paléolithique).*

Mots-clés: *Université de Chicago, paléoanthropologie, archéologie processuelle, préhistoire de l'Espagne, F. Clark Howell, Leslie G. Freeman, Joaquin González Echegaray, Torralba, Ambrona, Cueva Morin, El Juyo*

1. Introduction

This is not an objective, scholarly analysis of the question of the significance of international relations in the history of prehistoric archeology. Rather it is the personal reminiscence of a participant-observer in the tradition of involvement by archeologists from the University of Chicago in the collaborative development of modern paleoanthropological research in Spain over the last half century. My purpose, as the last Chicago-trained archeologist active in Spanish prehistory, is both to commemorate this tradition and to highlight some of what I consider its main and enduring contributions in Spain.

I obtained my A.B., A.M. and Ph.D. degrees from the University of Chicago Department of Anthropology in 1971, 1972 and 1975, respectively. I was a student of the late F. Clark Howell shortly after he had concluded his first round of excavations at Torralba and Ambrona (Soria) and of the late Leslie G. Freeman at the time of his excavation with the late Joaquin González Echegaray in Cueva Morín (Cantabria). Freeman and Echegaray were my formal and informal mentors (respectively). Karl Butzer and Richard Klein (both participants in the Torralba/Ambrona research) were members of my dissertation committee (along with Robert McC. Adams), and Sol Tax and Susan Tax Freeman were among the faculty attending my dissertation defense in 1975. My formal education in European prehistory began with an individual reading course (as a college sophomore at Chicago) with Howell, who prepared me for participating (in 1969) in the late François Bordes' excavation in Pech de l'Azé II by having me read copiously in the French Paleolithic literature, especially the writings of Bordes, D. de Sonneville-Bordes and their American interlocutors (e.g., Lewis and Sally Binford, Freeman, Sackett, Movius). It continued in courses, seminars and tutorials with Freeman, who put his vast library of Spanish prehistoric publications at my disposal. As an undergraduate I was also a student in Butzer's various graduate courses that were in part the bases of the second edition of his seminal *Environment and Archeology.*

My formal training at Chicago also involved numerous courses in cultural anthropology (I particularly remember ones on Africa with Lloyd Fallers, on India with Brenda Beck, on Ralph Linton with Adams and Raymond Fogelson, on kinship with Fred Eggan, and on Emile Durkheim with Judith Shapiro); also on Near Eastern archeology and archeozoology (with McGuire Gibson and Jane Wheeler [Pires-Ferreira] respectively), linguistics (with Michael Silverstein), and physical anthropology (notably with Charles Merbs and Albert Dahlberg). My field training actually begun on my own beginning at age 14 in 1964, and then under the auspices of the Phillips Exeter Academy and New Hampshire Archaeological Society (under Eugene Finch) in New Hampshire and in France (the latter in 1966) before going to Chicago in 1967, continued in college at the University of Colorado Field School in Mesa Verde (1967), on the Field Museum Southwest Expedition at the Carter Ranch (Arizona) (1968), and as field supervisor for Frank Rackerby in the Southern Illinois University Field School (1970) and for Stuart Struever on the Lower Illinois Valley Archeological Project at the Koster Site (1971). The Field Museum project, directed by Paul Sidney Martin and supported by National Science Foundation Undergraduate Research Participation grants, was a hotbed of the 'New Archeology' and 1968 was a critical year not only in world politics, but also in archeology and forager anthropology (e.g., *Man the Hunter, New Perspectives in Archaeology, Anthropological Archaeology in the Americas* –preceded in 1966 by *Recent Studies in Paleoanthropology* [*American Anthropologist* 68, no. 2, pt. 2, J. D. Clark and F. C. Howell, eds.]).

Supervisors and fellow students at Mesa Verde and the Carter Ranch included Ezra Zubrow, Rosalind (Duncan) Hunter-Anderson, Mark Leone and the late Fred Plog and Craig Morris. The philosopher of science, Thomas Kuhn was in residence during part of the Carter Ranch experience. My memories of visiting lecturers at Chicago include Bordes and Alexander Marshack, and during the year before obtaining my Master's degree, I was a CIC Traveling Scholar at the University of Michigan, where I had classes/seminars and considerable contact with Edwin Wilmsen, Henry Wright, Kent Flannery, James Griffin, William Farrand. Fellow students at Chicago (all a bit older than me) included Donald Johanson, Jane Buikstra, the late Gregory Possehl, John Fritz, Margaret Fritz (Conkey), Geoffrey Clark and at Michigan Michael Jochim, Polly Wiessner and Gregory Johnson.

In 1972, I had my first field experience in Spain with Geoffrey Clark: the North Burgos Archaeological Survey. It was then that I met Joaquín González Echegaray in Santander. For 13 months in 1973-74, I conducted research in Cantabrian Spain, as well as in Madrid and the Paris Region for my dissertation on the Cantabrian Solutrean, a subject that had been recommended to me by Freeman. I undertook the Solutrean research from a classic, 'processual' perspective in terms of the study of inter-assemblage variation and, more generally, human adaptations, in contradistinction to culture history, which had been the paradigm underlying earlier studies of the subject by Francisco Jordá and

his student Soledad Corchón. It was during this time that I participated in excavations in Tito Bustillo, Chufín and Rascaño–the latter a site I had rediscovered and whose excavation I had recommended to Echegaray. I am proud to call myself a member of the *quinta* of Spanish archeologists of my generation all of whom were doing ground-breaking theses and dissertations at about the same time I was doing mine: Alfonso Moure, the late Juan Fernández Tresguerres, Pilar Utrilla, the late Victoria Cabrera, Federico Bernaldo de Quirós, Mary Carmen Márquez and Manolo González Morales. During my stay in Spain I also came to know (to varying degrees) the old masters Martín Almagro Basch, Francisco Jordá, Jose Miguel de Barandiarán (as well as the Bordes, Countess de Saint-Périer and Henri Delporte in France) and younger prehistorians such as Ignacio Barandiarán, Ana Cava, Marisol Corchón, Manolo Hoyos, Carmen Cacho, Enrique Vallespí, Iain Davidson (in 1972) and the zooarcheologist Jesús Altuna, who would become a close collaborator and friend of mine as he was of Freeman.

Having defended my dissertation at Chicago in 1975, I obtained a position at the University of New Mexico and married a *montañesa,* Mary Carmen Rapado, the same year, being keen to continue with research in northern Spain. I joined Geof Clark in directing the re-excavation of La Riera Cave–one of the Conde de la Vega del Sella's most important sites along with the contiguous Cueto de la Mina in eastern Asturias. In two major and two minor seasons in 1976-79 and with Manolo González Morales as Spanish Inspector, we conducted excavations that (immodestly) may have had an impact for late Upper Paleolithic and Mesolithic studies similar to that of Echegaray and Freeman's excavation of Cueva Morín for Mousterian and early Upper Paleolithic research in Spain. I went on to conduct surveys and/or excavations in Les Landes (SW France) in 1980-85 (notably at Abri Dufaure), Portuguese Estremadura, Alentejo and Algarve in 1987-88, Belgian Wallonia in 1990-95 (Trou Magrite, Huccorgne, Bois Laiterie and Abri du Pape), returning to work in Spain in 1996. This last and longest chapter, shared in close and equal collaboration with González Morales, concerns the excavation and on-going study of Cueva del Mirón, which I first saw in 1973 while visiting all the then-known Solutrean sites of the Cantabrian region.

In the intervening years since Howell's first campaign at Torralba, several Chicago dissertations were done on Cantabrian prehistoric subjects in the 1960s-1990s, Morín, El Juyo and Altamira were re-excavated by Echegaray and Freeman who eventually founded an Institute for Prehistoric Investigations in Santander and Chicago, Howell and Freeman returned to Ambrona, Echegaray organized an informal working group on the Paleolithic of northern Spain, created the Altamira Museum and Research Center and its very important monograph series, and more than a generation of Spanish and American prehistorians/paleoanthropologists were mutually influenced to produce a new, optimistic vision of what could be learned from the Stone Age record of Spain–especially in the Cantabrian region. But how did this cross-fertilization between archeologists from Chicago and Spain come about and what were the human contacts that made it so fruitful? These are the questions I will try to answer from a non-objective perspective in the pages that follow.

2. Howell and Associates at Torralba and Ambrona

The story of Clark Howell's involvement with Spain and Spanish archeologists and the consequent, longer-term involvement of Les Freeman began with the development of a relationship between Luis Pericot and Sol Tax (professors at the universities of Barcelona and Chicago respectively) and also significantly concerned the Wenner-Gren Foundation for Anthropological Research. For many of the details in what follows, I am indebted to Susan Tax Freeman (Professor Emerita, University of Illinois at Chicago), who was a first-hand witness to many of the events.

In 1956, three years after Spain and the United States signed the treaty of military cooperation which was to begin to break Spain's post-war isolation from much of the world, Pericot, one of Spain's leading Stone Age prehistorians, attended the Congress of the International Union of Anthropological and Ethnological Sciences in Philadelphia. There he met Sol Tax, a native Chicagoan and product

of the University of Chicago Department of Anthropology, which he would come to chair. It was in this period of the late 1950s that, with funding derived from the fortune of controversial Swedish businessman Axel Wenner-Gren (Dodds 1973), Paul Fejos and Sol Tax were laying the foundations for the creation of a forum for the presentation and discussion of world-wide anthropological research that would become *Current Anthropology*. Financed by the Wenner-Gren Foundation for Anthropological Research (headed by Fejos), Tax visited anthropologists in over thirty countries and also held conferences in New York in 1958.[1] One of the visits was to Barcelona, where Tax, President of the American Anthropological Association at the time, met with Pericot and other Spanish anthropologists. His daughter, Susan Tax, also an ethnologist, assisted at the Barcelona meeting. Pericot also went to New York in 1958 and, after two preparatory meetings at the Wenner-Gren Foundation castle of Wartenstein in Austria, organized a symposium on the rock art of the western Mediterranean and Sahara at the castle in 1960. He was assisted by Eduardo Ripoll (with the counsel of the Abbé Breuil, who participated in the meeting only months before his death). The proceedings edited by Pericot and Ripoll were published in 1964 by the Wenner-Gren Foundation, with Tax as series editor. Susan Tax was translator of several of the texts and author of English abstracts (Pericot 1964). Launched in 1959, *Current Anthropology* was edited by Tax until 1974 and continues to be published by the University of Chicago with financial support from Wenner-Gren.

Although the details are sketchy, Pericot apparently invited F. Clark Howell, Tax's junior colleague, friend and both a product of and later faculty member in the Chicago Department of Anthropology, to visit Spain in 1960. Howell was already well-known for his studies of Neandertal anatomy and his excavations of Acheulean sites at Isimila (Tanzania), as well as his encyclopedic knowledge of the European Paleolithic. Howell's trip (funded by the Wenner-Gren Foundation) included a visit to Torralba (Soria), which had been excavated by the Marqués de Cerralbo in 1909 and of which Howell was cognizant. According to Richard Klein (personal communication, September 25, 2014), after Isimila, Howell was interested in excavating a European Acheulean site in hope of finding hominin remains. With authorization and institutional cooperation from Martin Almagro Basch, Howell began excavations at Torralba in 1961, to be followed by Ambrona (also discovered, tested, but never published by Cerralbo). The first campaigns at the Soria sites continued through 1963 and were unprecedented in Spain for their generous funding (by the National Science Foundation), scale and explicitly interdisciplinary, paleoanthropological nature. Leslie Freeman, Howell's Ph.D. student, was his chief assistant starting in 1962, and Susan Tax (later, Freeman), who would soon be conducting ethnographic research on rural society in Soria, served as Howell's interpreter in his dealings with Spaniards. Francisco Jordá (whose doctoral advisor had been Pericot) was appointed by Almagro as Spanish Inspector and Emiliano Aguirre (Quaternary paleontologist) played a major role, especially in the work at Ambrona. Other participants included the Spaniards J. Menéndez Amor (palynologist), M.D. Echaide, B. Izquierdo, M.I.Bea and M. Flores, while among the Americans were Karl W. Butzer (geomorphologist), Richard Klein, Thomas Lynch, plus the French prehistorian Pierre Biberson.

The ambitious nature and spectacular results of the Torralba and Ambrona excavation (although presaged by Cerralbo's own interpretations of Acheulean activities, that had long been forgotten), gave an enormous impetus to Paleolithic research in Spain in the early 1960s, putting the Spanish record back 'on the map' after a long hiatus (or at least research 'drought') corresponding to the Spanish Civil War and the first two decades of the Franco regime (see, for example, the prominent treatment of the Soria sites in Howell's *Early Man* Time-Life book in 1965; see also Freeman 1975, 1994, both with references). Howell and Freeman would return to Ambrona in 1980-81 and 1983. The Soria sites, interpretation of which was wrapped for decades in intense debates over their geological contexts, taphonomy of their bones and agency of those bones (i.e., products of hunting vs. scavenging vs. background fauna), have been re-excavated and re-interpreted ever since by Spaniards, having been a major stimulus for Spanish research into the Lower Paleolithic (notably under Aguirre) ever since the beginning of Howell's research.

[1] Website of the Wenner-Gren Foundation, accessed Sept. 21, 2014.

3. Freeman, Mousterian Inter-assemblage Variability and the Cantabrian Middle Paleolithic

Les Freeman was the product of diverse intellectual influences (Bill Ritchie in New York, Art Jelinek [then at the University of Chicago] on the Pecos River of New Mexico, Clark Howell and Lew Binford in Chicago, François Bordes in Bordeaux). At the time of his participation in the Torralba excavation of 1962, Freeman was already decided to undertake a dissertation on the nature of Mousterian inter-assemblage variability in Cantabrian Spain. He would be Howell's fourth Ph.D. and studied Mousterian lithic typology under Bordes at the Université de Bordeaux in 1962. It is important to note that Lewis Binford had joined the Chicago faculty as a new assistant professor in late 1961 and that Sally Schanfield (Binford) had obtained her Ph.D. from Howell (his third student) in 1962. The Binfords began their famous debate with Bordes (and his wife, Denise de Sonneville-Bordes) over the significance of differences among Bordes' Mousterian facies (or variants) at this time: ethnicity vs. function. Adding to the cases from SW France and the Near East, Freeman was to carry the debate into the record of Cantabrian Spain. Two Spanish specialists were to be important in his research: Francisco Jordá (who became the professor of archeology at the University of Salamanca in 1962, after a stint as museum director in Asturias and with whom Freeman dug in Cueva del Conde) and especially Joaquín González Echegaray in Santander.

The combination of Lew Binford, the fiery theoretician of the 'New Archeology' (plus Sally Binford with her experience and new views on the Old World Paleolithic) and Howell, the co-founder (with J. Desmond Clark) of the new interdisciplinary field of Paleoanthropology and a consummate empiricist, was decisive in Freeman's intellectual formation, although Howell was his principal mentor. In addition, his statistical orientation was crucial–and would be influential in Spain. It should be recalled that among Freeman's first publications were three (in 1962 and 1964–two of which were done with fellow Chicago student James Brown) on pioneering computer-assisted statistical analyses of pottery types from the Carter Ranch Pueblo excavated by Paul Martin's Field Museum Southwest Expedition and involved with the 'new archeological' 'ceramic sociology', made famous by Freeman and Brown's fellow Chicago graduate students, William Longacre and James Hill. Freeman defended his dissertation, 'Mousterian Developments in Cantabrian Spain', at the University of Chicago in 1964. He continued to work on the Mousterian problem much of the rest of his career. In so doing, he undoubtedly sowed the seeds of doubt in Spain as to the validity of solely culture-historical explanations for the Mousterian facies *à la* Bordes and for all other prehistoric assemblage types for that matter. The three big explanations for inter-assemblage variability that Freeman always saw as alternates were function, ethnicity and sampling effects. Certainly the first to be influenced by Freeman's 'new perspective' was Echegaray. Echegaray and Freeman were to be close scientific collaborators and the closest of friends for 50 years, until Freeman's death in 2012 (followed less than four months later by Echegaray's in 2013) (see obituaries of Freeman and Echegaray [Straus 2013a, b] for major references; other sources of information include Freeman's [2008] obituary of Clark Howell and Freeman's final curriculum vitae, provided by Susan Tax Freeman).

4. Echegaray and Freeman: Cueva Morín, El Juyo and Altamira

During the mid-1950s, the recently ordained Echegaray, disciple of Rev. Jesús Carballo, participated in the major excavation of the important site of El Pendo near Santander by Julio Martínez Santa-Olalla and in which also participated André Leroi-Gourhan, Arlette Leroi-Gourhan, André Cheynier, Jean Chavaillon, P. Hours and Paul Janssens among many others. He did so as Carballo's representative, since Carballo had dug on and off in El Pendo in the 1920s and 30s (in 1930 together with G. G. McCurdy, one of whose students was Sol Tax). Although this, for-the-times very modern excavation was never published by Santa-Olalla (Echegaray, with the help of Freeman and Ignacio Barandiaran, would do so a quarter-century later [1980]), the experience of international collaboration made a significant mark on Echegaray, as he told me personally. He would soon thereafter study the old Institut de Paléontologie Humaine collections from El Valle in eastern Cantabria with Cheynier and excavate El Juyo near El Pendo with Janssens, a Belgian archeologist, who would later also participate in the

Cueva Morín excavation. Their monograph on the site included an early archeozoological report by P. Azpeitia. Furthermore, Echegaray, in one of his many parallel careers, would become a major specialist in the Epipaleolithic prehistory of Jordan, famous for his excavation of El Khiam Cave, one of the relatively few significant Spanish Stone Age projects to be conducted abroad during the time of the Franco regime. In 1962 and 1963, Echegaray, together with M. A.García Guinea and A. Begines, excavated the neighboring sites of La Chora and El Otero near El Valle and included studies of faunal remains (by. B. Madariaga) and pollen (by Arlette Leroi-Gourhan) in the monographs. The 'natural' thing for Echegaray to have done, given his experiences and open outlook on research, would have been, I think, to collaborate with Freeman, to whom he brought an unequalled knowledge of the Cantabrian Paleolithic record as it existed in the early 1960s.

Initially with support from the Wenner-Gren Foundation and later the National Science Foundation, as well as from Santander's Patronato de las Cuevas Prehistóricas and Seminario Sautuola, Echegaray and Freeman re-excavated the Middle and Upper Paleolithic site of Cueva Morín near Santander in 1966, 1968-69 (González Echegaray and Freeman 1971, 1973). The list of excavators is impressive: Alfonso Moure, Soledad Corchón, Juan María Apellániz, Geoffrey Clark, John Fritz, Margaret (Conkey) Fritz, Mª Angeles Querol, among others. This, like Hallam Movius' excavation of the Abri Pataud in Les Eyzies, was a *de facto* field school for the next generation. The natural science specialists at Morín included Spaniards (Jesús Altuna, Benito Madariaga), a Frenchwoman (Arlette Leroi-Gourhan) and an American (K. W. Butzer). When Freeman and Echegaray discovered what they believed to be Aurignacian human 'pseudomorphs', it was through the auspices of Sol Tax (Freeman's father-in-law), the Secretary of the Smithsonian Institution and the Secretary of the U.S. Air Force, that one of them ('Pipo') was flown in a plaster jacket to Washington, DC, for complete excavation and study. For this, Echegaray travelled to the U.S. The Morín excavations are widely acknowledged to have represented a turning point in the study of the Mousterian and Early Upper Paleolithic in Spain and the collections are still being reanalyzed to this day (as are those of Torralba and Ambrona).

In terms of its problem-driven research, its modern methodology, its international, interdisciplinary organization, and its rapid, thorough publication, Morín was a model and it sealed the Freeman-Echegaray collaboration, enthusiastic mutual respect and friendship for the long-term. This became an intellectual and pragmatic partnership without equal in terms of its complementarity, diversity, productivity and longevity. Each partner brought to the common enterprises different benefits, strengths and abilities, operating in concert on a level playing field, from the excavation of more sites (El Juyo and Altamira) to a synthesis of the Spanish Lower and Middle Paleolithic, to the study of cave art, as well as the interpretation of medieval illuminated texts (e.g., Freeman and González Echegaray 2001; González Echegaray and Freeman 1998). The El Juyo research in particular would again involve significant interdisciplinary collaboration, including the participation of R. G. Klein for the initial faunal analyses (Barandiaran *et al*. 1985). Many of the excavators were students in a University of Chicago archeological field school run by Freeman and Echegaray and the research built on Echegaray and Janssens' earlier work in the site, where Freeman had identified the existence of Lower Magdalenian 'wild harvesting' of red deer and limpets. The importance of the Freeman-Echegaray friendship and entente for the development of Spanish Paleolithic prehistory cannot be underestimated. A parenthesis in Freeman's dedication to Cantabria was his excavation in the Abric Agut in Catalonia in 1976 with Eduardo Ripoll, who had studied the cave art of Monte Castillo with Echegaray in the 1950s.

5. The Chicago Inheritance in Spain

Freeman spawned several graduate students who did dissertations wholly or partially in Cantabrian Spain, always with the extraordinary help of Echegaray: Geoffrey Clark on the Asturian Mesolithic, Lawrence Straus on the Solutrean, Margaret Conkey on Magdalenian portable art and social relations, Frank Harrold on the Châtelperronian, James Pokines on rodent faunas, and Heather Stettler on

Magdalenian antler points, along with a few Masters theses. Clark and Straus would follow and then go beyond Freeman's example, publishing versions of their dissertations in Spanish in Spain. They went on to conduct further research in Spain: the North Burgos Survey, the La Riera, Sopeña, and El Mirón caves projects–all in collaboration with Spanish colleagues. Although there was no university in Santander and he was not a regular university professor, Echegaray was effectively the mentor to several Spanish doctoral students who, in parallel and communication with their American fellow students, produced radically new kinds of dissertations during the 1970s and 80s: Moure on the Upper Magdalenian, Corchón on Upper Paleolithic portable art, Victoria Cabrera on Hugo Obermaier's 1911-14 excavation of El Castillo, Federico Bernaldo de Quirós on the Early Upper Paleolithic, Pilar Utrilla on the Lower and Middle Magdalenian, Juan Fernández-Tresguerres on the Azilian and Manuel González Morales on the Asturian and more general Mesolithic. These works to varying degrees displayed new ***anthropological*** interests derived at least in part, I would argue, from direct contact and/or familiarity with the 'new archeology'/paleoanthropology as practiced by Freeman and his students from Chicago–all with the sympathetic approval of Echegaray, who published the dissertations (including my own) in his seminal (and ongoing) monograph series at the Altamira Research Center and Museum, of which he was founding director.

Echegaray and Freeman's informal working group that met with many of these 'young Turks' during the late 1970s and early 80s was an incubator for the melding of ideas of American archeology, anchored both in the cultural anthropology of foragers and in the natural sciences, with the Franco-Spanish traditions of culture history and art history in the study of the Upper Paleolithic. Also important was their creation of the Institute for Prehistoric Investigations in Santander and Chicago, in a non-formal kind of way the predecessor of the Instituto Internacional de Investigaciones Prehistóricas at the relatively recently founded Universidad de Cantabria. Freeman brought to Cantabrian archeology such innovations as sampling strategy, statistical analysis, total recovery flotation, spatial analysis, ecology, ethology, and–most importantly–a new outlook that was optimistic about the possibilities of the field, like that of Binford and, ironically, Howell. Echegaray was the first to accept this new perspective, but he would not be the last.

6. La Riera and El Mirón

It would be presumptuous of me to evaluate the impact of the excavations in La Riera (1976-79) and El Mirón (1996-2013). The La Riera Paleoecological Project was designed in classic 'New Archeology' fashion with the proposal of explicit, testable hypotheses and the methodologies used were aimed at trying to achieve such tests. Perhaps because of its full and theoretically informed publication (Straus and Clark 1986), it has had considerable influence in the course of Upper Paleolithic and Mesolithic studies in Spain. The excavation was done in close collaboration with our Spanish Inspector, Manolo González Morales, who was also responsible for the study of the bone industries and who put us in touch with various Spanish specialists in biological and geological sciences for the study of fish (M. Menéndez de la Hoz), molluscs (J. A. Ortea), lithic raw materials (J. Ordaz, L. Suarez and R. Esbert). Jesús Altuna conducted the mammalian faunal analysis which was a keystone of the monograph; Arlette Leroi-Gourhan did the palynology; and Henri Laville (whom I had met at Pech de l'Azé with his mentor, Bordes, and who, like Altuna, would go on to work with me at the Abri Dufaure in Les Landes) provided the sedimentological and geochronological analyses at La Riera. On the recommendation of Richard Klein, our international collaboration included Nicholas Shackleton and his student, Margaret Deith for the oxygen isotope seasonality analysis of marine mollusk shells. This was not a purely American operation by a long shot! And the citation statistics for the La Riera monograph are undoubtedly pretty impressive, as have been the numbers of re-studies of materials from the site by Spanish students. The methodological innovations–like those of the Morín and El Juyo projects–were very important for the modernization of Spanish prehistory

As for El Mirón, it is perhaps sufficient to note that it must be one of the longest running excavation projects in the history of Paleolithic/post-Paleolithic research in Spain, owing to the González Morales

– Straus collaboration, which has been on an equal footing in all respects, with each co-director doing what he is best at and capable of in an informal yet effective division of labor that has stood the test of time. (Parenthetically, it should be noted that I proposed the excavation to Morales while he was a visiting researcher at the University of California at Berkeley, where Margaret Conkey was his host and where Clark Howell was still in residence as an emeritus professor.) Large numbers of students from Spain, USA, and many other European, Asian and American countries have excavated in El Mirón Cave and worked in the field lab. The collaborating specialists have come mainly from Spain, together with French, American, German, British, Canadian and even Chinese experts in various geological and biological sciences. The project has produced, in whole or in part, several Doctoral dissertations and Masters theses –both Spanish and American–, two monographs (Straus and González Morales 2012; Straus *et al*. 2015) and many articles published in Spain, USA, UK, France, Portugal and Belgium. The internationalization of Spanish prehistory is now a commonplace in all major professional projects, and El Mirón is no exception. And at its core is very often the web of relationships that have been built up over time among practitioners, both Spanish and foreign.

7. By way of conclusion

I recall Freeman's course on Spanish prehistory in which he drew up the web of relationships that had intellectually (and often personally–though not always amicably) linked such personages as Obermaier, Breuil, Vega del Sella, Hernández Pacheco, Cabré, Bosch-Gimpera, Pericot, Carballo, Almagro, Santa-Olalla, Ripoll, Beltrán, Jordá, Echegaray, the Barandiaráns, Aguirre, Altuna, Apellániz, *et al*. Scientific and personal relationships are all-important in understanding the development of a discipline. Hence, my interest in writing these lines in response to the invitation of Margarita Díaz-Andreu and Victor M. Fernández, subjective and perhaps self-serving though they may be.

With Spain's membership in the European Union and with the development of systems of research grants, student fellowships and exchanges among European universities, the situation is totally different than it was in the 1960s and 1970s. In that period, beyond the boundaries of Spain, Paleolithic prehistory in the country had generally been an interest of just a few researchers at the University of Chicago in the United States, with only fleeting interest by French prehistorians. Today it is common for Spaniards to study and work in France, UK, Germany or Belgium and *vice versa.* Now, international relations in archeology are far more rapid, open, fluid, easy (usually), and equal than they had often been in the Cold War period, but I would argue that this had already been the case in the special relationship between Les Freeman and Joaquín González Echegaray whose inheritance lives on. However, with Freeman's retirement in 2000, the teaching and research of Paleolithic archeology came to an end at the University of Chicago. The deaths of Howell, Freeman and Echegaray and the retirements of Meg Conkey, Frank Harrold and Geoff Clark leave me the only Chicagoan still active in the fields of Cantabrian, Spanish or West European prehistory. *Sic transit gloria mundi...*

Acknowledgements

Many thanks to Victor M. Fernández and Margarita Díaz-Andreu for inviting me to participate in their UISPP symposium on international relations in prehistoric research and to Susan Tax Freeman and Richard Klein for providing valuable information on the early years of the involvement of Sol Tax, Clark Howell and Les Freeman with Spanish prehistorians.

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Part II

The Revolution of the Sixties in Prehistory and Protohistory

Session organised by

François Djindjian and

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Introduction: The Revolution of the Sixties in Prehistory and Protohistory

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For many reasons, the post second war period (1955-1975) has been a revolution in the history of prehistory and protohistory. New paradigms or theoretical approaches appeared or were developed during these years: 'New Archaeology', Marxist archaeology, cultural ecology.

New disciplines emerged, like archeometry, archaeobotany, archaeozoology, computing archaeology, palaeoenvironment reconstitution, geoarchaeology, palaeoclimatology, quantitative archaeology, rescue archaeology, underwater archaeology, archaeological prospection or culture resource management. These developments involved major methodological and technical advances, which diffused in the whole archaeological field.

New specialties were enforced, like absolute dating, aerial photography, archaeological data retrieval systems, dendrochronology, experimental archaeology, geophysical survey, micromorphology, physic-chemical determinations, use wear analysis, etc.

New archaeological methods and techniques were applied and are now of a common use, like multidimensional data analysis, seriation, large open surface excavations, spatial analysis, numerical typologies, systemic analysis, archaeomagnetism and palaeomagnetism, sampling, mathematical modeling, attribute analysis, archaeological soil casting, civil work machine use, Harris diagrams, hypothetico-deductive models, remote sensing and image processing, palaeodemography, etc.

New generations of archaeologists have started to work just after the end of the Second World War, with a very open mind to modernity and curiosity to scientific progress. Universities and archaeological institutes in the USSR (Academy of Sciences), France (CNRS), Italy (CNR) and other countries created new chairs or research employments supported by a large economic effort for scientific research, offering numerous opportunities for prehistory and protohistory which could thus ensure their autonomous development, besides classical archaeology.

The session about the 'Sixties' has the purpose to remember this 'Golden Age' and to replace it within the general context of the progress of archaeology and sciences. Assuredly, the revolution of the Sixties has not known the same development in all the countries. If Anglo Saxon countries have been leaders (USA, UK), quite all the European countries have been involved, depending on pioneers with both humanistic and scientific backgrounds. Famous scientists like L. Binford, G. Cowgill, D. L. Clarke, C. Renfrew, F. R. Hodson, I. Hodder, M. Aitken, J. Cl. Gardin, A. Leroi-Gourhan, F. Bordes, G. Laplace, I. Scollar, J. Hahn, A. Bietti, P. Dolukhanov, A. Voorrips and many others, cited in the papers published in this session, have contributed to this revolution.

A short review of the six papers published here clearly illustrates the importance of the Sixties in the evolution of modern archaeology.

François Djindjian draws and details a fresco of French prehistory in the Sixties, focusing on the scientific and technological progresses of the discipline, coupled with a new consciousness of

theoretical dimensions, an outstanding characteristic of a prehistoric school that was never influenced by the processual perspective.

Lioudmila Iakovleva offers a serious attempt to reconstructing the evolution of Soviet archaeology, characterized by a general improvement of fieldwork methods (specially for the Palaeolithic) and a growing interest for archaeological theory.

Alessandro Guidi contextualizes the importance of Marxist theory (a well spread paradigm in Europe in the Sixties!) in French and Italian archaeology, stressing the well-known analogies of this theory with Processualism.

The paper by *Anne-Catherine Welté* seems, at first sight, the more remote from the themes treated in the session. As a matter of fact, the analytical tools used by Leon Pales in the late Sixties to study the prehistoric rock art fit well with the cultural climate of the period.

The ‘ modernization’ of Portuguese archaeology is the theme of *Ana Martins*’ paper. She gives a vivid account of a generational change which led to a real professionalization of archaeology in her country.

In the last paper, *Tim Murray* proposes a summary of the history of Australian archaeology, with a specific attention to the recent decades and the relationships with the Aborigines.

If, on one side, English and American archaeology in this session appear like the statue in Mozart’s *Don Giovanni*, the sparse scholarship about the history of New Archaeology constitutes nonetheless an advantage since it encourages us to dedicate more attention to the diversity of archaeological traditions.

The Revolution of the Sixties in Prehistory and Protohistory

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Résumé

*L'après deuxième guerre mondiale (1955-1975) a été une révolution scientifique dans l'histoire de la préhistoire et protohistoire: amélioration des techniques de fouilles et d'enregistrement des données de terrain, émergence de nouvelles disciplines (archéométrie, géoarchéologie, reconstitutions paléoenvironnementales, archéologie quantitative et computationnelle, etc.) apportant des progrès méthodologiques et techniques majeurs, qui ont diffusé dans le domaine archéologique tout entier. La présente communication a pour but de se remémorer cet âge d'or et de replacer cette révolution scientifique dans le contexte général de l'avancement des Sciences et des paradigmes anciens et nouveaux de l'Archéologie de cette période (*Culture Historical Archaeology*, Marxisme et* New Archaeology*).*

Mots-clés: *préhistoire, protohistoire, années 60, France, révolution*

Abstract

*The post second war period (1955-1975) has been a scientific revolution in the advance of Prehistory and Protohistory: advanced field techniques and archaeological data recording, new disciplines (archeometry, geoarchaeology, palaeoenvironmental reconstitutions, quantitative and computational archaeology, etc.) involving major methodological and technical advances, which have diffused in the whole archaeological field. The present paper has the purpose to remember this golden age and to replace the scientific revolution in the general context of the progress of Sciences and of the early and new paradigms of the Archaeology of the period ('*Culture historical Archaeology*', Marxism, and '*New Archaeology*').*

Key-words: *Prehistory, Protohistory, sixties, France, revolution*

1. La dynamique scientifique de l'après-deuxième guerre mondiale

L'après deuxième guerre mondiale crée une dynamique remarquable dans tous les domaines scientifiques, et en particulier dans les Sciences humaines et en archéologie pour de nombreuses raisons concomitantes:

- Le développement d'un mouvement quantitatif général dans les Sciences humaines et sociales résultant du retour des scientifiques ayant participé à l'effort de guerre dans l'industrialisation de la production militaire et dans la logistique de sa distribution. Cette appétence de l'archéologie pour les Sciences se retrouve dans l'ouvrage collectif '*La découverte du passé*' (Laming, 1952).
- Le développement du CNRS sur le modèle de l'Académie des Sciences soviétique et le recrutement de milliers de chercheurs entre 1945 et 1965, dans toutes les disciplines scientifiques, y compris l'archéologie,
- La loi Carcopino de 1942 sur les autorisations de fouilles archéologiques qui entraîne le transfert progressif de l'archéologie métropolitaine du monde des amateurs savants vers le monde académique avec la disparition progressive de l'archéologue amateur et le lent repli des Sociétés savantes (dont la Société Préhistorique Française),
- Le recrutement de dizaines d'instituteurs, de professeurs de collèges et même d'autodidactes qui entrent au CNRS principalement en préhistoire et protohistoire, vu le peu d'intérêt marqué pour la préhistoire par les Normaliens qui ont leur carrière déjà tracée dans l'archéologie classique entre Universités et Ecoles Françaises (Athènes, Rome, Le Caire, Beyrouth, etc.),

- Le développement des Universités dans les années 1960 et le nécessaire reclassement des universitaires en métropole après la décolonisation, donnant l'obligation de créer des postes en archéologie dans les Universités et au CNRS,
- Une jeune génération, qui n'a pas été décimée en France par la deuxième guerre mondiale, comme cela avait été le cas pendant la première guerre mondiale, trouvant la voie rapidement laissée libre par les rares préhistoriens et anthropologues de l'entre-deux guerres (H. Breuil, H. Vallois, J. Piveteau, C. Arambourg, R. Vaufrey, P. Teilhard de Chardin, L. Henri-Martin, R. Lantier, A. Vayson de Pradennes, H. Hubert, H. Bégouen).

2. Une génération exceptionnelle

C'est dans ce contexte que, dans les années 1950, une nouvelle génération de brillants préhistoriens et protohistoriens apparait dans le domaine de la préhistoire, face au monde établi depuis un siècle de l'archéologie classique, commençant un processus que les préhistoriens allemands avaient démarré après la première guerre mondiale, trente ans avant.

Il est impossible d'être exhaustif en citant tous les chercheurs de cette génération, nés pour beaucoup d'entre eux juste après la fin de la première guerre mondiale:

A. Leroi-Gourhan, A. Laming-Emperaire, M. Brézillon, L. Pales, F. Bourdier (Paris), H. Delporte, J. P. Mohen (Saint-Germain-en-Laye), F. Bordes, D. de Sonneville-Bordes, R. Riquet (Bordeaux), P. R. Giot (Rennes), M. Escalon de Fonton, E. Bonifay (Aix), Et. Patte (Poitiers), L. Méroc, L. R. Nougier (Toulouse), J. Perrot (Moyen-Orient), H. Fleisch, F. Hours, Cl. Schaeffer (Liban), G. Camps (1961), L. Balout (1955), J. Tixier, P. Biberson, H. Alimen (1955), H. Lhote, J. Roche, H. J. Hugot (Afrique du Nord), J. Chavaillon, Y. Coppens (Afrique orientale)

Trois grandes figures de la préhistoire paléolithique se distinguent: André Leroi-Gourhan (1911-1986), François Bordes (1919-1981) et Georges Laplace (1918-2004) sans oublier l'influence qu'a pu avoir Jean-Claude Gardin (1925-2013) sur la formalisation de l'œuvre scientifique de certains d'entre eux.

3. La professionnalisation des techniques de fouilles

Avec la nouvelle réglementation des autorisations de fouilles et l'obligation du rapport annuel de fouilles, plus théoriquement que réellement contrôlées par les structures régionales du Ministère de la Culture encore balbutiantes jusqu'à la fin des années 1970, les techniques de fouilles allaient s'améliorer rapidement en France, non sans s'inspirer de techniques déjà mises en œuvre ailleurs en Europe entre les deux guerres:

- L'enregistrement des objets par leurs coordonnées dans le niveau archéologique (Georges Laplace et Louis Méroc, 1954) et la mesure des altitudes,
- La stratigraphie géologique (F. Bordes et le laboratoire de géologie du Quaternaire de Bordeaux) améliorant la méthode stratigraphique de Gabriel de Mortillet et de ses successeurs,
- Le décapage de surface des habitats paléolithiques (A. Leroi-Gourhan) sous l'influence de l'archéologie soviétique de P. P. Efimienko, appliqué aux fouilles d'Arcy-sur-Cure à partir de 1946 puis de Pincevent à partir de 1964 (Figure 1),
- Le décapage de surface des structures de préhistoire récente et de protohistoire: fosses et trous de poteaux (B. Soudsky et les fouilles de Bylany à partir de 1950),

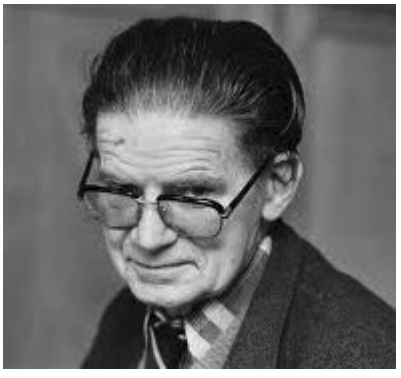

Figure 1. André Leroi-Gourhan.

– L'archéologie sous-marine (J. Y. Cousteau, le scaphandre autonome et l'épave du grand Congloué en 1952) et subaquatique (influence germanique et suisse).

Ainsi, en l'espace de moins de vingt ans, les techniques de fouilles archéologiques ont progressé plus rapidement que dans le siècle précédent, la révolution suivante, celle de l'archéologie 3D, ne surviendra qu'à partir des années 2010.

4. Le grand développement des études de paléoenvironnement quaternaire

Le grand développement de la géologie quaternaire en France, qui trouve écho dans les travaux de l'INQUA, créé en 1928, a permis la mise au point de méthodes d'études des remplissages des sites préhistoriques et de la reconstitution paléoenvironnementale et paléoclimatique de leurs séquences stratigraphiques.

Nous ne pouvons ici que citer rapidement les principaux chercheurs, leurs spécialités et la date de soutenance ou de publication de leur thèse ou de leurs premiers articles:

– Les séquences de lœss: F. Bordes (1954), P. Wernert (1957), F. Bourdier (1963), R. Paepe (1963), J. P. Lautridou (1965), J. Michel (1972), J. Sommé (1975),
– Les remplissages quaternaires des grottes et abris: E. Bonifay (1962), H. de Lumley (1969), Cl. Thibaud (1970), J. Cl. Miskowski (1974), H. Laville (1973),
– La géomorphologie: J. Tricart et A. Cailleux (1965, 1967),
– L'archéozoologie: J. Bouchud (1966), F. Prat (1968), F. Poplin (1972, 1976), F. Delpech (1975),
– La palynologie archéologique: M. Van Campo et Arl. Leroi-Gourhan (1956), J. Renault-Miskovsky (1972), M. Girard (1973),
– L'anthracologie: J. L. Vernet (1973),
– La malacologie: J. J. Puysségur (1976),
– Les micromammifères: J. Chaline (1972).

5. La naissance de l'Archéométrie

C'est à partir des années 1950, que nait l'archéométrie comme une application des méthodes instrumentales de la physique à l'archéologie, essentiellement dans les domaines des datations absolues, de la caractérisation physico-chimique et de la prospection géophysique.

La datation radiocarbone est connue par les travaux de W. Libby à la fin des années 1940 (prix Nobel en 1960). Les premiers laboratoires de datations apparaissent dans les années 1950: De Vries, Vogel & Waterbolk et le laboratoire de Groningen aux Pays-Bas en 1954, T. Hall, M. Aitken et le laboratoire d'Oxford en 1955. En France, un peu plus tard, G. Valladas, G. Delibrias et le centre des faibles radioactivités de Gif sur Yvette en 1961, J. Thommeret et le laboratoire de Monaco en 1961 et J. Evin et le laboratoire de Lyon en 1965 (Aitken, 1990; Evin *et al*., 1998).

De nombreuses autres techniques de datations absolues ont été mises au point à partir des années 1950 comme le Potassium-Argon (travaux de W. Gentner et de J. Everden et G. Curtis dans les années 1950, et premières applications en archéologie dans les années 1960), la Thermoluminescence (travaux initiés par F. Daniel dès 1953, mais surtout de M. Aitken à Oxford fournissant des résultats à partir de 1968); la résonance de spin électronique ou ESR (travaux initiés par E. Zeller en 1966), l'Uranium-Thorium (premières mesures de N. Isaac et E. Picciotto dans les années 1950 et de W. Sackett dans les années 1960), la fission de l'Uranium 238 (découverte par K. Perzak et G. Flerov en 1940 et premières mesures par R. Walker en 1964), l'hydratation de l'obsidienne (premières mesures par I. Friedman et R. Smith en 1948, puis approfondissement de la méthode par D. Clark en 1959), les acides aminés (proposé par P. Abelson en 1955), sans oublier l'archéomagnétisme du Français E. Thellier à partir des années 1930 (Thellier, 1981).

La caractérisation physico-chimique est issue des progrès considérables dus aux applications de la physique de l'état solide dans l'instrumentation, en particulier dans les techniques de spectrométries variées, de fluorescence X et d'activation neutronique. Il faut citer le laboratoire de recherches des musées de France au Louvre de M. Hours à partir de 1950, le laboratoire de céramologie de M. Picon à Lyon à partir de 1971, le centre Ernest Babelon et les études de monnayages anciens de J. N. Barrandon à Orléans sur synchrotron et le laboratoire d'archéométrie de L. Langouet à Rennes.

La prospection géophysique est une méthode essentielle pour prospecter les sites à la recherche des structures, mais aussi, avec les progrès de la mécanisation, pour prospecter les terrains à la recherche de sites. Les premières applications archéologiques de résistivité électrique ont été réalisées par R. Atkinson en 1946 et le premier résistivimètre par J. Martin et A. Clark en 1959. En 1958, M. Aitken réalise la première prospection magnétique. En France, A. Hesse (thèse en 1966) créa la discipline (Dabas *et al*., 1998; Scollar *et al*., 1990).

La prospection aérienne a été une révolution technique dans la prospection archéologique. C'est A. Poidebard dans les années 1920 au Moyen-Orient qui le premier utilisa les avions de l'armée française pour les premières prospections et J. Baradez fit les premières photographies verticales à haute altitude dans les années 1945 en Afrique du Nord. En France, dans les années 1960, c'est R. Chevallier dans son séminaire de photo-interprétation de l'EHESS qui forma la première génération des spécialistes français dont les plus connus sont R. Agache (à partir de 1959), J. Dassié (à partir de 1962), R. Goguey (à partir de 1959), D. Jalmain, L. Monguilan, M. Bourreux, H. Delétang, qui ont systématiquement prospecté toutes les régions françaises (Agache, 1978; Dassié, 1978).

6. Le renouveau des études de culture matérielle: typologie, sémiologie et quantification

Les années d'après-guerre voient le développement de la quantification dans les études de la culture matérielle. Cette quantification entraîne le besoin d'une formalisation de deux processus opposés:

- en amont, la formalisation de la description des artefacts, obtenue par une typologie, un classement analytique ou une description par caractères ('*attribute analysis*'). C'est une question de sémiologie;
- en aval, le traitement des données quantifiées pour en obtenir des structures interprétables (histogrammes, diagramme cumulatif, polygones, analyses des données, etc.). C'est une question de statistiques dont les calculs seront progressivement effectués par l'informatique.

F. Bordes propose dans les années 1950, la méthode Bordes, basée sur une typologie empirique des artefacts lithiques et le diagramme cumulatif (utilisé en sédimentologie dans les comptages granulométriques) pour identifier et différentier les 'cultures' paléolithiques. Les typologies se multiplient, à partir de celle de F. Bordes sur le paléolithique ancien et moyen (1950, 1953, 1961): D. de Sonneville-Bordes et J. Perrot pour le paléolithique supérieur (1954-56), J. Tixier pour l'épipaléolithique du Magreb (1963), le groupe du G.E.E.M pour le mésolithique (Rozoy, 1969). La méthode Bordes a eu une influence considérable dans la préhistoire européenne et a été appliquée jusque à la fin des années 1980 (Figure 2).

D'autres corpus typologiques s'inspireront dans les années 1970 du travail sur la pierre taillée, comme les six volumes de la typologie des objets de l'âge du Bronze, collectif animé par J. Briard (collectif, 1972-1981), ou le projet de nomenclature de l'industrie de l'os préhistorique (fiches typologiques), animée par H. Camps-Fabrer (1976) qui a publié à ce jour une douzaine de volumes.

La typologie à cette époque n'est pas en opposition avec la technologie, car c'est dans cette période que se développe l'expérimentation de la taille du silex. Une réunion fameuse de 1964 aux Eyzies regroupe les grands spécialistes de la taille du silex d'alors: D. Crabtree, F. Bordes et J. Tixier (Jelinek, 1965), qui ne nous feront pas oublier les pionniers L. Coutier et C. Van Riet Lowe.

Georges Laplace, dans sa thèse de 1961 intitulée '*Recherches sur l'origine et l'évolution des complexes leptolithiques*' publiée en 1966, adopte une démarche totalement différente, bien qu'il l'appelle une 'typologie analytique', car il ne croit pas à l'existence réelle des types (communication personnelle, Saint-Germain-en-Laye, 1977): il s'agit d'un classement des objets en types primaires et types secondaires basés sur la sélection et la hiérarchisation de caractères morpho-techniques (en taxinomie, on parlerait de classification descendante ou de segmentation). L'exploitation des données des décomptes d'ensembles clos (niveaux archéologiques en stratigraphie) par des tests du X^2 permettent de tester les hypothèses d'équivalence ou de différence qui sont utilisés dans sa théorie du synthétotype pour proposer un schéma d'évolution des industries, théorie inspirée de la '*cosmolyse*' d'A. C. Blanc (1946) appliquée aux fossiles humains paléolithiques, qui peut être rapprochée de la théorie des centres génétiques du célèbre botaniste généticien Vavilov (les centres génétiques manifestent un polymorphisme élevé associé à la permanence de caractères primitifs, et leur évolution va dans le sens de l'uniformisation). G. Laplace essaie de retrouver cette loi en étudiant les industries lithiques de la transition entre le paléolithique moyen et le paléolithique supérieur européen. La fiabilité variable des données qu'il utilisa, issues de fouilles d'âge et de qualités diverses, fut à l'origine de critiques sévères, mettant en doute notamment l'existence d'un protoaurignacien, existence qui a été récemment confirmée. La typologie analytique, en compétition avec la méthode Bordes, a été adoptée dans le pays basque (I. Barandiaran), en Catalogne (J. Fullola, E. Carbonell) et dans le nord de l'Italie (A. Broglio), puis abandonnée progressivement à partir des années 1980 (Figure 3).

Figure 2. François Bordes.

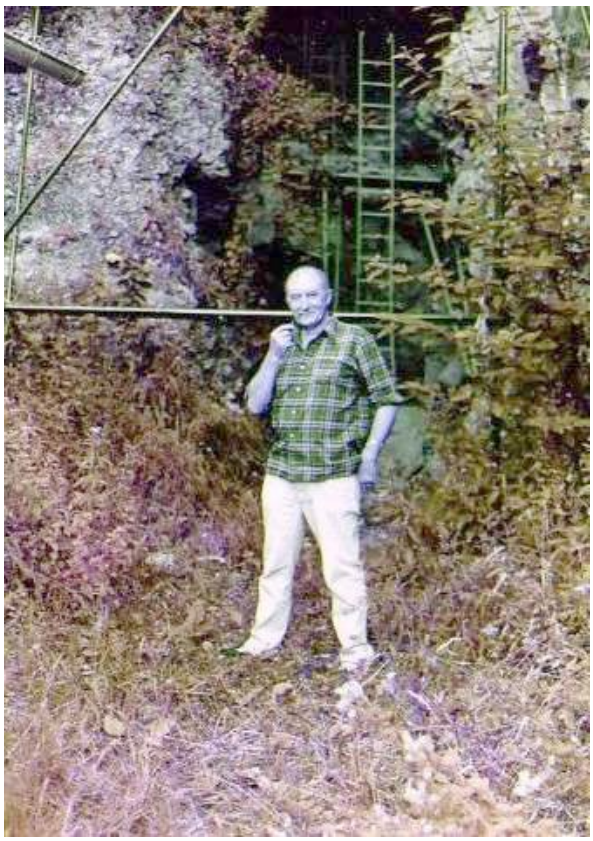

Figure 3. Georges Laplace.

C'est pourtant chez A. Leroi-Gourhan, beaucoup plus célèbre pour ses recherches sur les habitats paléolithiques et l'art préhistorique, que l'approche sémiologique de la culture matérielle, la plus conforme à l'état de l'art de l'époque, peut être observée, certainement sous

l'influence directe de J. C. Gardin (Figure 4). Cette partie de l'œuvre de A. Leroi-Gourhan est sans doute la moins connue parce que peu diffusée: elle n'existe que publiée en quelques pages dans des livres comme les tableaux de morphologie descriptive (vocabulaire normalisé de description des artefacts paléolithiques) dans la Préhistoire (collection Nouvelle Clio) en 1966 et dans les rapports de séminaires au collège de France sur les structures d'habitats et sur l'art préhistorique que seuls ceux qui les ont suivis possèdent dans leur bibliothèque. M. Groenen (1992) a publié dans un livre sous la signature d'A. Leroi-Gourhan: '*L'art pariétal, langage de la préhistoire*', ses travaux sur le vocabulaire de l'art préhistorique.

Figure 4. Jean-Claude Gardin.

Pour le traitement de ses données, A. Leroi-Gourhan a utilisé les fiches perforées et aiguilles de la mécanographie (comme il est possible de le voir à la fin de son livre sur la préhistoire de l'art occidental), raison pour la quelle il avait été traité de 'mécanicien' par l'abbé Glory!

Deux projets montrent les liens étroits entre A. Leroi-Gourhan et J. Cl. Gardin. Entre 1960 et 1968, B. Schmider réalise une bibliographie analytique de préhistoire pour le paléolithique supérieur européen à partir du fonds de la bibliothèque du Musée de l'Homme, qui comprend le fond de la Société préhistorique française. Ce projet se concrétisera par un lot de 500 cartes perforées utilisable par la mécanographie et par une publication (Schmider, 1975). En 1968, M. Brézillon publie la dénomination des objets de pierre taillée, vaste compilation du vocabulaire de description et d'analyse typologique de la pierre taillée depuis les origines de la préhistoire, qui a été un des premiers travaux de sémiologie préhistorique, dont l'importance n'a pas été perçue au moment de sa publication, tant le renouveau de l'expérimentation de la taille du silex était fort à ce moment. A. Leroi-Gourhan sur la fin de sa vie s'intéressait beaucoup à l'informatique (François Djindjian, réunions informelles avec A. Leroi-Gourhan dans les années 1975-80) et seule la maladie l'a empêché de la pratiquer.

7. La renaissance du Néolithique des cendres du Campignien et du Robenhausien

C'est dans l'après-deuxième guerre mondiale que se renouvellent en France les études scientifiques sur le Néolithique. R. Riquet et J. Arnal avaient compris que, trop dominé à l'époque par la prééminence des études paléolithiques, le Néolithique français, en s'enfermant dans les limites étroites de l'analyse typologique de l'industrie lithique et en négligeant de s'appuyer sur des stratigraphies pour établir les chronologies, dont la thèse de L. Nougier sur le Campignien (1950) était la caricature, avait pris un considérable retard.

Une génération de néolithiciens français émerge alors, influencés par ceux d'Europe centrale (comme E. Sangmeister et B. Soudsky), d'Italie (comme L. Bernardo Brea) ou du Royaume-Uni (comme Stuart Piggott et H. Case). Beaucoup de néolithiciens français étaient restés amateurs comme J. Arnal, Cl. Burnez, M. Gruet ou H. Carré. Les autres étaient devenus professionnels, intégrant le CNRS. Leurs spécialités étaient régionales, traitant à la fois du néolithique et de l'âge du Bronze: G. Bailloud (1955, 1962, 1965) dans le bassin parisien, J. Arnal (1953, 1955, 1960) en Languedoc oriental, P. R. Giot (1951) et J. L'Helgouach (1965) en Bretagne; J. Guilaine (1967) et J. Vaquer (1975) en Midi-Pyrénées, J. Courtin (1961, 1974) en Provence, Cl. Burnez (1976) en Charente, J. Roussot-Laroque en Aquitaine, H. Carré en Bourgogne, M. Gruet en Anjou, R. Joussaume en Poitou,

Figure 5. Pierre Roland Giot, Jacques Briard, Jean L'Helgouach.

G. Cordier en Touraine, P. Pétrequin en Franche-Comté (1970) sans oublier J. Cauvin au Moyen-Orient (Figure 5).

8. La protohistoire

La protohistoire, tiraillée entre archéologie et histoire des Celtes, et entre préhistoire récente et archéologie classique, était restée le parent pauvre de l'archéologie française. Dans les années 1950, cependant, des personnalités se révèlent, ils vont rénover une protohistoire dont J. Déchelette avait été un pionnier, sous l'influence des archéologues d'Europe centrale (Allemagne, Suisse) et de Méditerranée: J. Briard en Bretagne (1965), J. P. Millotte à Besançon (1970), J. J. Hatt à Strasbourg (1954), R. Joffroy en Bourgogne (1960), A. Varagnac à Saint-Germain-en-Laye, P. M. Duval à Paris (1961), F. Benoit en Provence (1957, 1965), G. Barruol en Languedoc (1969), R. Grosjean en Corse (1966), sans oublier de citer les nouvelles générations A. Coffyn et J. P. Mohen en Aquitaine.

9. L'art paléolithique

Dans les années 1950, A. Laming-Emperaire et A Leroi-Gourhan déconstruisent le modèle chronologique de H. Breuil, basé sur les superpositions pariétales de peintures et de gravures, et le remplacent par un modèle synchronique spatial. Leurs interprétations de cette même structure spatiale ont été cependant diverses:[1]

- un modèle totémique par M. Raphaël (1945),
- une organisation sociale du groupe humain par A. Laming-Emperaire (1962),
- un modèle sexuel par A. Leroi-Gourhan (1965).

La nouvelle chronologie stylistique proposée par A. Leroi-Gourhan en 1965 a été adoptée par les chercheurs français et espagnols jusque dans les années 1990, quand progressivement les datations

[1] Plus récemment, j'ai proposé une autre explication basée sur la représentation dans l'espace topographique de la grotte, des zoocénoses animales chassées dans leur territoire de déplacements (Djindjian, 2004), qui n'a rencontré guère plus de succès, sans doute parce qu'elle a été considérée comme remettant implicitement en cause le concept de 'sanctuaire' paléolithique, dont l'usage est d'autant plus répandu que sa signification n'a jamais été définie.

absolues, directes et indirectes, ont remis en cause ce schéma stylistique, et le modèle évolutionniste lent de l'art préhistorique qui était sous-jacent. Si la structure spatiale de l'art pariétal a été adoptée par l'ensemble de la communauté scientifique, leurs interprétations ont été rapidement abandonnées.

10. Les développements mathématiques de l'archéologie quantitative

L'émergence de l'archéologie quantitative dans les années d'après-guerre a été rapidement accompagnée d'un intérêt pour les techniques de traitement des données quantitatives: codification, comptages, réorganisation de lignes et de colonnes de tableaux (Clarke, 1962), graphiques variés (histogrammes, diagrammes à deux variables, diagrammes triangulaires, diagramme cumulatif polygones, etc.), statistiques élémentaires, tests paramétriques et non-paramétriques (notamment le X^2), algorithmes de sériation, modèles mathématiques, dans les années 1950.

Les techniques de sériation, apparue au début du siècle avec F. Petrie pour établir la chronologie relative des cimetières prédynastiques égyptiens, voient publier leur premier algorithme (Brainerd, Robinson, 1951). Plus d'une trentaine d'algorithmes de sériation seront publiés dans les vingt années suivantes (Djindjian, 2009).

Spaulding (1953) propose le test du X^2 pour mettre en évidence et différentier les types d'artefacts à partir d'une description par caractères ('*attribute analysis*'). Le premier livre dédié à l'archéologie quantitative est publié en 1960 (Heizer & Cook, 1960).

A partir de 1965, la classification automatique et l'analyse des données multidimensionnelles font leur apparition (Hodson, Sneath & Doran, 1966: une classification automatique des fibules de Munsingen; Doran & Hodson, 1966: une '*multidimensional scaling*' sur des assemblages du paléolithique supérieur; Binford & Binford, 1966: une '*factor analysis*' sur des assemblages moustériens). En 1970, le congrès de Mamaia en Roumanie (Hodson, Kendall, Tautu, 1971) qui réunit archéologues et mathématiciens du monde entier, illustre spectaculairement la dynamique de cette révolution méthodologique (Doran & Hodson, 1975; Djindjian, 2009).

11. Le recours à l'Informatique

Les travaux de pionnier de J. Cl. Gardin (1956, 1970, 1976) sur les systèmes documentaires et la sémiologie débutent dans les années 1950. Les nombreux codes descriptifs (notamment celui sur la poterie) datent de la période 1955-1965. La première banque de données, sur cartes perforées utilisant une machine mécanographique date de 1956. Ces travaux précurseurs joueront à cette époque un rôle plus important dans la gestion documentaire de l'information scientifique et technique (bibliographie) et dans les systèmes d'inventaire (Inventaire général des monuments et richesses artistiques de la France, Carte archéologique, catalogue informatisée des musées) qu'en archéologie et en préhistoire, où, par contre, le recours à l'informatique sera rapide dès la fin des années 1960 pour les calculs mathématiques et statistiques.

Le recours à l'informatique a été assez progressif: les systèmes de cartes perforées (et d'aiguilles pour les tris) ont été populaires jusqu'à la fin des années 1960. Les calculettes de poche (de plus en plus sophistiquées comme les programmables HP et TI) ont alors pris le relais dans les années 1970 (H. Delporte et J. Hahn en étaient des utilisateurs avertis), en même temps que commençaient les premiers travaux sur les grand ordinateurs Control Data, IBM et Bull des Universités et des centres de recherche. L'informatique ne se popularisera dans la communauté des archéologues qu'à partir de la diffusion des microordinateurs et des logiciels bureautiques dans les années 1985.

12. Influences paradigmatiques

L'archéologie durant cette période n'a pas été que le champ d'application de nouvelles méthodes et techniques scientifiques; elle a été également le domaine d'applications d'approches variées

que d'aucuns (notamment les anglo-saxons) appelleront en sciences humaines des modèles ou des paradigmes (quoique l'on puisse sérieusement s'interroger s'il s'agit du même contenu que le mot défini par S. Kuhn en 1962), d'autres, plus formalistes, de réductions du champ des possibles (avec tous les risques de raisonnement circulaire), d'autres enfin, plus rationalistes, d'idéologies, en insistant sur le fait que dans l'expression 'Sciences humaines', il y a d'abord le mot 'Sciences'.

12.1 Archéologie historico-culturelle et culture matérielle

L'archéologie historico-culturelle, traduction du vocable anglais devenu l'expression de référence, est la conséquence logique de la méthode de Montélius et des archéologues scandinaves de la fin du XIX° siècle définissant le '*type*', puis la '*culture*' comme un système spatio-temporel homogène d'assemblages (ensembles clos) archéologiques possédant les mêmes types.

Les travaux sur le Paléolithique ancien et moyen voient la fin du modèle de H. Breuil (Breuil et Kozlowski, 1931-34) qui propose deux phylums parallèles (industries sur bifaces/industries sur éclat) par une évolution buissonnante que propose par F. Bordes (1950) à travers le remplacement d'une typologie du débitage (issue des travaux de V. Commont) par une typologie de l'outillage façonné (suivant la liste Bordes). Nous détaillerons ci-dessous les conséquences de cette approche.

Les travaux sur le Paléolithique supérieur voient par contre F. Bordes et D. De Sonneville-Bordes assumer (malgré les protestations de G. Laplace) la continuité du modèle à deux phylums 'périgordo-centrique' de D. Peyrony (1933) qui avait remis en cause le modèle linéaire d'H. Breuil (1912). La magistrale synthèse de D. De Sonneville-Bordes sur '*le Paléolithique supérieur en Périgord*' (thèse 1958, publié en 1960), complétée pour la Belgique (1961), l'Espagne cantabrique (1962) et la Suisse (1963), marque l'état de l'art dans cette période. Le modèle Peyrony sera néanmoins progressivement contesté à partir des années 1980 (Djindjian, 2006, 2011) sur la base des données de nouvelles fouilles (La Ferrassie, Pataud) et de révisions chrono-stratigraphiques.

Les travaux sur l'Epipaléolithique/Mésolithique, à partir de la typologie du GEEM, et sous l'influence de G. Rozoy (thèse 1978), construisent une chronologie de plus en plus précise et mettent en évidence l'existence de groupes régionaux. Le Mésolithique reste cependant une spécialité d'amateurs (G. Célerier, J. Hinout, L. Coulonges, R. Arambourou, M et S. J. Péquart et d'autres) sauf M. Escalon de Fonton à Aix-en-Provence et Cl. Barrière à Toulouse.

Les travaux sur le Néolithique introduisent en France le modèle européen qui identifie les cultures à partir de typologies céramiques (Arnal, 1953; Arnal et Burnez, 1957; Bailloud et Mieg de Boofzheim, 1955; Arnal, Bailloud, Riquet, 1960; Bailloud, 1962, Niederlander *et al*., 1966). Rubané et Cardial sont reconnus en France. Le Chasséen est identifié. C'est le début de recherches qui vont pendant trente ans définir le cadre chronologique et 'culturel' précis du néolithique et de l'âge du Bronze en France.

12.2. A. Leroi-Gourhan et l'Archéologie soviétique (évolution stadiale)

L'intérêt porté par A. Leroi-Gourhan à l'archéologie préhistorique soviétique et l'influence de celle-ci sur ses travaux sont très importants (Leroi-Gourhan, 1961, p. 262): "*A coté donc de la noble archéologie classique est née une archéologie véritablement ethnologique, beaucoup plus proche de l'homme de tous les jours que ne l'était celle des grands monuments, et les raisons du développement considérable que les républiques populaires ont donné à cette archéologie 'prolétarienne' sont particulièrement compréhensibles.*". Ce que va emprunter A. Leroi-Gourhan à l'archéologie soviétique ce sont les fouilles archéologiques par grands décapages de surface, à la recherche de l'organisation sociale des groupes de chasseurs-cueilleurs. Bien sûr, ces techniques de fouilles ont été trouvées 'naturellement' avant 1917 (Scherbakivski à Gontsy en 1915) et elles sont dues essentiellement à des situations de sites de plein air en sédimentation de lœss. Mais Zamiatnine à Gagarino en 1927 puis Efimienko à Kostienki 1 (Efimenko, 1933, 1953) vont l'institutionnaliser et

espérer en tirer dans les années 1930 (comme trente ans après A. Leroi-Gourhan à Pincevent), les données d'une préhistoire sociale ou d'une palethonologie comme l'a défini A. Leroi-Gourhan sans savoir que c'était le même nom donné à la préhistoire stratigraphique à Saint-Pétersbourg par Th. Volkov, élève de G. de Mortillet, dont l'école fut décimée dans les années 1930.

Après une première expérience à la grotte des Furtins[2] en 1947 (Leroi-Gourhan, 1947), la première application de cette méthode de fouilles à la grotte du renne à Arcy-sur-Cure (1949-1963) fut difficile (Leroi-Gourhan, 1961): l'habitat en entrée de grotte de réseau karstique avait une stratigraphie difficile, un remplissage complexe et des remaniements par la faune de cavernes: les niveaux archéologiques ne furent pas bien différentiés au décapage entraînant des mélanges. La seconde application, à Pincevent, fut un succès considérable: le camp de chasse au renne magdalénien était établi près d'un gué sur la Seine, et les niveaux d'occupation saisonniers furent recouverts par les alluvions de crues du fleuve. S'il a cru trouver à tort[3] des structures d'habitat (tipis magdaléniens), A. Leroi-Gourhan ne put tirer des données des décapages remarquablement bien décapés (il avait abandonné la technique russe des 'zigourat'), une quelconque archéologie sociale (Leroi-Gourhan et Brézillon, 1972), mais des zones d'activités de dépeçage autour de foyers bruités par des mécanismes de rejet et de nettoyage (dépotoirs). A la même époque, L. Binford introduisait le fonctionnalisme dans les paradigmes variés de la '*New Archaeology*' qui conduisait à rechercher les zones d'activités dans l'habitat et non son organisation sociale.

12.3. F. Bordes et la tradition quaternariste de G. de Mortillet et H. Breuil

François Bordes, élève de F. Vauffrey, continue à Bordeaux, dans le cadre de l'institut du Quaternaire, la tradition quaternariste de la préhistoire animée par les anthropologues (souvent médecins) et les géologues parisiens (Institut de Paléontologie Humaine, Université). Les thèses de ses élèves: Cl. Thibault (1970), H. Laville (1975), J. M. Le Tensorer (1970, 1979, 1981), A. Debenath (1974), J. Ph. Rigaud (1982), M. Lenoir (1983), Cl. Chauchat (1968), Ph. Smith (1966) sans oublier J. Combier (1967), préciseront à une échelle régionale les synthèses du peuplement préhistorique quaternaire de la France. A une autre échelle, M. Escalon de Fonton (1968), à Aix-en-Provence, fera de même dans le Sud-est avec l'aide de ses élèves H. de Lumley (1965), G. Onoratini (1974), F. Bazile (1977). Dans cette approche, la pluridisciplinarité est implicite mais réelle: géologie, zoologie, botanique, archéologie. Ces travaux de reconstitution paléo-environnementale sont également climatiques et pendant une trentaine d'années ce seront les données des séquences stratigraphiques des préhistoriens qui fourniront les premières synthèses paléoclimatiques jusqu'à ce que, grâce aux techniques de forage profond de l'industrie pétrolière, les climatologues leur préfèrent les carottages des lacs, des océans puis des calottes glaciaires.

Les résultats de la méthode Bordes pour le Paléolithique moyen ont été la référence jusqu'au début des années 1980, quand des critiques ont commencé à se faire jour:

- Le modèle typologique des outils est trop détaillé (62 types et types intermédiaires alors qu'une dizaine seulement sont pertinents) et d'un usage local (elle ne peut s'appliquer aux industries du Paléolithique moyen d'Europe centrale et orientale ou du Moyen-Orient).
- Le modèle analytique ne prend pas suffisamment en compte les données des techniques de débitage (Levallois, Quina, discoïde, laminaire, bifaciale, Kombewa) qui jouent un rôle plus structurant pour le paléolithique moyen qu'une typologie morpho-technique de l'outillage façonné, revenant paradoxalement à l'approche de V. Commont.

[2] A la grotte des Furtins (1947), l'interprétation d'une industrie moustérienne en chaille piétinée par l'occupation de l'ours comme une industrie originale, le 'Berzevillien' et l'existence d'un culte des crânes des ours qu'il dénoncera par la suite dans son livre 'Les religions de la préhistoire'.

[3] Il n'est plus possible de continuer à interpréter les structures spatiales comme des cabanes, des tipis (pour une argumentation détaillée, voir Djindjian, 2012b). L'habitat magdalénien est un site saisonnier de courte durée d'occupation, spécialisé dans l'abattage et le dépeçage du renne, situé près d'un gué sur la Seine, analogue à celui de Champréveyres, sur la rive du lac de Neuchâtel en Suisse, spécialisé dans la chasse au cheval.

- Les groupes moustériens sont présentés comme distincts alors qu'ils présentent un continuum, ainsi que l'avait bien montré un article de P. Callow et E. Webb (1981).
- Les groupes moustériens ne révèlent aucune structure spatio-temporelle, obligeant F. Bordes à justifier non sans difficultés son interprétation face aux critiques argumentées de L. Binford (cf. infra) et P. Mellars dès 1969.
- Les outils statistiques sont restés trop élémentaires (diagramme cumulatif) sans faire appel aux techniques d'analyse des données multidimensionnelles.
- Le système, figé, ne sait pas s'adapter aux évolutions méthodologiques et aux nouvelles données issues de fouilles récentes.

C'est également à partir des années 1980 (Campy, 1982), que les critiques commencèrent, d'une part à mettre en doute d'une part la capacité des séquences d'abris sous-roche et de grottes à fournir un remplissage continu (lacunes et érosions) et un signal climatique (processus locaux et non stratotypes continentaux) et d'autre part la méthode de description géomorphologique des remplissages (un remplissage est un processus, non une séquence de couches). Les référentiels chrono-stratigraphiques établis sur les abris sous roche comme ceux de H. Laville ou d'autres furent abandonnés au profit des séquences climatiques océaniques ou glaciaires. C'est également à ce moment que les chercheurs CNRS dépendant de la commission de géologie durent choisir entre préhistoire (c'est-à-dire rejoindre la section préhistoire/ethnologie/anthropologie) et géologie (et ne plus travailler sur des problématiques archéologiques).

12.4. L'influence de la 'New Archaeology' dans la préhistoire et la protohistoire française

Au milieu des années 1960, la révolution de la 'New Archaeology' allait avoir une répercussion importante dans les pays anglo-saxons, Etats-Unis et Royaume Uni. Cette révolution eut moins d'impact dans les pays comme l'Allemagne ou la France. Cette '*New Archaeology*' néopositiviste, où cohabitaient modélisation, tests statistiques et approches systémiques présentait un ensemble hétérogène de paradigmes sous-jacents comme l'écologie culturelle, le fonctionnalisme ou la '*middle range theory*', tout en étant anthropologie avant tout. En France, ce sont les nouvelles générations qui s'ouvrent à la New Archaeology comme à une modernité de l'archéologie plus que comme une adhésion à l'ensemble de ses paradigmes ou de ses methods, comme le montre l'article bien connu écrit en 1971 publié dans *les Annales* de A. (et A.) Schnapp, S. Cleuziou et J. P. Demoule, nouvelle garde de l'après 1968 de l'archéologie française ('*L'Histoire non écrite*' dans *Les Annales*, 1973, vol. 28, n°1).

Deux exemples traités ci-dessous montrent la différence d'approche de L. Binford à propos du Moustérien vis-à-vis de F. Bordes et du Magdalénien vis-à-vis d'A. Leroi-Gourhan.

L. et S. Binford publient en 1968 une étude sur des assemblages moustériens en utilisant une technique statistique sophistiquée (pour l'époque), l'analyse en facteurs communs et spécifiques (en anglais '*factor analysis*'), l'outil des psychométriciens pour séparer dans une population le facteur d'intelligence (commun) des autres facteurs culturels (spécifiques). Ils en déduisent que les groupes moustériens définis par F. Bordes ne traduisent en fait que l'existence de sites d'activités spécialisés (ce qui ne surprendra guère de la part d'un fonctionnaliste comme L. Binford). Ils interprètent en outre les facteurs comme des groupes de types d'outils réalisant ces activités. Il s'ensuit une polémique entre L. Binford et F. Bordes qui dura plusieurs années, et qui profita d'ailleurs à la notoriété de nos deux héros.

F. Audouze publie en 1987 un article, comparant, pour les sites magdaléniens de Pincevent et de Verberie, la lecture sociale d'A. Leroi-Gourhan inspirée de P. P. Efimienko (1953) sur les sites gravettiens de Kostienki et la lecture fonctionnelle de L. Binford (1978) sur les sites Nuniamut.

12.5. Les influences marxistes dans l'archéologie classique et la protohistoire

Ceux qui lisent le russe savent combien, dans la littérature soviétique d'après 1953, la référence à Marx et Engels, était devenue une figure imposée ronéotée en préface d'une archéologie qui, elle,

n'était guère différente de l'archéologie européenne (cf. Iakovleva, ce volume). Ce n'était pas le cas dans le monde académique d'Europe occidentale où les influences marxistes et néomarxistes étaient nombreuses (cf. Guidi, ce volume) et pesantes.

En France, L. Althusser, qui forma de nombreuses générations de normaliens, à l'école de la rue d'Ulm, M. Foucault et R. Barthes, contribuent dans les années 1960 à l'émergence d'un structuralisme marxiste, qui aura une influence importante en ethnologie et en archéologie. Parmi les figures les plus connues, citons M. Godelier, ethnologue et anthropologue et ses travaux sur le 'mode de production asiatique' (1964). Il faut également citer les historiens marxistes (et communistes) de la Grèce antique P. Lévèque (Besançon), J.-P. Vernant, P. Vidal-Naquet (auxquels il est intéressant d'adjoindre leur homologue de Cambridge, Moses Finley). D'une façon générale, il est aisé d'identifier les influences marxistes dans les travaux archéologiques sur les sociétés antiques dans l'intérêt qu'ils portent aux mécanismes de dominances et de monopoles, la notion de biens de prestiges, la hiérarchisation des sociétés, l'existence d'un pouvoir idéologique contrôlant la production, l'économie monde et les relations centre-périphérie (Wallenstein), le rôle de l'esclavage, l'absence d'intérêt pour les études économiques et financières dans les sociétés antiques, etc. Ces influences ont peu ou pas marquées les études paléolithiques et néolithiques mais plus significativement les études protohistoriques.

12.6. Les influences substantivistes dans l'archéologie classique

K. Polanyi dans 'la grande transformation' (1944) propose une nouvelle économie, qualifiée de 'substantiviste', qui n'est ni une économie de marché ni une économie marxiste, et dont il cherche l'existence dans les sociétés antiques ('*Trade and Market in the Early Empires*', 1957). Le substantivisme pose en principe que les activités économiques sont enchâssées dans des structures sociales et non indépendantes de celles-ci (comme les activités de marché). Les fonctions de cette économie sont la réciprocité, la redistribution et l'échange marchand. Pour Polanyi, il n'y aurait en fait que trois périodes d'économie de marché: la période hellénistique (et romaine); la Renaissance et la révolution industrielle du XIX° siècle (de 1824 à la grande crise de 1929).

Les archéologies qui s'intéressent à rechercher l'existence d'une économie substantiviste dans les économies antiques sont surtout l'Assyriologie, la Grèce préhellénique et la Mésoamérique précolombienne.

En préhistoire, le livre de M. Sahlins (1974): '*Stone Age Economics*' publié en français sous le titre '*Âge de pierre, âge d'abondance. L'économie des sociétés primitives*' qui présente les sociétés de chasseurs-cueilleurs comme étant la première et la seule société d'abondance, est un exemple d'approche économique substantiviste appliqué. Présentée lors du colloque '*Man the Hunter*' à Chicago en 1966, la thèse de M. Sahlins s'opposa fortement à celle de R. Lee, sur les bushmen!Kung, qui montra que ceux-ci sont engagés en permanence dans une lutte pour la survie (Lee & de Vore, 1968). Cette polémique agita le monde des spécialistes des chasseurs-cueilleurs, qui ont semble-t-il depuis ralliés la seconde thèse (Kelly, 2007). Et Testart (2005), en distinguant les sociétés sans stockage (chasseurs-cueilleurs sauf exception) des sociétés avec stockage (agriculteurs-éleveurs, nomades, chasseurs-cueilleurs sédentaires), récusa l'existence de systèmes d'échanges (imaginés comme l'application du Don et du contre-don de M. Mauss) chez les chasseurs-cueilleurs.

13. L'archéologie française à l'étranger

La révolution des années 60 est aussi en France celle de la décolonisation, de 1954 à 1962, qui est à l'origine de changements importants dans la politique scientifique de recherches et de protection du patrimoine archéologique.[4] En effet, les nouveaux pays indépendants ne possèdent ni les budgets ni

[4] C'est le cas notamment à Alger au Musée du Bardo, du CRAPE (Centre de recherches anthropologiques, préhistoriques et ethnologiques) créé par J. Soustelle à l'image du Musée de L'Homme à Paris, qui après l'indépendance de l'Algérie

les chercheurs pour gérer une continuité qui n'est pas dans leurs priorités. Les archéologues français rapatriés essaient alors de gérer au mieux cette transition, en formant des étudiants boursiers des ex-colonies et en continuant les fouilles archéologiques quand la situation politique locale le permettait (avec l'aide de l'Orstom).

C'est grâce à la commission des fouilles archéologiques du Ministère des Affaires Etrangères, qui, depuis 1945, finance les fouilles archéologiques françaises à l'étranger, sous la responsabilité de directeurs inspirés, en particulier Philippe Guillemin, que l'archéologie française resta présente à l'étranger et continua à s'y diversifier sur les cinq continents, supportant plus d'une centaine d'opérations de fouilles chaque année.

Certes, l'archéologie française à l'étranger, c'est d'abord l'archéologie classique. Mais la préhistoire ancienne et récente, s'y intégra progressivement dans les années 1960-80: Maroc (P. Biberson, J. Roche, A. Debenath), Algérie (L. Balout, P. Biberson, C. Arambourg, H. Lhote, J. Tixier, G. Aumassip), Ethiopie (C. Arambourg, J. Chavaillon, Y. Coppens), Syrie (J. Cauvin), Liban (H. Fleish; F. Hours, J. Perrot, H. de Contenson, J. Tixier), Amérique du Sud (A. Laming-Emperaire), etc.

Dans l'après guerre, une exceptionnelle opportunité pour faire se rencontrer les chercheurs étaient les conférences organisées à partir de 1950 par la Wenner-Gren fondation, notamment entre 1958 et 1980 dans le château de Burg Wartenstein (Autriche), et consacrées principalement à l'archéologie et à l'anthropologie.[5] Les congrès de l'Union Internationale des Sciences préhistoriques et protohistoriques y contribuèrent également (Zurich; 1950; Madrid; 1954; Hambourg, 1958; Rome, 1962; Prague, 1966; Belgrade, 1971; Nice, 1976). L'influence des archéologues français à l'étranger en bénéficia. F. Bordes fut souvent invité aux USA par les anthropologues américains qu'il invita en retour à venir fouiller en Périgord (H. L. Movius à l'abri Pataud). C'est H. Delporte qui noua les meilleurs contacts avec les pays situés derrière le rideau de fer (tchèques, hongrois, polonais et russes) et plus tard dans les années 1970, R. Desbrosse. Et bien sûr, dans l'art préhistorique, H. Breuil resta très présent mondialement jusqu'à la fin des années 1950, et A. Leroi-Gourhan fut très bien accueilli par les spécialistes espagnols, sans oublier A. Laming-Emperaire dont les élèves jouèrent un rôle très important dans la préhistoire sud-américaine et en particulier au Brésil.

14. Un âge d'or de la préhistoire française

Les archéologues que nous venons d'évoquer, nés peu ou prou pendant ou juste après la première guerre mondiale, ont connu l'occupation encore étudiant et beaucoup d'entre eux sont entrés dans la Résistance (A. Leroi-Gourhan, F. Bordes, G. Laplace, J. Cl. Gardin, P. R. Giot, H. Delporte, S. Blanc, J. Guichard, entre autres) avant d'être recrutés au CNRS, à l'Université ou dans les Musées.

L'arrivée d'une seconde génération née dans le baby-boom de l'après-guerre (en poste au début des années 70 et en retraite dans les années 2010) démultiplia les activités de recherche et contribua fortement à écrire la légende de cet âge d'or de la préhistoire en France (1950-1980). Ainsi, la section CNRS Ethnologie/Anthropologie/Préhistoire avait recruté 43 chercheurs en 1949. Cet effectif passa à 107 chercheurs en 1959 dont 33 préhistoriens. Dans la même période, l'effectif des postes universitaires passa de 4 à 26. Les débuts de la V° république correspondent pour le CNRS à la manne budgétaire des années 1959-1968 (de 173 à 734 millions de Francs soit plus de 50% de croissance par an) avec une croissance annuelle de recrutement de 15,4%. Puis à partir de 1968, le budget stagna en francs constants et le recrutement au CNRS marqua une pause. Il s'ensuivit un trou

s'orienta dans la voie de l'Anthropologie. L. Balout (1955), G. Camps (1961), H. P. Hugot, G. Souville, J. Tixier, M. C. Chamla, etc.

[5] Parmi de nombreux autres, citons celui de 1959, sur les '*Quantitative methods in Archaeology*' organisé par R. F. Heizer avec la présence de H. Vallois pour la paléodémographie; celui sur '*Early man in circum mediterranean regions*' en 1960 avec la présence de L. Balout, C. Arambourg, J. Tixier; celui sur l'Art préhistorique en 1960 avec H. Breuil et H. Lhote; celui de 1962 sur '*The use of computers in Anthropology*' avec J. Cl. Gardin et P. Ihm; celui de 1962 sur '*Salvage archaeology*' avec A. Leroi-Gourhan; celui déjà cité de 1966 '*Man the Hunter*' avec Cl. Lévi-Strauss.

de génération, séparant ceux qui étaient entrés avant 1973 et ceux qui entrèrent après 1981, profitant de la relance de recrutement lié à l'arrivée d'un gouvernement socialiste. En 1999, l'effectif des chercheurs préhistoriens et protohistoriens au CNRS était de 228, à comparer à environ 150 en 1979, à 130 en 1969 et à 80 en 1959, 33 en 1949 et 2 chercheurs de 1941 (Gaillard, 1989).

15. Conclusions

Dans la préhistoire française, les années 1960-1980 représentent un âge d'or qui n'a eu son équivalent que dans la période 1865-1885, au moment de la naissance de la discipline. Il s'agit en en fait d'une naissance académique tardive de la discipline (celle-ci ayant eu lieu trente ans plus tôt dans d'autres pays européens), qui a bénéficié de l'existence de jeunes diplômés à la sortie de la guerre comme de jeunes amateurs occupant des postes d'instituteurs ou de professeurs de collèges, qui ont apporté un dynamisme et une compétence immédiate en intégrant rapidement le CNRS et l'Université. Cette nouvelle génération a profité d'un essor scientifique, sans équivalent depuis le XIX° siècle, lié aux conséquences de l'effort de guerre, et à la mise en application des développements des sciences exactes et des sciences naturelles depuis le début du XX° siècle.

Une impressionnante appétence pour les nouveautés de toutes sorte (techniques, méthodes, théories) caractérise l'attitude des chercheurs de cette période. Les nouvelles voies ouvertes sont approfondies par la nouvelle génération de leurs étudiants qui, entrant à leur tour dans le monde académique, vont démultiplier dans les années 1970 et 1980 leurs travaux de défrichement.

Que restera-t-il des résultats de cette nouvelle préhistoire quand ils feront l'objet de l'étude des historiographes? Certainement une évolution considérable des techniques et des méthodes de la préhistoire, pour la prospection (géophysique, aérienne), les fouilles de sites archéologiques, la reconstitution paléo-environnementale, la caractérisation physico-chimique, les datations absolues, la géoarchéologie, l'archéozoologie, l'archéobotanique, la sémiologie, la quantification, les traitements mathématiques et statistiques, les premiers débuts de l'informatique. La préhistoire prend ses lettres de noblesse des sciences exactes et des sciences naturelles et en fait profiter toute l'archéologie. C'est en cela qu'elle devient professionnelle, dans cette capacité à être fécondé par toutes les sciences qui peuvent l'accompagner dans cet objectif de reconstitution systémique des sociétés anciennes.

Cependant, la préhistoire n'est pas étrangère aux influences idéologiques, théoriques et paradigmatiques venant de tous les horizons, caractéristiques de cette seconde moitié du XX° siècle. Une étude sans concessions révèle que la plupart des erreurs d'interprétation viennent des ces *a priori*, comme les quelques exemples développés précédemment le démontrent. Il n'aurait resté donc aux années 1980 qu'à construire une plate-forme de formalisation cognitive (une épistémologie) qui soit libérée de ces influences si le post-modernisme n'était arrivé là que pour reporter à un autre siècle un troisième âge d'or de la préhistoire.

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La préhistoire en Union Soviétique des années 1950 aux années 1960

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Résumé

L'archéologie en Union soviétique, après la seconde guerre mondiale, a connu un essor exceptionnel, rendu possible par une organisation centralisée par l'Académie des Sciences, un effectif important d'archéologues spécialistes et de très nombreuses opérations de fouilles sur le terrain. Cependant, l'intervention de Joseph Staline, lui-même, en 1950, dans la Pravda, pour condamner, comme non marxiste, la théorie de l'évolution stadiale de N. Marr, doctrine officielle de l'archéologie depuis 1919, a bouleversé la communauté archéologique, qui s'est retrouvée sans cadre théorique.

Les archéologues soviétiques se sont alors recentrés sur les campagnes de fouilles archéologiques et la publication de leurs résultats suivant un canevas descriptif normalisé laissant peu de place aux interprétations. L'apport méthodologique le plus significatif de cette période est le développement des techniques de fouilles de plein air (à la suite de P. P. Efimenko), les études sur l'art préhistorique (Z. A. Abramova), l'invention des études tracéologiques (S. A. Semenov) et l'importance donnée aux études géoarchéologiques (A. A. Velichko, I. K. Ivanova), archéozoologiques (P. P. Pidoplichko) et paléoenvironnementales (P. M. Dolukhanov). Le cadre théorique de l'archéologie, dans son approche formelle, est traité par L. S. Klejn à Saint-Pétersbourg et par V. F. Gening à Kiev.

Mots-clés: *archéologie soviétique, préhistoire, années 60, historiographie*

Abstract

Archaeology in the Soviet Union, after the last world war, has known an exceptional growth, made possible by the centralized organization of the Academy of Sciences, an important number of specialized archaeologists and very many field operations. However, the intervention of Joseph Stalin, himself, in 1950, in Pravda, to condemn, as non-Marxist, the theory of the stadial evolution of N. Marr, official doctrine of archaeology since 1919, has upset the archaeological community, which then has lost any theoretical framework.

Soviet archaeologists then refocused on archaeological excavations and the publication of their results following a standard description framework leaving little place for interpretations. The most significant methodological contributions of this period are the development of open air excavations techniques (following P. P. Efimenko), studies on prehistoric art (Z. A. Abramova), the invention of usewear studies (Semenov) and the importance given to geoarchaeology (A. A. Velichko, I. K. Ivanova), archaeozoology (Pidoplichko) and palaeoenvironmental studies (Dolukhanov). The theoretical framework of archaeology, in its formal approach, is treated by L. S. Klejn in St. Petersburg and V. F. Gening in Kiev.

Key words: *soviet archaeology, prehistory, sixties, historiography*

1. Introduction

Après la deuxième guerre mondiale, l'archéologie soviétique s'est beaucoup développée avec le soutien important de l'État et une surveillance très stricte et ferme. Les études paléolithiques ont été particulièrement actives à l'Académie des Sciences d'URSS, notamment à Leningrad (A. N. Rogachev; P. I. Boriskovsky), Moscou (O. N. Bader; A. A. Formosov), Kiev (P. P. Efimienko, I. G. Schovkoplass), en Sibérie à Novossibirsk (A. P. Okladnikov), dans le Caucase (V. P. Liubin) et en Asie centrale (V. A. Ranov) ainsi que dans les universités (Leningrad, Moscou, Kiev etc.).

Les fouilles programmées, les colloques, les tables rondes, les publications systématiques dans les revues soviétiques mettent en évidence l'importance des recherches sur le Paléolithique dans toute l'Eurasie (Iakovleva, 2010).

FIGURE 1. LE MUSÉE D'ETHNOGRAPHIE ET D'ARCHÉOLOGIE OU KUNSTKAMERA (ANCIEN CABINET DE CURIOSITÉS DE PIERRE LE GRAND) À SAINT-PÉTERSBOURG.

2. La formation

La formation des nouvelles générations d'archéologues sélectionnées par les concours d'entrée aux Universités avec l'obligation de fournir un poste après la remise du diplôme (auquel s'ajoute l'embauche prioritaire par quotas des fils et des filles d'ouvriers et de paysans) a été un des traits caractéristiques de la formation des fonctionnaires d'Etat.

3. Le formatage des publications

A cette période, le mode de rédaction dans les publications soviétiques, qui est lié aux doctrines marxistes, impose plusieurs critères obligatoires:

– la critique générale (souvent sans précision de revue, ni d'auteur) de la préhistoire bourgeoise comme '*archéologie réactionnaire*',

FIGURE 2. L'INSTITUT D'HISTOIRE DE LA CULTURE MATÉRIELLE À SAINT-PÉTERSBOURG, SITUÉ À COTÉ DU MUSÉE DE L'HERMITAGE.

- la citation obligatoire de K. Marx, F. Engels et du camarade I. Staline, qui donnent '*la véritable voie de recherches et d'explications fondamentales du fonctionnement des sociétés paléolithiques*' (Efimenko, 1953, p. 3, 7-12; Boriskovski, 1953, p. 28-29),
- l'interdiction de citer les auteurs émigrés (M. Rostovtseff, V. Scherbakivski), les auteurs condamnés (comme l'école paléthnologique de F. Volkov et ses élèves ou comme le généticien N. I. Vavilov, auteur de la théorie célèbre sur les centres d'origines de l'agriculture) ou les auteurs en cours de procès politique,
- la critique de la théorie de N. Marr et des publications de ses élèves marristes. La critique de l'auteur lui-même (son autocritique, notamment Efimenko, 1953, p. 5, 11-12; Boriskovski, 1953, p. 28-30), si l'auteur s'est appuyé sur la théorie de N. Marr avant la publication critique de J. Staline sur la théorie de N. Marr (Staline, 1950).
- la glorification de l'archéologie soviétique comme progressiste, c'est-à-dire '*une véritable discipline historique*' (Mongait, 1959, p. 10).

4. P. P. Efimenko, Le fondateur de la Préhistoire soviétique

En 1953, la troisième édition modifiée de la monographie '*La société primitive*' de P. P. Efimenko a été publiée. Cette '*Bible de la préhistoire soviétique'*, dont la deuxième version date de 1938, englobe toutes les composantes importantes pour la définition de la préhistoire et la voie magistrale des recherches en URSS où la Préhistoire a connu un changement radical et un développement important sur la base de la méthodologie du marxisme.

Figure 3. P. P. Efimenko.

Le terme '*préhistoire*' a été changé par le terme '*histoire*', et donc la période paléolithique a été définie comme '*la première formation (stade) de la société humaine primitive*', d'après K. Marx et F. Engels. Dans la définition marxiste, l'archéologie est donc '*une discipline historique*' dans le contexte de la théorie de l'évolution.

5. A. L. Mongait (1915-1974) et l'archéologie de l'URSS

Le livre d'A. L. Mongait sur l'archéologie en URSS publié en 1955 suivi de sa traduction en anglais (1959) et en français (1959) a révélé l'ampleur de l'archéologie soviétique mais aussi son paradigme marxiste orthodoxe:

- En URSS, l'archéologie est reconnue comme discipline historique: *'Les Soviétiques considèrent que l'archéologie est une partie de l'histoire c'est –à– dire de l'étude de la société humaine prise dans son évolution…. Cette évolution est toujours logique et obéit à des lois rigoureuses. …Ils voient dans l'histoire un processus homogène et progressif. L'histoire peut et doit être étudiée depuis l'apparition de l'homme sur la Terre jusqu'à nos jours.'* (Mongait, 1959, p. 7-9).

- La *'science des objets'* s'est transformée en *'une véritable discipline historique'*. Ce changement annonce la volonté de privilégier les recherches paléolithiques pour la reconstitution des structures des habitats sur la base de fouilles menées avec des grands décapages de surface. Le but de ces recherches de terrain était de proposer un modèle socio-économique des sociétés paléolithiques.
- Le matérialisme historique est le moteur des reconstitutions archéologiques: '*Il fallait abandonner l'idéalisme bourgeois au profit de la compréhension matérialiste de l'archéologie… Tout d'abord, on a déterminé la juste place de l'archéologie soviétique, son rôle dans l'étude de l'évolution sociale. Le matérialisme historique devait permettre de pénétrer les lois qui régissent les phénomènes sociaux, que les mobiles du progrès humain doivent être cherchés dans les conditions de vie matérielles de la société, dans les forces productives et les rapports de production*.' (Mongait, 1959, p. 45).
- Les modèles de migrations doivent céder la place aux changements de mode de production, qui expliquent l'évolution des sociétés: '*Avant on voyait les moteurs dans les migrations et les disparitions de tribus, dans les conquêtes et les influences; maintenant la base du progrès, c'est le développement des forces productives de la société qui changent les témoins matériels de la civilisation*'.

Il fallait donc en finir avec la chasse aux collections et le désir de limiter les objectifs de l'archéologie à la description des choses (classification, typologie, cultures, etc.), d'où les fouilles de sites d'habitats et non de sépultures, une prospection planifiée et coordonnées de l'archéologie (plan quinquennal de 1945) et le développement des grands travaux d'aménagement de l'URSS, donnant naissance à une toute première archéologie préventive. Il s'agissait autant d'un programme de paléohistoire que de paléosociologie exploitant les matériaux de l'archéologie, de la linguistique, du folklore, de l'ethnologie, de l'anthropologie.

Les critiques d'A. Mongait expriment aussi l'abandon officiel en Archéologie des idées de N. Marr, suite à la position officielle exprimée par J. Staline en 1950:

> '*La débauche des raisonnements spéculatifs et l'abstraction de la réalité étaient implantées en Archéologie par N. Marr et ses disciples. Les idées de N. Marr, à la tête de l'Institut d'Histoire de la Culture matérielle jusqu'en 1934, ont marqué un grand nombre d'ouvrages archéologiques: conception du langage comme d'une partie de la superstructure, idée de son caractère de classe, et stades dans son développement. On a vu paraître des ouvrages qui affirmaient qu'à certaines étapes de leur histoire, à la suite d'on ne sait quels bonds miraculeux, les peuples changeaient de nature: les Cimmériens en Scythes, les Scythes en Sarmates, les Sarmates en Goths, etc. On exigeait des chercheurs qu'ils renoncent à l'étude des particularités ethniques dans chaque cas concret*.'.

6. Les fouilles et l'interprétation de l'habitat sédentaire de Kostienki 1 couche 1 d'après P. P. Efimenko

Les fouilles en grand décapage de P. P. Efimenko (1931-1934, 1936) ont permis d'identifier pour la première fois une structure d'habitat 36 x 15 m^2, qui était composée d'une grande surface ovalaire, contenant une série des 10 foyers alignés suivant un axe central dans la plus grande longueur. Chacun de ces foyers est entouré de plusieurs petites fosses. Quatre structures semblables à l'habitation de Gagarino ont été également définies comme des habitations semi-souterraines, qui, avec les 10 fosses de stockage, forment une couronne périphérique autour de la surface centrale (Efimenko, 1958).

La construction d'une structure d'habitat aussi complexe, l'épaisseur des niveaux d'occupation, la richesse en artefacts lithiques et osseux et en œuvres d'art mobilier, l'abondance des vestiges ostéologiques (de mammouth de préférence) ont conduit l'auteur à définir cette structure comme '*un habitat sédentaire de longue durée occupé pendant plusieurs années par des chasseurs des mammouths'*.

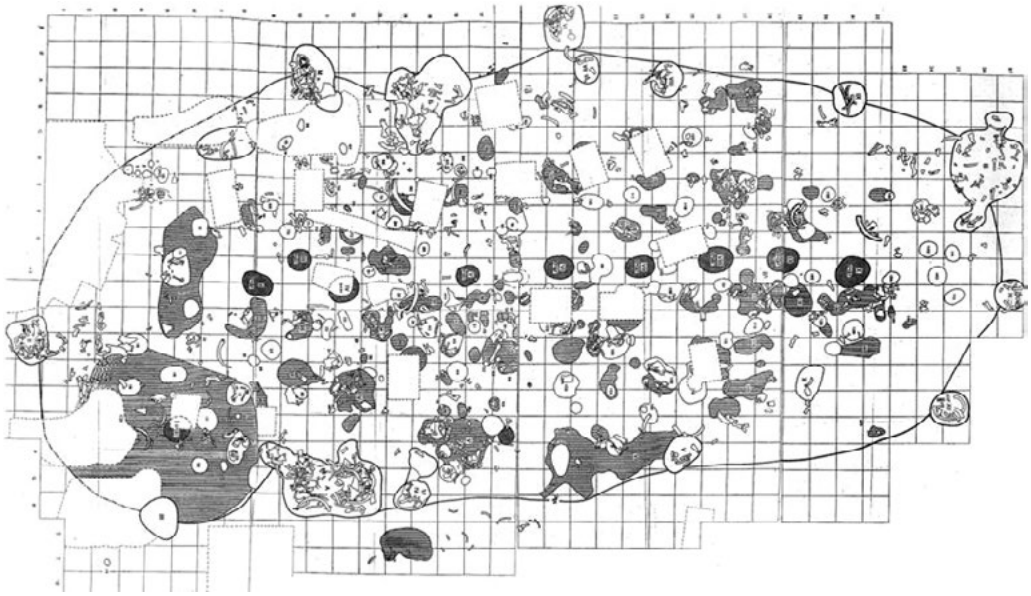

Figure 4. Plan de la structure d'habitat de Kostienki 1 couche 1 (fouilles Efimenko).

7. Le rôle de la femme dans la société de chasseurs-cueilleurs à Kostienki 1 couche 1 d'âpres P. P. Efimienko

Il est possible de suivre dans les modèles de P. P. Efimenko les influences successives de J.-J. Bachofen (1815-1887), théoricien de la société matriarcale, L. Morgan et F. Engels:

- Structure sociale en clan (Moustérien)
- Structure matriarcale et habitat sédentaire (Aurignacien – Gravettien)
- Structure en famille de couple et mobilité saisonnière (Magdalénien)

Les arguments de P. P. Efimienko pour la sédentarité matriarcale du Gravettien sont les suivants:

1. Les découvertes de séries de statuettes féminines dans l'habitat paléolithique: *'Les statuettes féminines réalistes représentèrent la femme réelle à Kostienki, Gagarino, Avdeevo, Brassempouy, Menton, Willendorf, leurs formes corporelles illustrent la nourriture abondante en viande et en graisse et donc la mode de vie sédentaire'* (Efimenko, 1938, p. 402).
2. '*L'habitation est tenue par la femme. La femme est la maîtresse de la maison'*.
3. '*La femme tient un rôle central dans la société sédentaire – famille matrilinéaire'*.
4. '*la femme est gardienne du foyer, reproductrice (mère et maîtresse des animaux)'* (ibidem, p. 402-403).

Figure 5. Statuette féminine en ivoire de mammouth du Gravettien oriental à Kostienki 1 couche 1.

5. "*La société de type matrilocale, est basée sur l'exogamie de la famille 'matriarcale élargie'*" (ibidem, p. 518).
   En conclusion, dans la famille fondée sur le droit maternel c'est la femme qui donne l'identification et la signification d'un groupe humain (ibidem, p. 403).

8. Les successeurs de P. P. Efimenko dans les années 1960

Dans les années 1960-70, '*La société primitive*', qui a pris une place fondamentale dans l'archéologie soviétique, a fortement influencé les synthèses sur le Paléolithique de ses successeurs: P. Boriskovski, A. Rogachëv, O. Bader, A. Ranov, P. Okladnikov, J. Sheer, Z. Abramova, I. Schovkoplass, I. Pidoplichko, M. Gladkikh, S. Smirnov et bien d'autres.

Figure 6. P. I. Boriskovski.

Grâce aux fouilles intensives, le corpus des sites paléolithiques de l'URSS a ainsi atteint le nombre de 966 sites en 1960 (Beregovaia, 1960).

Les recherches pluridisciplinaires par des équipes permanentes de longue durée ont permis de faire aboutir de nombreux projets. Parmi ceux–ci, il faut mentionner les fouilles, qui cherchent à découvrir et reconstituer des structures d'habitats par de grands décapages de plein air.

9. La généralisation des grands décapages de surface

À Kostienki, les fouilles menées par l'équipe d'A. N. Rogatchev et N. D. Praslov, et à Avdeevo par l'équipe de M. D. Gvosdover et G. P. Grigoriev, ont révélé de nouvelles structures d'habitats semblables, et caractéristiques de la culture de Kostienki–Avdeevo, ou Gravettien oriental, constituées de constructions semi-souterraines réalisées avec des ossements de mammouths.

Dans le bassin supérieur et moyen du Dniepr, les célèbres cabanes en os de mammouths, caractéristiques du Mézinien, ont été mises en évidence par les fouilles d'I. Pidoplichko à Mejiriche, et d'I. Chovkoplass à Mézine et à Dobranichivka.

La reconstitution des vestiges effondrés de la construction en os et en défenses de mammouths comme d'une yourte (Pidoplichko, 1969, 1976) ou d'une hutte (Chovkoplass, 1965, 1970) basée sur le comparatisme ethnographique des peuplements de Sibérie, est à l'origine d'une nouvelle génération de modèles socio-économiques de la société paléolithique. Le mode de vie sédentaire dans ce type d'habitat entraine la révision de l'hypothèse de P. P. Efimenko.

I. G. Pidoplichko, le célèbre directeur des fouilles du site Mejiriche et découvreur de trois cabanes en os de mammouths, est zoologue de formation. Il étudia l'ensemble des collections animales des sites préhistoriques d'Ukraine. A ce titre, il peut être considéré dans les années 1950 comme le fondateur de l'archéozoologie.

Figure 7. A. Rogatchev.

Figure 8. I. Pidoplichko.

Figure 9. La cabane n°1 à Mézine (fouilles Chovkoplass, 1955).

D'après ces auteurs, les chasses collectives aux troupeaux de mammouths offrent une base de consommation importante pour la création des premiers villages paléolithiques, qui révèlent une société sédentaire. Ce scénario s'oppose à un autre, d'après lequel de petits et restreints groupes humains mobiles fréquentent des cimetières de mammouths, qui leur offrent de la nourriture

conservée par le climat périglaciaire, ainsi que tous les autres types de besoins: peaux, os, défenses (Brussov, 1940, p. 88-92).

Figure 10. I. Chovkoplass et son équipe pendant les fouilles de Mézine.

Figure 11. Reconstitution de la cabane de Dobranichika par I. Chovkoplass.

10. Le développement des Etudes quaternaires

Dans le domaine des Etudes quaternaires (géologie, géomorphologie, pédologie, stratigraphie, palynologie, etc.), A. A. Velichko (1977) avec son équipe de l'Institut de géographie de l'Académie des Sciences de Russie à Moscou est un partenaire majeur des préhistoriens. Il est ainsi intervenu sur presque tous les sites paléolithiques fouillés en URSS, et parfois en a dirigé les publications.

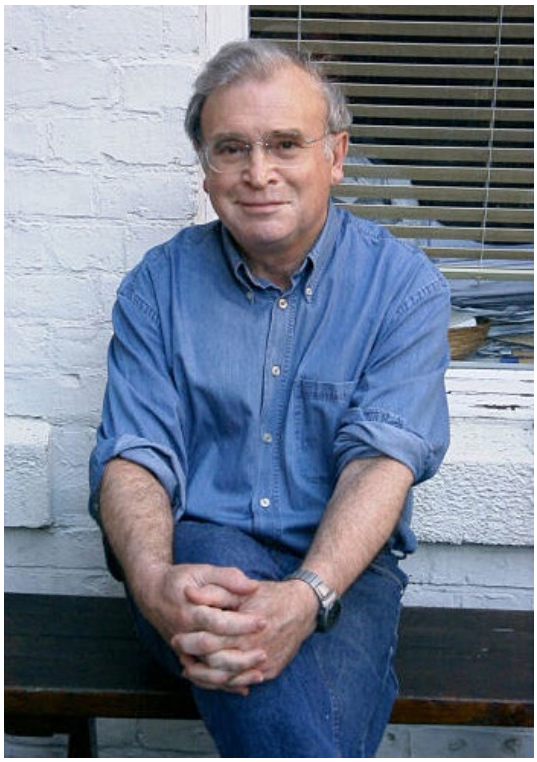

Figure 12. P. Dolukhanov.

I. K. Ivanova (1965) est sans aucun doute également l'autre grande spécialiste du quaternaire soviétique, avec ses travaux sur le bassin du Dniestr, en Ukraine et en Moldavie, et particulièrement les sites de Molodova (I, V) et de Korman IV, avec le préhistorien ukrainien O. P. Chernish.

Les relations des quaternaristes russes avec l'INQUA sont historiques, le deuxième congrès s'étant déroulé à Leningrad en 1932. I. K. Ivanova et A. A. Velichko ont organisé celui de Moscou en 1982.

Il faut également citer en Ukraine à Kiev, l'équipe de M. F. Veklich (1969, 1984) de l'Institut de Géologie de l'Académie des Sciences d'Ukraine, tout particulièrement sur les séquences de lœss.

Figure 13. A. Velichko présentant la coupe de Kostienki 14 (Markina Gora) lors du colloque du 125° anniversaire de la découverte de Kostienki (23-26 Août 2004).

Les études paléoécologiques dans leur contexte géographique ont été développées par P. M. Dolukhanov (1937-2009) de l'Académie des Sciences de Saint-Pétersbourg, pour l'étude des sociétés néolithiques (Dolukhanov, 1979) et les anciens slaves, qui en font le précurseur des archéogéographes russes.

11. La naissance de la tracéologie

La fondation de l'école de tracéologie à l'Institut de l'Histoire de la Culture matérielle à Leningrad remonte aux débuts des années 1950. La thèse de S. A. Semenov est publiée en 1957. Elle est traduite en langue anglaise en 1965 et dès lors elle aura à la fin des années 1960 une grande influence sur les anthropologues nord-américains (Odell) et les préhistoriens anglais (Keeley). Paradoxalement, l'influence de S. A. Semenov en Europe continentale, ne commencera que dans le milieu des années 1980 (Semenov, 1957, 1964, 1968, 1974). Le département crée par S. A. Semenov sera continué par G. F. Korobkova et est toujours actif aujourd'hui.

Figure 14. S. A. Semenov (1898-1978).

12. L'anthropologie physique

L'archéologie soviétique a une longue expérience des études d'anthropologie physique, depuis la fin du XIX° siècle (A. P. Bogdanov, Th. Volkov, D. N. Anoutchine, S. Roudenko), sur les squelettes trouvés dans les habitats et les structures funéraires, ces études ont continué après la deuxième guerre mondiale, alors qu'elles ont décliné dans les pays occidentaux, sauf pour les plus anciens hominidés. Dans les années 1950, l'anthropologue russe M. M. Guerassimov (1907-1970) met au point une technique de reconstitution des visages à partir des crânes, qui aura un retentissement mondial (Guerassimov, 1949).

13. Les études sur l'art préhistorique

A partir de des années 1950, Z. A. Abramova, de retour à Leningrad, se spécialise dans l'art mobilier préhistorique dont elle entreprend la réalisation d'un vaste corpus encyclopédique pour l'ensemble de l'Union soviétique (Abramova, 1962). Cette publication ne passe pas inaperçue en Europe occidentale, où elle est régulièrement invitée par A. Leroi-Gourhan et H. Delporte. Dans les années 1960, d'autres chercheurs contribuent à ces études notamment A. P. Okladnikov (1966) sur l'art rupestre sur les rives de la Lena et de l'Angara en Sibérie, J. A. Sher (1966, 1980) sur les pétroglyphes de Sibérie et d'Asie centrale, O. N. Bader sur les relevés des peintures paléolithiques de la grotte Kapova dans l'Oural (1965).

Il faut également souligner la découverte exceptionnelle des sépultures de Sungir, site fouillé de 1956 à 1975 par O. N. Bader (1967).

14. Les approches théoriques

Alors que dans les années 1960, les influences néomarxistes étaient très actives en Europe occidentale dans les Sciences humaines et sociales (cf. Guidi, Djindjian, ce volume), l'archéologie soviétique après la disparition de J. Staline, voit le développement d'une archéologie théorique non marxiste à partir seulement de la fin des années 1960, avec notamment L. Klejn (Bulkin, Klejn, Lebedev, 1982; Klejn, 1993; Lebedev, 1992) qui aborde dans ses publications les sujets suivants:

- critique du matérialisme historique,
- étude des processus de l'ethnogénèse,
- critique de l'autochtonisme de N. Marr,
- critique de Kossinna.

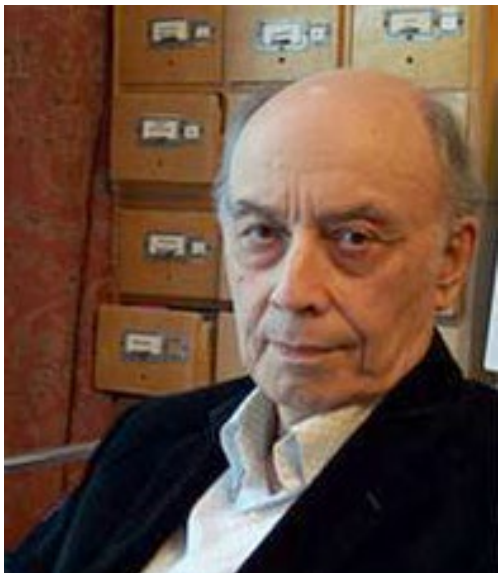

Figure 15. L. Klejn.

Il prône une approche systémique dans les études typologiques en cherchant les retours arrière entre les attributs de la description et les structures obtenues, que l'on peut retrouver à la même époque dans les travaux de J. C. Gardin ou de D. L. Clarke.

En Ukraine, la personnalité de V. F. Gening, de l'Institut d'Archéologie de Kiev, est suffisamment forte pour qu'il puisse créer un département d'archéologie théorique qui sera supprimé à sa mort en 1993. Il développe une théorie archéologique basée sur un matérialisme dialectique plus systémique que marxiste mais qui sera critiquée par L. Klejn (Gening, 1982).

15. Les laboratoires de datations ^{14}C

L'archéologie soviétique, en s'appuyant sur les compétences des physiciens soviétiques, ont créé rapidement à la fin des années 1960 des laboratoires de datations radiocarbone. Les laboratoires ayant réalisé le plus de dates de sites archéologiques sont GIN (Institut de Géologie, Moscou), LE (Institut d'Histoire de la culture matérielle, Saint-Pétersbourg), IGAN (Institut de Géographie, Moscou), LU (Institut de Géographie, Saint-Pétersbourg), SOAN (Institut de géologie, Novossibirsk), KI (Institut de Physique, Kiev).

16. La fin des années 1960

A partir de la fin des années 60, le changement de climat politique dans le domaine scientifique ouvre les voies de rapprochement entre les paléolithiciens soviétiques et les préhistoriens d'Europe centrale et occidentale (bien évidemment sous un contrôle et une censure pesante).

L'influence de F. Bordes et la contribution des méthodes de la géologie du quaternaire à l'étude des grandes séquences chrono-stratigraphiques du Paléolithique ancien et moyen se concrétise à travers

FIGURE 16. N. D. PRASLOV.

FIGURE 17. Y. G. KOLOSSOV.

de grands programmes de fouilles, comme:

- Les sites moustériens en abris sous roche de Crimée par Y. G. Kolossov et son équipe,
- La grande séquence lœssique de Korolevo en Ukraine transcarpatique par V. N. Gladilin et son équipe,
- Dans le Caucase, les grottes de Koudaro et Tsona par V. P. Liubin,
- Les grandes séquences de loess du Tadjikistan en Asie centrale par V. A. Ranov.

La contribution de V. N. Gladilin aux études typologiques des industries en pierre taillée du paléolithique ancien et moyen (Gladilin, 1970, 1976) en fait l'équivalent de F. Bordes pour l'Europe orientale.

FIGURE 18. V. N. GLADILIN.

17. A partir du début des années 1970, une archéologie qui s'ouvre a l'extérieur mais qui reste sous surveillance

A partir du début des années 1970, les chercheurs en préhistoire et protohistoire soviétique commencent à être autorisés à s'ouvrir à l'Occident. Cela se traduit par:

1. la correspondance et les échanges des publications entre archéologues,
2. l'organisation de rencontres avec des invitations de spécialistes,
3. les colloques avec les visites des fouilles soviétiques,
4. la connaissance des publications des revues occidentales et leurs citations dans le discours et dans la bibliographie.

Les congrès de l'Union Internationale des Sciences préhistoriques et protohistoriques (UISPP), qui ont offert la possibilité aux chercheurs soviétiques d'y participer, notamment à Prague en 1966 et à Belgrade en 1971, ont joué un rôle important dans le rétablissement des relations entre chercheurs de chaque côté du rideau de fer.

Il est également possible de citer un projet de collaboration franco–soviétique dans le domaine de la géologie du quaternaire et du Paléolithique. Le principal résultat de ce projet, dirigé par I. Gerassimov (Directeur de l'Institut de Géographie AS URSS) et H. de Lumley (Directeur de l'IPH), a été la possibilité pour les préhistoriens français (Ar. Leroi-Gourhan, J. Combier, D. Sacchi, J. P. Rigaud et d'autres), pendant l'été 1981, de visiter plusieurs sites paléolithiques et des coupes géologiques – notamment des fouilles en cours des décapages en Ukraine et en Russie, qui ont été présentés par plusieurs archéologues, géologues et palynologues soviétiques: N. Praslov, Y. Kolosov, M. Gladkikh, A. Velichko, G. Pachkevich, P. Dolukhanov et bien d'autres. Ce n'est qu'à partir des années 1980, que commenceront les invitations de préhistoriens étrangers en Russie (notamment F. Djindjian en 1982 à Leningrad, J. Cl. Gardin et son équipe en Asie centrale à partir de 1984). La perestroika à partir de 1985 permettra d'envoyer les premiers étudiants en formation en Union soviétique (notamment Hughes Plisson en 1986 pour un stage de six mois de tracéologie à Leningrad). La chute de l'URSS en 1991 entraînera un changement radical du financement de la science et de l'archéologie et des relations avec l'archéologie occidentale, avec les débuts de projets communs de fouilles archéologiques surtout dans les ex-républiques devenues indépendantes.

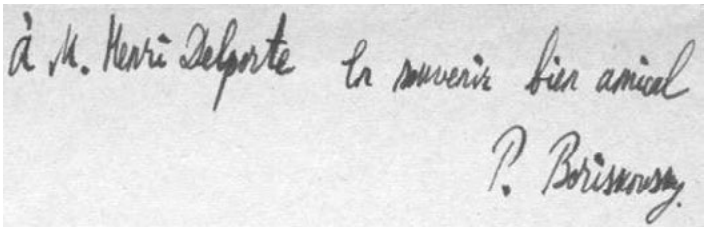

Figure 19. Dédicace de P. Boriskovski à H. Delporte.

18. Conclusions

Dans l'Union soviétique des années 1960, la préhistoire et la protohistoire est caractérisée par une très importante activité de fouilles sur des sites majeurs réalisés par des archéologues de très haut niveau, qui connaissaient parfaitement, malgré les difficultés de communication avec le monde occidental, l'état des recherches internationales. La plupart d'entre eux lisaient et parlaient le français, langue de la préhistoire. Seuls quelques-uns d'entre eux ont pu participer à des congrès dans les années 1960 et 1970, en particulier dans le cadre de l'UISPP et de l'INQUA. Il est possible de noter certains décalages entre les innovations méthodologiques mises en œuvre en Europe occidentale et leur application en URSS. Cependant, il existe également des cas d'innovation dans l'archéologie soviétique qui ont été

plus ou moins rapidement adoptées en Europe. C'est le cas notamment de la technique de fouilles par grand décapage de surface et de la tracéologie.

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Marxism in the European archaeology of the sixties: the case studies of Italy and France

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Abstract

As many scholars noted, Marxist theory (as Childe defined it, 'not a set of dogmas…but a method of interpretation and a set of values' [Childe 1952, 25]) was widely incorporated in post-war European archaeology, probably as a result of a different political climate that favoured the diffusion of Marxist thought and, from another side, of the prevailing legacy of the most influential cultural and artistic avant-garde to the left-wing parties.

The paper explores the evolution of these theoretical trends in the two countries in which socialist and communist parties were stronger: Italy and France, especially in the sixties and early seventies, a period in which, on the other side of the Atlantic and in England, the sudden burst of New Archaeology caused a deep crisis of traditionalist approaches.

As a matter of fact, Marxist archaeology had more or less the same impact in Western Europe, with a true fight of the new generation against the academic establishment.

This is hardly surprising, given 'the materialism inherent in most Marxist traditions in Europe, reminiscent of the strongly materialist American processual archaeology, coupled with the evolutionary views of the New Archaeology which themselves had Marxist affiliations' (Hodder 1991, 15); a point of view shared by Renfrew, who dedicated several paragraphs of his archaeological handbook to the comparison between Marxism and processual theory (Renfrew-Bahn 1991).

These trends were particularly strong in Classical and medieval archaeology, even though in Italy, prehistorians were the most numerous adherents.

Key-words: *Marxism New Archaeology Italy France*

Riassunto

Come hanno notato molti studiosi, il Marxismo (come lo definì Childe 'non un insieme di dogmi, ma un metodo di interpretazione e un insieme di valori' [Childe 1952, 25]) fu ampiamente utilizzato nell'archeologia europea del dopoguerra, probabilmente a causa di un clima politico che favorì da una parte la sua diffusione, dall'altra un'attrazione notevole tra i più influenti intellettuali dei partiti di sinistra.

L'articolo esamina l'evoluzione di queste tendenze politiche nei due Paesi in cui i partiti socialisti e comunisti erano più forti, specialmente negli anni Sessabìnta e nella prima metà degli anni Settanta, un periodo in cui in Inghilterra e negli Stati Uniti, l'improvvisa 'esplosione' della New Archaeology causava una profonda crisi in coloto che seguivano gli approcci 'tradizionali'.

Di fatto, l'archeologia marxista da questa parte dell'Atlantico ebbe più o meno la stessa valenza, generando una vera e propria lotta delle generazioni più giovani contro l'establishment accademico. Questo non deve sorprendere, dato '…il materialismo ben presente in molte tradizioni marxiste dell'archeologia europea, che ricorda l'archeologia processuale americana, a sua volta fortemente materialista, assieme alla prospettiva evoluzionista, anch'essa propria della New Archaeology, di affiliazione marxista' (Hodder 1991, 15); questo punto di vista è condiviso da Renfrew, che ha dedicato diversi paragrafi del suo manuale di archeologia al confronto tra New Archaeology e Marxismo (Renfrew, Bahn 1991).

Queste tendenze furono particolarmente forti nelle archeologie classica e medievale, anche se in Italia gli archeologi preistorici furono certamente i seguaci più numerosi.

Parole-chiave: *Marxismo, New Archaeology, Italia, Francia*

1. Introduction

Marxist theory (as Childe defined it, 'not a set of dogmas…but a method of interpretation and a set of values' [Childe 1952, 25]) was widely incorporated in post-war European archaeology, probably as a result of a different political climate that favoured the diffusion of Marxist thought and, from another side, of the prevailing legacy of the most influential cultural and artistic *avant-garde* to the left-wing parties. The paper explores the evolution of these theoretical trends in the two countries in which Socialist and Communist parties were stronger: Italy and France in the sixties and early seventies, a period in which, on the other side of the Atlantic and in England, the sudden burst of New Archaeology caused a deep crisis of traditionalist approaches.

In attempting to trace a brief outline of the archaeological developments, it seems important to define the fields of the enquiry in which the influence of the Marxist approach was stronger:

1. the study of the so-called material culture, the analysis of all the man-made objects and architecture as primary sources of history, a notion born in Soviet Russia in 1919 and then adopted by other Socialist countries, for example in Poland, where the Institute of History of Material Culture exists from 1954, founded by a medieval archaeologist, Witold Kula (Kula 2002 [1963];
2. a reconsideration of the history of ancient art on the ground of concepts like production, reutilization, market, etc, and, at the same time, an iconographic analysis with the aim to reconstruct the history of mentality and the underlying socio-economic structure;
3. at the level of explanation, the attempt to interpret the stages of pre- and protohistory form a Marxist perspective, a tradition that in archaeology begins with Childe.[1]

Apart from this last point, typical of scholars deeply involved – also from a political point of view – in socialist and communist movements, the first and second field of enquiry were and still are often invested by scholars absolutely far, politically, from left wing movements and parties.

2. France

Many scholars noted that a characteristic of French archaeology (a panorama slowly changing only in recent years) is an absolute lack of interest for any type of theory, a strange fact in a country in which the anthropological theory (especially in the structuralist and Marxist currents of thought) is so developed.

As Cléziou and other scholars noted in a brilliant overview of French archaeology, '…this lack of communication between French social anthropologists and archaeologists is probably due more to the low level of the problems generally investigated in French archaeology than to any specific methodological inadequacy' (Cléziou *et al*. 1991, 114).

A sound exception is constituted by the works of the most influential French prehistorian of the twentieth century, André Leroi-Gourhan, in at least three ways:

- the so-called 'ethnographic method' used in the field already in the fifties, with the registration of all the items, in a significant anticipation of the Binford idea of the fossilized cultural behaviour in the archaeological record (we can recall here the 'pioneer' excavations, from the late fifties to the early seventies, of Arcy-sur-Cure and of Pincevent); a field in which it is possible to individuate an influence of the open air Soviet Palaeolithic excavations.
- an interest in the Marxist notion of archaeology as the history of material culture;
- the use of historical materialism as an interpretive tool in the first volume of his landmark work, *Le geste et la parole* (Leroi-Gourhan 1993 (1964-65).

[1] For a recent critical review of Childe's thought, with preceding bibliography, see Harris 1994; on his legacy to Marxism see Gathercole 2009.

In the field of Classical and medieval studies, the few theoretical collaborations between archaeologists and historians interested in Marxist thought or Marxism-derived theories arose in the stimulating environment of the Annales school.[2] Among the archaeology articles published in the important journal *Annales: économie-société-civilisation*, special mention should be made of a review from a collective 1965 volume actively sponsored by the 'annalistes', *Villages désertés et histoire économique XI-XVIII s.* (1965), published by the Ecole Pratique des Hautes Etudes, that constitutes a multifaceted analysis on evolution, structure and material culture of deserted medieval French and Italian villages (Ponsot 1968). The long and accurate fieldwork to prepare the book (based on an idea of Fernand Braudel) was made by the *Medieval Archaeology Group* created in 1965 by Jean-Marie Pesez, a scholar who introduced the notion of material culture in France.

The Ecole Pratique des Hautes Etudes was also the institution in which, in 1964, the communist historian of Antiquity Jean-Pierre Vernant founded the Centre Louis Gernet (from the name of another famous adherent of this school) for the study of ancient societies. From the beginning, a special interest of the scholars that worked in the Centre was the study of burial practices as metaphor rather than mere reflection of the living society (another anticipation, in this case, of post-processual theory), the subject of an often quoted cycle of lessons by Vernant at the Collège de France in 1976.

In the following year, a French-Italian congress on this argument was held in Ischia, yielding a collective volume (*La mort, les morts dans les sociétés anciennes*) in which the most important archaeological paper is by an Italian scholar who always privileged academic links with French colleagues, Bruno D'Agostino (Gnoli, Vernat 1982).

Not by chance, the first serious article about New Archaeology was published in the *Annales* in 1973 (but written at the end of 1971) by three young scholars belonging to the generation making riots in May 1968 in Paris: Alain Schnapp, Jean-Paul Demoule and Serge Cléziou (Cleziou *et al*. 1973).

Even the title, *Renouveau des méthodes et théorie de l'archéologie*, barely conceals the authors' sympathy for New Archaeology; moreover, one of them, Serge Cléziou was deeply involved with Binford and other anglo-american processualists.

3. Italy[3]

A totally different panorama characterizes Italy, a country in which the intellectuals were traditionally actively engaged in left-wing parties, foremost in the Italian Communist Party.

From a cultural point of view, the Italian version of Marxism was atypical and easier to be accepted for two main reasons:

- the strong influence of Antonio Gramsci. This Sardinian intellectual, imprisoned for years by the Fascist regime, wrote while in jail his *Prison Notebooks,* which were published in 1947 (Gramsci 1992-2007). The most important novelty, according to Bruno D'Agostino was that 'while the Marxist *vulgate* was inclined to present history as a product of economics, Gramsci regarded the link between economics and culture, and between structure and superstructure as dialectical' (D'Agostino 1991, 57).
- at the same time, Benedetto Croce, a philosopher very far from Marxism, exerted (and still exerts) a strong influence on the Italian culture with his historicist ideas which, as D'Agostino reminds us, 'put an end to evolutionary determinism, typical of positivism, and opened a wide conceptual door to an understanding of different cultures and artistic expressions foreign to Classical culture' (D'Agostino 1991, 54).

The first author to indicate a truly new Marxist perspective for the study of ancient Italian economy was Emilio Sereni, a communist historian who made a wide use of linguistic, archaeological and

[2] On the Annales school see Le Goff *et al*. 1978.

[3] On the influence of Marxism on Italian archaeology see now Iacono 2014; Danckers 2015, forthcoming.

paleobotanical data, trying to reconstruct the history of agriculture from the Neolithic to the historical period, individuating the remote causes of a degradation still continuing today.[4] The key figure of the introduction of Marxist theory in Italian archaeology is undoubtedly the famous historian of ancient art, Ranuccio Bianchi Bandinelli. He used the Gramscian concept of subordinate culture to analyze and re-evaluate the Etruscan and the Italic art and, at the same time, he studied the role of those who commissioned the art masterpieces in their genesis and diffusion and the connections between artworks and the society that produced them (Bianchi Bandinelli 1970, 1973).

In 1964, a group of young left-wing archaeologists coming from the experience of the Italian Society of Archaeologists, a kind of syndicate, decided to create a new periodical for their revolutionary ideas and asked to Bianchi Bandinelli to be the director and leader of the group. The review was *Dialoghi di Archeologia* and the group called itself 'Amici dei Dialoghi' (among them we can mention some well known scholars, all presently retired after years of University teaching, such as Andrea Carandini, Mario Torelli and Filippo Coarelli), giving life to a stimulating experience in which, alongside scientific articles, a session was dedicated to the discussion of archaeological policy themes. In the Dialoghi volumes, many studies of material culture, with a first systematic use of statistics, were published (Parise 1971, Panella 1973).

A parallel experience was developed in the field of medieval archaeology. Here too the road was open not by archaeologists but by a group of Marxist geographers, among which Lucio Gambi and Massimo Quaini, author, in 1974, of a widely translated volume on Geography and Marxism (Quaini 1982). Highly interested in the history of settlement as well as in landscape studies, Quaini created, in Genoa, the Institute for the Study of Material Culture, where, from the beginning, Tiziano Mannoni began to study cultural items from an archaeometric point of view.[5]

Together with Mannoni, another left-wing archaeologist interested in a new development of medieval archaeology was Riccardo Francovich, who created, in 1974, *Archeologia medievale*, a valuable periodical, active to this day. Deeply influenced by the team of the Torcello excavations directed by a member of the Polish Academy for the Study of Material Culture, Stanislaw Tabaczynski, studies in material culture were given an important place in this journal as well.

Finally, we can view prehistory as the preferred field for Marxist reconstruction of ancient societies. One of the two leading prehistorians in this perspective is Salvatore Maria Puglisi, who studied for a brief period with Childe in London; his seminal book, *La civiltà appenninica*, published in 1959, constitutes a milestone for the wide use of anthropological theory in the reconstruction of the history of Central and Southern Italian societies of the Middle Bronze Age (Puglisi 1959); not by chance, two of his pupils, Maurizio Tosi and Alberto Cazzella, were the first Italian scholars to use processual methods in their researches. The other, Renato Peroni, strongly linked to the central European school of prehistory, progressively embraced a Marxist interpretation of Italian prehistory.[6] After his first synthesis article in 1969, in which, for the first time, he used categories like 'patriarchal clan', clearly derived from the orthodox East European Engelsian theory (Peroni 1969), he participated in 1970 to a wide discussion on an article by a historian of Antiquity, Carmine Ampolo, published in *Dialoghi di Archeologia*, using Marx and Engels ideas on ancient societies and quoting Maurice Godelier's works (Ampolo *et al*. 1970-71). In 1974, Peroni finally elaborated his scheme of the evolution of protohistoric Italian societies,[7] taken up in following years in many books and articles (Peroni 1996):

- Lineage community with stable social differentiation (Early Bronze Age, 2300-1799 BC);
- Tribe as defined chiefly on a territorial level by Marx and Engels (Middle and Recent Bronze Age, 1700-1200 BC);

[4] See, for example, Sereni 2014.
[5] See, for example, Fossati, Mannoni 1975.
[6] See now Cardarelli, Vanzetti 2015.
[7] This text circulated already in 1974, but was published only four years later (Peroni 1978).

- Community based on a gentilicial/patronage system, with leading families and client followers (c*omunità gentilizio-clientelare*; Final Bronze Age, 1200-950 BC);
- Proto-urban community (Early Iron Age, 950-730 BC, in North Italy 950-500 BC).

The peculiar type of Marxism used in Italy and the ideological contempt for everything coming from the United States explains well the real repulsion on the part of the majority of *Dialoghi* exponents for New Archaeology, such as expressed in the review written by Peroni of Carandini's *Archeologia e Cultura materiale* (Carandini 1975) in which the 'anglo-saxon neopositivist pragmatism' is seen as the utmost danger for Italian archaeology (Peroni 1976-77).

Almost ironically, when processual theories spread in Italy in the eighties, the major centres of diffusion were Rome and Northeast Italy, where almost all the scholars were Marxist (Guidi 1996).

This leads us to the last point I wish to touch on in my paper, namely the connections between Marxism and New Archaeology. On the one hand, there are clearly very important differences: most importantly, the determinism of New Archaeology was strongly challenged by Marxist scholars. Indeed, in the Marxist field, the conflict between social classes is seen as the real trigger of social evolution, whereas for a processualist, conflict is considered as a pathology and the major aim, in a system theory derived approach, is the balance between differing parts of society. On the other hand, we must underline what two leading prehistorians think of the argument. Hodder, in 1991, wrote that:

> '...the materialism inherent in most Marxist traditions in Europe, reminiscent of the strongly American processual archaeology, coupled with the evolutionary views of the New Archaeology which themselves had Marxist affiliations, allowed a close association between the two perspectives….While in North American Archaeology Marxism is frequently viewed with suspicion…in the European (archaeology) middle between the eagle and the bear, positivism, science and Marxism are often conjoined' (Hodder 1991, 15).

In the first edition of the handbook written with Bahn, published in the same year, Renfrew, speaking about Marxist world-system theories wrote: 'There is nothing…that is inappropriate to a processual analysis…The positive features that this Marxist analyses share with functional-processual archaeology include a willingness to consider long-term change in societies as a whole, and to discuss social relations within them…functional-processual archaeology and Marxist archaeology have much in common. The common ground is all the more clear when they are both contrasted with structuralist and 'post-processual' approaches' (Renfrew, Bahn 1991, 415).

As a final remark I will underline two other important points:

1. Marxist Italian archaeologists and Anglo-Saxon processualists fought against a very similar cultural-historical traditional archaeological perspective.
2. Exactly like Binford's mafia became the backbone of archaeological academic power in the years succeeding the burst of New Archaeology, the Italian 'amici dei Dialoghi' conquered all the most influential positions in our academic world.

In concluding, I would like to recall that it is not by chance that one of the best case-studies in which Marxist ideology is coupled with processual methodology is a 1984 work by Maurizio Tosi on craft indicators in a State society (Tosi 1984), a clear example of the need for Marxist theories in the reconstruction of ancient social systems.

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Les relevés de Léon Pales et ses lectures de l'art mobilier sur les pierres gravées de La Marche (Vienne)

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Résumé

1955-1975 sont deux décennies importantes dans l'histoire de la préhistoire au cours desquelles s'opère une véritable mutation dans les conceptions de travail. Si les premières années du XXème siècle sont marquées par la découverte de la majorité des grands sites d'art paléolithique et les combats pour leur reconnaissance, un scientisme latent s'affirme peu à peu. L'analyse logique du fonctionnement de la pensée semble s'imposer peu à peu afin de rationaliser le vivant.

Dans ce mouvement de pensée comment se situe le travail de L. Pales sur les pierres gravées de La Marche? Quel protocole d'analyse ce chercheur a-t-il mis en œuvre pour étudier cet ensemble de 1512 pierres (décompte de 1965)?

Mots-clés: *art mobilier, pierres gravées, La Marche, méthodologie, déchiffrement, interprétations*

Abstract

1955-1975 are two important decades in prehistoric science during which a mutation occurs in working methods. If the initial years of the XXth century are marked by the discovery of the majority of the large sites of Paleolithic art and the struggles for their recognition, a latent scientism emerge gradually. The logic analysis of the thought operation is emerging gradually in order to rationalize the living.

How can be situated the L. Pales' work on the engraved stones of La Marche in this intellectual movement? Which kind of analysis protocol did this searcher implement to study this set of 1512 stones (1965 counting)?

Key-words: *Portable art, engraved stones, La Marche, method, deciphering, interpretation*

1. Les pierres gravées de La Marche: le contexte historique

Découverte en 1937 par L. Péricard, la grotte de La Marche à Lussac-les-Châteaux (Vienne) est un vaste abri-sous-roche (large de 20 m, profond de 19 m), ouvert au Sud, sur la rive droite du ruisseau 'le petit Moulin', qu'il domine de près de 10 m. Très anciennement fermée par un mur maçonné, elle avait été divisée à l'intérieur par des murets de terre et de pierres sèches en compartiments à usage de serre, puis de cave dans sa partie droite, de resserre de bois et d'outils dans sa partie gauche: le sol en avait été bouleversé. Les premières recherches furent faites par L. Péricard et S. Lwoff qui firent appel à l'abbé Breuil: celui-ci vint à la Marche à plusieurs reprises (1938, 1939 et 1940) et observa que 'le niveau principal était Magdalénien III, d'où venaient toutes les pierres gravées'. En 1940, L. Péricard et S. Lwoff publient un premier article intitulé: '*La Marche…. Premier atelier de Magdalénien III à dalles gravées mobiles*'. La grotte est décrite: situation; morphologie; plan au sol (avec quelques cotes) et description 'narrative' de la stratigraphie; existence de 2 foyers; répartition des plaquettes sur toute la surface, mais plus nombreuses au fond et à la base du muret de pierres sèches. Puis le matériel recueilli est présenté: outillages lithique et en matière dure organique; parure. L'abondance des pierres gravées est soulignée (200 dalles fin 1940, 60 plaquettes et 1 galet de rivière), et quatre d'entre elles sont photographiées, accompagnées d'un relevé effectué par S. Lwoff. En 1941, S. Lwoff publie '*Gravures à représentations d'humains du Magdalénien III*', qui suscite des discussions sur leur détermination spécifique en tant que type humain (Présentation 1941) et des doutes sur l'authenticité des gravures (Présentations 1941-42, fig. 1 et 2). H. Breuil (1942,

Figure 1. La Marche, commune de Lussac-les-Châteaux (Vienne). '*Homme en robe. Hauteur: 290 mm. Personnage important. L'attitude est altière, le regard lointain. Il semble imposer ses mains sur la tête et l'épaule d'un petit personnage dans un geste de protection et de bénédiction. Nous ne pouvons garantir l'exactitude ni des mains bénissantes, ni de ce petit personnage. Le reste est assez net pour exclure le doute*'. (Péricard et Lwoff, 1941, fig. 11; relevé S. Lwoff).

Figure 2. La Marche, commune de Lussac-les-Châteaux (Vienne). '*Guerrier en position d'attaque. Hauteur: 300mm. Il pivote sur un pied pour lancer l'arme qu'il tient de sa main gauche, et montre de sa main droite l'arme pendue au niveau de son abdomen. Les lignes d'arrêt transversales figurées sur les bras et les jambes indiquent le port d'un costume collant. La ligne d'arrêt immédiatement inférieure sur la jambe pourrait indiquer des souliers à tiges. Une échancrure dans le costume laisse passer les organes génitaux.*

Autour du cou, l'arrêt de la tunique est marqué par une ganse à laquelle sont fixées trois amulettes. La première en forme de tronc de cône présente en son centre un petit disque circulaire en léger relief. La seconde est vraisemblablement une canine de carnassier prolongée par un protomé de cheval, avec oreille, œil, et lèvres indiquées. La troisième est une pièce fusiforme tronquée obliquement à une extrémité.

La tête est coiffée d'un casque ou d'une peau frangée. La chevelure est peut-être terminée par une natte avec gland. La face comporte un œil minuscule avec sourcils indiqués et un nez long et pointu, enfin une barbe et une moustache figurées par leur contour. Les jambes et les bras sont courts. La partie tranchante de la hache est douteuse. La hache magdalénienne existe cependant'.

(Elle sera publiée). (Péricard et Lwoff, 1941, fig. 7; relevé S. Lwoff).

p. 86-87) confirme '*la sincérité des relevés de Lwoff pour les dessins dont j'ai vu les originaux, et ceux-ci sont authentiques*', ajoutant: '*seulement il serait utile de contrôler l'ami L. dans ses interprétations*'. Il autorise la publication de sa réponse: '*cela calmera toujours cette tempête dans un verre d'eau'*. Dans Gallia (1943, p. 235-236), R. Lantier mentionne l'importance du site, mais, au sujet des représentations humaines, préconise la méfiance vis-à-vis '*de ces images de personnages avec prognathisme accentué ...il n'est pas question de mettre en doute l'authenticité de ces gravures, mais les plus expresses réserves doivent être faites quant à leur interprétation graphique*'. Dans ses publications postérieures (1943, 1957, fig. 6 a, 1962), S. Lwoff poursuit ses publications d'iconographie humaine accompagnée de divers détails vestimentaires et cynégétiques, tandis qu'un certain scepticisme demeurait (Vaufrey, 1947).

2. Léon Pales et la lecture des pierres gravées

Dès 1951, L. Pales s'est vu confier par H. Breuil, l'étude des pierres gravées de La Marche, soit 1512 pièces selon le décompte de l'époque que lui-même juge incomplet. Sur cet ensemble, 386 fragments ont permis la reconstitution de 142 plaquettes ou dalles. 369 pierres ont été élucidées, portant 122 humains, et 236 animaux. Sa démarche comporte trois axes: les supports et leur contexte archéologique, le déchiffrement des représentations et les interprétations.

2.1. Contexte archéologique et supports

Aucune fouille ne pouvant être reprise, L. Pales (1969) fait l'étude critique des notes fournies par ses prédécesseurs pour démêler les confusions topographiques, stratigraphiques et chronologiques du gisement. Il décrit '*la couche archéologique épaisse de 15 cm au moins, contenant une industrie lithique et osseuse abondante du Magdalénien III, et jonchée de pierres gravées, dalles, blocs et plaquettes*' (ibidem, p. 19). Cette couche archéologique, qui parait continue dans la plus grande partie antérieure de la grotte, repose soit sur une surface rocheuse discontinue (sol rocheux? plaques décollées du plafond?), soit un sédiment limoneux, ou sableux même, de pierrailles et de blocs, dont la puissance n'est pas connue; elle a été entamée par les aménagements anciens, si bien que des dalles et des plaquettes gravées furent rejetées de tous côtés. Il rappelle les observations de l'abbé Breuil, selon lesquelles "*le 'cône de déblais' contenait une série de pierres gravées, semblables en tous point par la nature du support, par les sujets, la technique et les styles de gravures à celles qui avaient été trouvées et allaient encore être trouvées en place dans la couche archéologique à Magdalénien III*" par lui-même et les différents fouilleurs (ibidem, p. 16). Il parvient donc à '*faire justice des doutes émis à propos de l'authenticité des pierres gravées'* et à '*assurer [leur] attribution au Magdalénien III*' (Delporte 1969, p. 263).

Dans chacun de ses ouvrages (3 pages pour les Félins et Ours en 1969, 8 pour les Humains en 1976, 11 pour Equidés et Bovidés en 1981, 8 pour Cervidés, Mammouths et divers en 1989), L. Pales introduit l'étude des supports: fiche d'identité (photo d'archives et actuelle), numéro d'ordre, échelle graphique, enfin examen 'clinique'. Différents types sont reconnus (blocs, dalles, plaquettes, galets) par leurs formes et leurs dimensions (longueur, largeur, épaisseur, surface offerte à l'inscription du décor, possibilité de tenue en main). La nature du matériau est ensuite précisée ainsi que sa dureté, et son état intact ou non, suivi de l'analyse des fractures (gel/feu/fragilité du support: bris intentionnel?). Les bords sont examinés: abrupts ou doux, chanfreinés ou non, parfois exploités pour donner du volume à l'image. Viennent ensuite des observations sur les surfaces, leur couleur, leurs altérations (présence de dépôts, d'écaillures, vestiges d'ignition, marques d'érosion par l'eau ou les acides végétaux.), les fractures et les fissures les lignes de concrétionnement, les usures, les dépôts de colorants, les reliefs suggestifs (géode, orifice, bosselage…), éventuellement les vestiges de régularisation car l'expérience a en effet montré la variabilité des traits selon l'état de la surface. Pour la première fois, une méthode est établie, qui prend en compte l'état et les aspects naturels du support et qui cherche à repérer si le graveur s'est soucié de cadrage, de mise en page, ce qui est en principe '*la préoccupation technique élémentaire du dessinateur*' (1969, p. 31). Cette analyse

externe amène à s'interroger si les graveurs ont privilégié tel support, pour telle espèce? Les objets associés sont aussi signalés: '*dans un petit amas de terre argilo-sableuse, couleur ocre jaune clair, situé dans une cavité au verso d'une plaquette, se trouve un petit éclat de silex tronqué et retouché est-ce le hasard? Ou s'agit-il de l'outil utilisé pour graver*?'.

2.2. Déchiffrement

Une des fonctions du relevé a été de reproduire les objets et leurs décors pour les faire connaitre. Sur pierre, la lisibilité du décor dépend de la nature de la surface et de la densité des traits. Le relevé des gravures s'est ainsi développé peu à peu. Cependant dans les anciennes publications, les figures sont souvent représentées hors de leur support, isolées de leur contexte, et même parfois 'complétées' en pointillé si elles sont incomplètes.

La méthode de relevé varie selon chaque préhistorien. L'abbé Breuil (Doize 1967, p. 79) considérait que la photographie en couleur convenait pour les peintures, mais non pour les gravures car elle était cause d'erreur (traits déformés par les parallaxes, effacement des traits situés dans l'axe de la prise de vue, confusions éventuelles des fissures avec des incisions). C'est pourquoi il préférait le relevé à vue et le dessin final. Plus particulièrement intéressé par les notations réalistes d'une figure, il l'extrayait de son support et de son environnement gravé, figuratif ou non; l'image était ainsi 'libérée' des autres tracés. Dès 1958, A. Leroi-Gourhan a exposé sa méthode d'étude de l'art paléolithique, en particulier sa recherche de paramètres significatifs des œuvres et des supports. Les observations sont ensuite exploitées à l'aide de fiches à perforations périphériques, et leur croisement doit permettre de mettre en évidence '*des corrélations objectives entre les divers éléments de l'expression paléolithique, qu'il s'agisse de signes ou de figurations, mais aussi [….] de relations entre les signes ou les figurations et la position qu'ils occupent*' (Delporte et Mons, 1987, p. 325). Dans le domaine de l'art mobilier, il a distingué les objets utilitaires (outils et armes, d'usage précaire ou prolongé) ou non (parure, statuettes, plaques et plaquettes). Mais A. Leroi-Gourhan s'est toujours davantage focalisé sur l'art pariétal et a privilégié la photographie qui permet d'éviter le '*filtre d'une main étrangère*' (1965, p. 240).

L. Pales (1969, p. 29) a considéré '*le déchiffrement d'une gravure [comme] la recherche d'un diagnostic*'. Les pierres gravées étant souvent de véritables palimpsestes, il a établi un protocole d'étude rigoureux qu'il a exposé dès son premier volume sur La Marche (1969, p. 29). La '*connaissance de l'anatomie descriptive des espèces contemporaines et celle de l'ostéologie des animaux disparus*' ainsi que l'éthologie constituent des préalables indispensables aussi bien pour trouver la figure animale à partir d'un repère initial que pour éviter erreurs et dérives (1969, p. 33-35). '*Dessin et photographies sont complémentaires', car il juge le dessin 'fidèle quantitativement, et infidèle qualitativement*'', et le recours aux clichés sous diverses incidences est nécessaire. Dans le processus de relevé, plusieurs phases existent qui ne se succèdent pas de manière linéaire, mais se combinent dans une sorte de 'dialogue' entre le support, les incisions, les techniques du préhistorien, et qui suppose de multiples va-et-vient. On peut regrouper ces démarches en deux ensembles:

a- les diverses lectures et leurs techniques:

- recherche des éléments naturels pouvant suggérer une forme animale ou humaine,
- première lecture directe des gravures de l'original à l'œil nu, à la lumière naturelle, puis avec des spots mobiles permettant un éclairage frisant que l'on peut varier selon ce que l'on observe,
- nouvelles lectures de l'original avec différentes loupes (à main, sur pied, binoculaire…), et selon les différents éclairages,
- lecture en relief, soit sur la photo de l'original (inversion du tracé en creux par jeu d'optique) soit en faisant osciller la surface gravée sous les yeux, soit sur empreintes à la plastiline verte. Ceci permet de faire l'analyse technologique du trait, et d'observer sa continuité, et sa place dans les différentes superpositions.
- recours à la vision différée: si un palimpseste n'est qu'en partie déchiffré, il faut écarter la pierre et y revenir plus tard pour être vue *'avec d'autres yeux',* car *'le déchiffrement ne se fait pas tout d'une traite'*

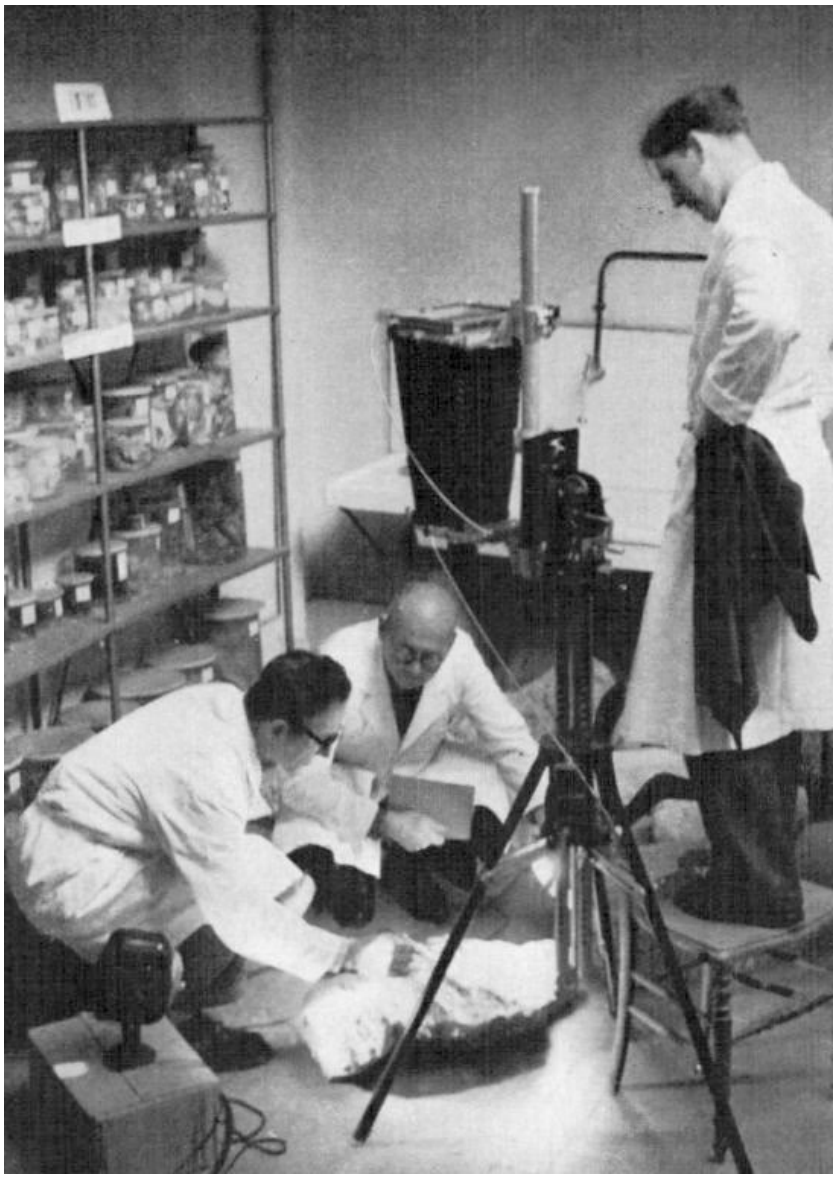

Figure 3. '*Prises de vues avec éclairages multiples (que dirigera de préférence le déchiffreur lui-même).*' Musée de l'Homme. De gauche à droite: L. Pales; Ch. Lambert et J. Oster. Cliché José Oster.

– refus de souligner les traits gravés au crayon tendre (sauf exceptions rarissimes); mais cela est possible sur l'empreinte à la plastilline,
– rares artifices de laboratoire: la pulvérisation de poussière de mine de plomb qui permet de souligner les traits, et pour raviver les couleurs une humidification légère des pierres peintes 'avec soin', car dangereuse. La poudre luminescente (procédé Gaudron, 1949) et la lampe Wood (après expérimentation) ne facilitent pas vraiment les relevés systématiques.
– photographies indispensables à échelle 1 ou agrandie, avec échelle graphique et sous divers angles (fig. 3).

b- Les types de relevés:
– relevés réalisés sur calque direct ou/et sur photos (fig. 4 et 5). Mais en raison des problèmes de parallaxe, et de disparition des traits gravés situés dans l'axe de l'éclairage, il faut vérifier avec l'original devant soi.

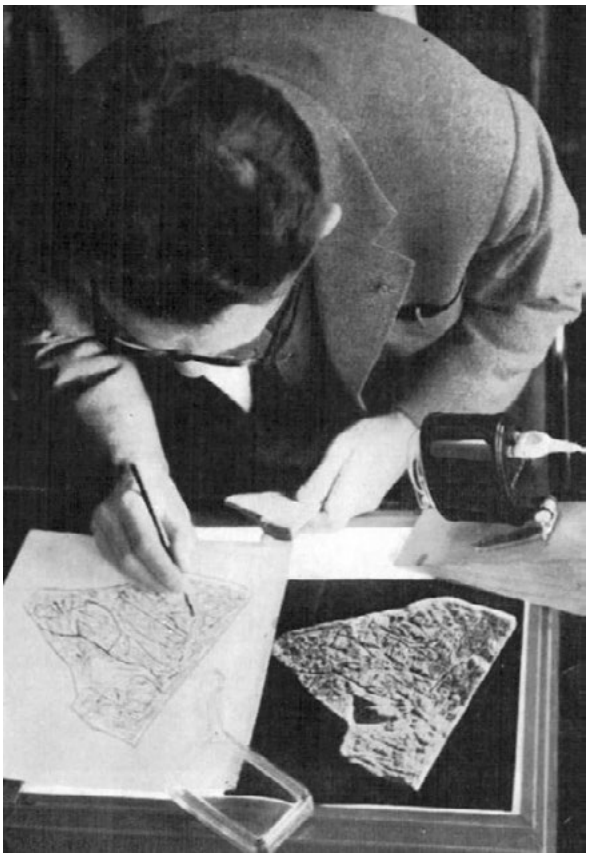

Figure 4. Relevé d'une plaquette. 'Lorsque le sujet est de petites dimensions, il y a intérêt à en tirer des agrandissements photographiques, dont le calque est toujours mis au point avec l'original en main, convenablement éclairé par un microspot. Musée de l'Homme. Cliché José Oster.

Figure 5. 'Les dalles – parois mobiles- firent l'objet de photographies à grandeur naturelle. Le calque direct et le calque de la photographie se complètent mutuellement. Musée de l'Homme. Cliché José Oster.

- relevés multiples: relevé général au crayon, repassage en couleur des figures identifiées, puis relevé sélectif avec les variantes de chaque individu et relevé avec la succession des figures (en polychromie indispensable), enfin mise au net sur un carton Bristol, à l'encre de Chine,
- reliquat de traits 'parasites' à reproduire car solidaires du palimpseste: L. Pales précise qu'*en d'autres temps, certains de ces traits auraient été introduits dans les contours des animaux isolés, mais sans certitude, ou éliminés en tant que parasites et cela aurait été regrettable'* (1965, p. 30); et il ajoute: '*éliminer des traits parce que nous ne les comprenons pas est pire qu'une solution de paresse … c'est l'aveu de l'ignorance ou de la prétention*' (1966, p. 30). Et si la figure reste illisible, il faut reproduire l'intégralité des traits gravés, sans décider…
- l'étude technologique des tracés gravés '*sur tout leur parcours*' est intéressante, car elle permet la reconnaissance de l'outil utilisé, comme de différencier les gravures des reliefs linéaires de la pierre (1969, 20, p. 128-129), où les traits rectilignes '*dites sagaies' sont antérieures au félin et pour lesquelles le terme de sagaie est donc erroné*…). Elle est servie par les agrandissements photos.
- établissement de planches comparatives.

A

B

C

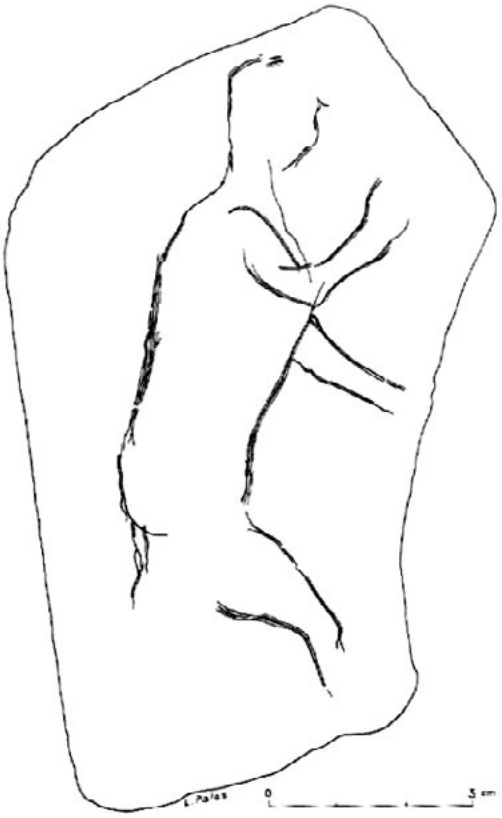

Figure 6. La Marche, commune de Lussac-les-Châteaux (Vienne).
a-'Chasseur masqué et vêtu portant un propulseur mâle et peut-être une flèche empennée.' (Lwoff 1957, fig. 15). *Gravure riche en éléments folkloriques nouveaux, d'un personnage des plus complets.*
'Chasseur en marche vêtu d'une tunique qui traine à terre et masque la jambe droite …; des liens sur son thorax semblent assujettir cette tunique à son corps. Le port relevé de la tête, dont la face est nettement prognathe, est celui d'un personnage qui scrute du regard pour découvrir le gibier… Semblant issus du corps de ce personnage et dirigés vers l'arrière: Deux traits assez forts et inclinés vers le bas. Le trait supérieur (dont une extrémité figure un bec semblable à ceux d'aiguilles à tricoter) figure sans doute un propulseur mâle, et est maintenu sous le bras gauche. Le trait inférieur, moins profond et plus sinueux est-il une flèche, dont l'empennage formé par une touffe? Tête recouverte soit d'un bonnet de fourrure qui surplombe le front, soit d'un casque de matière végétale, …qui porterait un masque de tête d'animal, celle d'où ours très vraisemblablement, avec oreille, œil, gueule ouverte…'…. A la jambe gauche…la chaussure présente deux bourrelets situés l'un sous la plante du pied, l'autre sur sa face supérieure. L'extrémité de cette chaussure est ornée d'une boule…; b- Photo José Oster; c-Relevé L. Pales (1976 observation 33): personnage debout, élancé, dynamique.

L. Pales conclut en modérant les résultats escomptés: *'on n'identifie à coup sûr qu'un trait sur mille'* (1969: 35).

2.3. Interprétations

L. Pales (1969, p. 112-116) a revu avec scepticisme les théories interprétatives de l'art émises par ses prédécesseurs. Il critique les hypothèses d''*Atelier d'art*', '*de feuilles d'études et de croquis*', de '*page d'album*' longtemps utilisée comme tendrait à le suggérer la surabondance des traits et des figures réalisés sur '*un enduit d'ocre ou de sang employé pour masquer les croquis préexistants*' (Capitan et Bouyssonie 1924, p. 34; Breuil et Lantier 1959, p. 207), d'*'Ecole formant des élèves*' (Péricard et Lwoff, 1940, p. 180), en raison de l'absence de diffusion (sauf une occurrence, une pierre gravée à Angles sur l'Anglin). Il critique également l'interprétation de La Marche en '*sanctuaire de plaquettes et de panneaux mobiles*' en raison des pierres fracturées, situées sous les pas et à proximité des activités quotidiennes (1976, p. 127), mais s'interroge sur les limites Art pariétal/Art mobilier après avoir regroupé les pierres selon leurs dimensions.

Les '*idées préconçues*' sur les animaux figurés donnent lieu à discussions. A La Marche (comme ailleurs), l'art animalier mobilier aurait-il eu pour but de faciliter la reproduction? Mais le ventre lourd attribué à des '*bêtes gravides*' n'est-il pas seulement '*distendu par une pâture abondante*'? (femelles gravides); de capturer les animaux grâce à la magie de la chasse? Mais les animaux fléchés sont rares et l'étude technologique a permis de discerner si les traits considérés comme des flèches sont postérieures ou non au félin de La Bouiche (Pales 1969, p. 128-129). Par ailleurs, il aborde une réflexion sur la hiérarchie numérique des espèces, ainsi que sur les associations intra- et inter-spécifiques présentes sur une même face et recto-verso.

En 1976, avec l'étude des Humains, L. Pales rappelle à plusieurs reprises sa position en rupture '*avec les errements anciens qui s'étaient perpétués*'. L'importance des figures humaines qui occupent le 1er rang parmi les représentations, est un véritable choc statistique. Les images sont réalistes et variées, en aucun cas stéréotypées. L. Pales rejette d'ailleurs '*tout commentaire aventureux*', toute considération anthropologique ou raciale (1976, p. 36, 92). Il ne reconnait aucune anomalie dans l'opulence des femmes et s'interroge devant des seins volumineux et tombants, des 'gros ventres': grossesse ou obésité? (1976, p. 31) Il rappelle que la corpulence médiane concerne aussi bien les hommes que les femmes. Les attitudes sont décrites, mais L. Pales dénonce les '*verticalités arbitraires* (1976, p. 77-82), ainsi que les '*orants abusifs*', terme qu'il conserve comme épithète descriptif seulement (1977, p. 83-87). S'il reconnait l'existence de groupes humains aux bras levés ou dirigés vers l'avant, il n'y reconnait pas des scènes d'évocation ou d'exorcismes d'êtres spirituels… Les figures humaines sont peu sexualisées, mais il souligne l'existence de 'co-figurations', c'est à dire de couples enlacés (affrontements fronto-dorsal, ou fronto-frontal), ce qui contredit l'absence de scène d'accouplement humain affirmée ailleurs (1976, p. 106-11).

3. Conclusions

Relais, Rupture Renouveau? Le travail de L. Pales sur les pierres gravées de La Marche présente tous ces aspects. Initié par H. Breuil au relevé d'art pariétal paléolithique, il renouvelle la technique du relevé d'art mobilier par la rigueur et la minutie d'une étude combinant dessins et photographies. Il aboutit ainsi '*à ce qu'aucun trait, même mineur, ne soit analysé, dégagé, disséqué, confronté avec d'autres, et à ce que aucune variante, aucune hypothèse ne soit examinée en elle-même et dans son contexte*…' (Delporte 1969, p. 263). Certes la priorité est donnée aux motifs figuratifs (ce qui peut être considéré comme traditionnel), mais leur diagnostic est fondé sur l'anatomie et L. Pales se refuse à les compléter ou à les isoler de l'ensemble, ce qui est une rupture avec d'anciennes habitudes. Il y adjoint les observations qu'il a pu faire sur la disposition et les associations des figures.

L. Pales a remis en question les idées 'préconçues' sur le sens de l'art paléolithique, ce qui constitue une autre rupture. Magie de la chasse et reproduction, animale; place des humains dans l'art et

détermination anthropologique, interdit des représentations sexuelles; notions d'Atelier d'Art, d'Ecoles ou de 'sanctuaire à plaquettes': il réfute les 'errements anciens qui se sont perpétués', et affirme le droit de '*se libérer des idées reçues depuis un demi-siècle, des théories établies, perpétuées ou renouvelées sur des données inexactes*' (1976, p. 164).

Il souligne la richesse de l'analyse technologique des tracés gravés et souhaite la relecture des œuvres orientée vers les palimpsestes, et les signes énigmatiques, grâce aux moyens modernes de lecture et de reproduction. Les résultats ouvriront des perspectives nouvelles dans la recherche de la compréhension des œuvres et de leurs auteurs magdaléniens car pour '*approcher au plus près de la pensée des artistes*', il faut toujours '*revenir aux faits*' (1976, p. 29) et bien connaître '*l'acte qui leur a permis de s'exprimer*' (1989).

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‘Mission’: *modernize!* Portuguese archaeology in the 1960s (a preamble)

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‘[…] in our country,
archaeology has not yet reached scientific forums
worthy of the attention of the authorities [...].’
(Paço, 1951: 60-61)

Abstract

The end of the 1950s was a particularly difficult period in Portuguese political life. The start of the 1960s was no better. However, the small and almost incipient Portuguese archaeological community was going through a transition, from a generation steeped in culture-historical orientations, to another that sought to absorb the innovations being generated in the Anglo-Saxon, French and German academies. Among these innovations was New Archaeology. *But have their representatives had the time to receive, internalize and apply these theories and practices in their own time as well as all together? Responding to this question is one of the central challenges of this brief reflection, whilst we outline some of the main activities that characterized one of the crucial decades of the establishment of archaeology in Portugal: the 1970s.*

Key-words: *Archaeology, 1960s, Congresses and journals,* New Archaeology*, Portugal*

Résumé

La fin des années 1950 a été une période particulièrement difficile dans la vie politique portugaise et le début des années 1960 n’a pas mieux valu. Cependant, la communauté archéologique portugaise, réduite, presque naissante, passait par une transition, d’une génération imprégnée d’approches historico-culturelles, à une nouvelle phase marquée par la volonté d’absorber des innovations générées dans les pays anglo-saxons et par les universités françaises et allemandes. Parmi ces innovations, nous pouvons citer la New Archaeology. *La question est de savoir si toutefois leurs représentants ont eu le temps de recevoir, d’internaliser et d’appliquer ces théories et pratiques, individuellement et en tant que communauté? Répondre à cette question est l’un des points centraux de cette brève réflexion, tandis que nous décrivons certaines des principales activités qui ont marqué l’une des décennies cruciales de la mise en place de l’archéologie au Portugal: les années 1970.*

Mots-clés: *Archéologie, 1960, Congrès et revues,* New Archaeology*, Portugal*

1. Framework

When Gordon R. Willey (1913-2002) and Philip Phillips (1900-1994) published *Method and Theory in Archaeology* in 1958, four years before *Archaeology as Anthropology*, by Lewis R. Binford (1931-2011), Portugal was going through one of the most difficult periods of the political regime known as the Estado Novo (EN – ‘New State’) (1926/1933-1974). In the year in which intellectuals, such

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as the writer Aquilino Ribeiro (1885-1963) and the painter Júlio Pomar (1926), presented landmark works in Portuguese culture; the geographer and university professor Orlando Ribeiro (1911-1997) made available his *Portugal, o Mediterrâneo e o Atlântico* ('Portugal, the Mediterranean and the Atlantic'), in a reinterpretation of the territory, its past, people, materiality and immateriality, while the Sociedade Nacional de Belas Artes (National Society of Fine Arts) (1901) opened the 1st Modern Art Exhibition, the scenario of internal politics was marked by complexity and unrest resulting from the impassioned controversy that arose around the presidential elections.

In this same year -1958-, Lisbon hosted the 1st National Archaeology Congress (I CNA) (Congresso Nacional de Arqueologia, 1959-1960). It was a timely event, as other countries, particularly Spain, had been scheduling similar scientific and cultural encounters for a while. But Portugal did not seem to need archaeology to establish something imperative in other territories. Indeed, the need felt elsewhere, particularly in Europe, to justify political borders, to ensure genealogies of material cultures, as well as community ways of being, existing and doing, did not find sufficient expression in Portugal to justify a greater political commitment to archaeology (Díaz-Andreu & Champion 1996). It reached a stage where, contrary to positions taken by eminent figures in this science from among us, such as José Leite de Vasconcelos (1858-1941), the mentor and first director of what is today known as the Museu Nacional de Arqueologia (MNA – National Museum of Archaeology) (1893), the country's ancestry was dated, not to the Neolithic, for instance, but to the medieval era, in order to favour the prevailing political reality, to the detriment of any other, as this was what was most important to the dominant ideology.

Interestingly, in this very year (1958), the fourth volume of the monumental work of J. Leite de Vasconcelos, *Etnografia Portuguesa* ('Portuguese Ethnography'), titled *O povo português* ('The Portuguese people'), was posthumously published, completed by two of his closest disciples, the previously mentioned O. Ribeiro and the ethnographer Manuel Viegas Guerreiro (1912-1997).

Actually, this is how the thought and action of a whole generation of scholars was perpetrated: by defining and characterizing what was meant to be the Portuguese people. This was strengthened with the creation of the Sociedade Portuguesa de Antropologia e Etnologia (Portuguese Anthropology and Ethnology Society, Porto, 1918), and reinvigorated by the Centro de Estudos de Etnologia Peninsular (Peninsular Centre for Ethnology Studies, Porto, 1947). In the meantime, the revitalization observed in the ethnographic records and ethnological studies centred on mainland Portugal, the surrounding islands and the (then called) overseas provinces justified a doubling of attention by those involved in these areas of study. Besides, the national political background was particularly suited to this, as it exercised what was already referred to in historiography as the 'anthropology of nation-building' (Leal, 2000), anchoring realities observed in prehistoric materials. That is why, partially influenced by British structural functionalism, by North American cultural anthropology and by early Levi-Straussian structuralism, others, such as the ethnologist and anthropologist A. Jorge Dias (1907-1973), the linguist L. F. Lindley Cintra (1925-1991) and the musicologist Michel Giacometti (1929-1990), traversed the territory, recording unique features of the Portuguese material and immaterial culture.

There is no doubt that, similarly to what took place in the majority of Western and non-Western countries, the end of the 1950s constituted a turning point for Portugal, despite the internal environment, which was politically adverse to more profound and path-breaking changes. It was not, however, possible to remain indifferent to the changes observed abroad, ignoring the new geopolitical framework resulting from World War II. The desire and urgency for transformation was also engraining itself among us, and not without a certain lyricism that supports cultural projects and alternative ideologies in the face of a morally rigid society. It was therefore based on discovering new paths provided by the multiplicity of perspectives granted by the vertiginous scientific and technological development of recent years. An enthusiasm powered by the latest European and North American panacea, created in an environment of 'Peaceful Coexistence' (1953-1962): international

cooperation. On the other hand, Pop art, design, cinematography and television established, almost in unison, new aesthetic trends supported by non-conformist, irreverent and expectant thinking.

Hence, the number and thematic diversity of the national and international scientific encounters hosted in Portugal, precisely at the end of the 1950s, should not be unexpected, including the collaboration of academics from Eastern Europe, likewise those dedicated to the history of the Overseas Discoveries (Lisbon, 1960). Similarly, the organization of the I CNA should come as no surprise, all the less so due to the pretext that was evoked: the first centenary of the birth of J. Leite de Vasconcelos, considered by many as the doyen of Portuguese archaeologists.

Although successive editions of the Congresso Luso-Espanhol para o Progresso das Ciências (Luso-Spanish Congress for the Progress of Science, initiated in 1921) covered reporting on archaeological topics, above all prehistoric, and Portuguese archaeology began to integrate scientific encounters of a regional nature and other activities, more on the basis of personal contact, than due to institutional initiatives, it was the first time that Portugal brought together a dedicated forum, in its entirety, congregating all those among us who were involved in it. Thus were the hopes placed on the IX e XV Congresso Internacional de Antropologia e de Arqueologia Pré-históricas (9th and 15th International Congress of Prehistoric Anthropology and Archaeology, Lisbon 1880, Porto and Coimbra, 1930) reborn, so that the discipline could fully incorporate the national academic spheres, no longer to be cultivated (almost) exclusively by erudite associations and the singular commitment of those occupying university chairs. It reached a point where, except for cases such as Guimarães, Porto and Coimbra, archaeological activity continued to be centred in the capital, as part of the MNA, the Associação dos Arqueólogos Portugueses (AAP – Association of Portuguese Archaeologists) (1863) (Martins, 2003 and 2005) and the Serviços Geológicos de Portugal (SGP – Geological Services of Portugal) (1918).

2. 1st National Archaeology Congress

An exemplary forum for theoretical debate, presentation and discussion of working methods and preliminary conclusions of studies conducted in the field and at the desk, the I CNA ended up taking on a certain Iberian dimension, as some of the project-opening conferences were assigned to Spanish colleagues (Congresso Nacional de Arqueologia, 1959-1960). This was a logical decision, due to the commonality of topics analyzed by the archaeological communities of the two countries, but also because Portugal has for long received foreign archaeologists, above all French and English, who lived among us for varying periods of time, depending on scientific and individual interests and requirements, investigating lands and collections, all the while discussing new theories and praxis.[2]

Managing to emphasize the importance of archaeology in a country in which it never truly was central, the I CNA began to reap positive benefits in the following year, with the publication of the first of two volumes of proceedings, in which it was already possible to have an awareness of the imperative for transforming ways of seeing the past, and thus, methods of work (Congresso Nacional de Arqueologia, 1959-1960). There was an undeniable thrust towards promoting debate and the propagation of the latest methodological and technological guidelines, while simultaneously streamlining contact between Portuguese and foreign researchers. But for this, it would be necessary to rejuvenate Portuguese archaeology, as highlighted by Eduardo da Cunha Serrão (1906-1991) (Serrão e Vicente, 1959), 52 years old at the time, but with the knowledge gathered in 1952 at the Institute of Archaeology of the University College of London (UCL), where he was updated on the state of archaeological field work, especially in what concerned the grid system.

[2] An example of this was how the public would fill the halls of the British Institute, the Sociedade de Geografia de Lisboa (Geography Society of Lisbon) and the FLUL (Faculty of Letters of the Universidade de Lisboa), to attend the conferences of the Englishwoman Jacquetta Hawkes (1910-1996) and the Welsh specialist in the Neolithic period, Glyn Daniel (1914-1986). But above all, this was the case with the German the couple Vera Leisner (1885-1972) and Georg Leisner (1870-1957).

But without delving into the inadequate material resources and lack of social awareness of the role of archaeology, it would be difficult to effectively monitor field work, provide holistic training to future archaeologists, access methods (such as archaeometrics) of the natural and exact sciences, provide wider publicity to new excavation methods and increase the number of archaeological fields of learning. These situations were recognized by the I CNA, as can be observed in their conclusions and general votes.

The path to be taken was thus outlined. However, it had to be embarked upon. There were, it is true, those who tried to walk this path, although intermittently and somewhat experimentally, innovating, for example, the format and graphics of the second series of *O Arqueólogo Português* (*OAP* – The Portuguese Archaeologist),[3] the official magazine of the MNA, published since 1895.

In the meantime, the enthusiasm experienced at the I CNA began to die down somewhat, notwithstanding the impact it would have on future archaeologists, mapping the interest for the science, in geographical as well as chronological and thematic terms. Although fleeting and circumscribed in time and in space, the discouragement that was felt reminds one of what took place after the end of the international congresses of 1880 and 1930 (see above). The experience of many decades, however, has prevented commitments from faltering completely. Aside from this, the institutions that have over time managed the destinies of archaeology in Portugal were more deeply anchored in the political and social system, ensuring their continued existence. There was nothing, however, to prevent, for example, the general alienation of Portuguese archaeologists from the grid excavation system, most probably as they were not prepared to learn and apply it, as, even while they recognized the relevance of the procedural discourse, they could not be moved from the culture-historical view. In addition to their poor command of English, a serious scientific impairment, another obstacle was their low level of participation in fieldwork outside Portugal. It attained a point where, in the 1970s, a new generation was introduced, belatedly, to *New Archaeology* whilst getting involved in analytical methods and structuralism, paying detailed attention to the stratigraphic and three-dimensional record of the excavated materials.

3. A generation in transition: the 1960s

The creative energy that emerged and was brought together, in general, in the spheres making up Western Civilization, at the end of the 1950s, was transported to the following decade. Transferred, but not wholly realized. This is the reason for the more bitter tone of many verbal and visual statements. New expressions, fed by a loss of innocence, were immersed in extreme personal and collective experiences, spilling into student revolts.

Although the country experienced all this in a nuanced manner, due to the specific characteristics of its recent history, Portugal was not excluded from this process, even if, generally speaking, society remained (somehow) distant from the primary international circuits of production and circulation of knowledge. At the same time, the Colonial War (1961-1974) was just beginning, accentuating the inconsequential politics of the EN.

However, gradual changes were taking place (also) in Portuguese archaeological activity. Almost imperceptible, they were nonetheless fundamental and long-lasting. Among them was the establishment of areas of archaeological specialization, though not officially, not in a country where this discipline was spread out among different human sciences and geological studies.

As a result, in 1959, that is to say one year after the I CNA, the Universidade de Coimbra (UC-Coimbra University), through its centenary Institute, began the publication of the journal *Conímbriga*, at the time restricted to classical studies. This was in contrast to the characteristic eclecticism of editions of national periodicals, such as the AAP's magazine, the *OAP*, the *Revista de Guimarães* (1884-),

[3] This second series is made up of five volumes published between 1951 and 1964.

published by the Sociedade Martins Sarmento (1881), and *Lucerna* (1960-1965), of the Centro de Estudos Humanísticos (Centre of Humanistic Studies), linked to the Faculdade de Letras (Faculty of Letters) of the Universidade do Porto (Oporto University) (1911). This was less the case, however, with the SGP magazine, *Comunicações Geológicas* (1883), in which texts of an archaeological nature were dominated by prehistoric investigation.

The name of the journal itself was no accident. Taking the name of the Roman *villa* located in the vicinity of Coimbra, the ruins of which have been classified as a national monument since 1910 and opened to the public in 1930, it revealed the existence of a solid body of researchers at the UC dedicated to the classical period. A good example of this is the foundation, in 1957, at the Instituto de Estudos Clássicos (Institute of Classical Studies) of the Faculdade de Letras (Faculty of Humanities) of the UC, of the Associação Portuguesa de Estudos Clássicos (Portuguese Association of Classical Studies) – an association which established points of contact with classical archaeology developed in the same university, during the time of Professor Virgílio Correia (1888-1944) and the specialist in the Roman period, João M. Bairrão Oleiro (1923-2000). Besides, the latter was responsible for the creation of the Instituto de Arqueologia (IA – Institute of Archaeology) (UC, 1954), inaugurated in 1958 (year of the I CNA), and the conversion of the archaeological site of *Conímbriga* into a practical training ground for students of the UC, where a monographic museum was to be opened in 1962, the first of its kind in Portugal.

Soon after, in 1963, Jorge de Alarcão (1934-) was hired to teach at the UC, after returning from two years education (1960-1962) at the Institute of Archaeology of the UCL, with a fellowship from the Fundação Calouste Gulbenkian (Calouste Gulbenkian Foundation, 1956). As a consequence, the UC would soon become a leading institution for Roman studies in the country and a cornerstone for the reform of the *curricula* carried out in the UC at the start of the 1970s. From this point, the teaching of archaeology in Portugal would change forever.

In this regard, Lisbon participated in developing solid and durable initiatives in the areas of teaching, field and desk research, for archaeological conservation, presentation, publication and management, at the same time in which AAP commemorated, in 1963, its first centenary, the SGPs took on an uncontested authority in the domain of prehistory, and the Faculdade de Letras (Faculty of Letters) established its Círculo de Estudos Arqueológicos (Archaeological Studies Circle), consisting of an exciting new generation of archaeologists.

With regard to the rest of Portugal, it was marked by a range of initiatives, resulting from and supporting the growing interest in archaeology, as an indicator signalling its greater social acceptance. Among those were the first editions of the archaeology conferences held in Porto in the first half of the 1960s. All of this was an incentive to the decentralization of archaeological practice, at a time in which the first subsection of the second section of the Junta Nacional de Educação (National Education Board) – the summit of Portuguese archaeology – was reorganized (Lemos, 1987 and 1989).

However, though the commitments were strengthened and the initiatives grew, the financial support continued to be scarce. Proof of this is the time that passed between the I CNA and the II CNA (Coimbra, 1970) – 12 years –, a clear sign of the difficulties encountered by its organizers, due, no doubt, to the lack of attention given to this discipline by political circles. Perhaps for the same reason, archaeology in Portugal continued to be almost totally supported, as it always had been, by private organizations possessing sufficient social and financial capital to implement some projects. This was the case with AAP when it launched, in 1969, the Jornadas Arqueológicas (Archaeological Conferences), under the guidance of Fernando de Almeida (190-1979), who, at the time, was also director of the MNA, professor of archaeology at the Faculdade de Letras (Faculty of Letters) of the Universidade de Lisboa (Lisbon University) (1911) and chairman of AAP. These conferences, aided by the prompt publication of the corresponding proceedings, soon became an ideal forum for theoretical debate, which would guide the future generation of archaeologists in shaping the destinies

of this science after the April Revolution of 1974. But this chapter of the history of archaeology in Portugal is to be analyzed in another context.

4. Perspectives

In what concerns this subsequent period – the 1970s -, we must seek to understand the extent to which the sources of bibliographical inspiration and the different complements of foreign academic training marked ways of thinking about the past, of reading the territory, of excavating and interpreting archaeological remains. In fact, the identification of influential schools – above all the French, Anglo-Saxon and German ones –, and the presence of foreign institutions will allow us to better understand some of the work programmes conceived, methods used and conclusions reached, on a background replete with constant appeals to inter-institutional and international collaboration (Martins, 2013). Moreover, we must discover the extent to which the ideology of each member of this new generation governed their own archaeological path, at the beginning of the 1970s. Starting with the reception, publication and implementation of *New Archaeology*: when, how and by whom? What were the reasons for its apparent slow growth among us? Was it the traditionally greater proximity to the French academic circuits? Was it the lack of a profound knowledge of the English language?

To respond to these and other fundamental questions, we need to get to know, in depth, the Portuguese archaeological reality of the 1960s, insufficiently and intermittently dealt with in our historiography. Indeed, it was a decisive decade for the establishment and development in the country of a new way of living, of a new aesthetics and science production, in general, and of archaeology, in particular. It will also be necessary to collate the realities observed with the ones identified by foreign historiographies, primarily Spanish ones, dissecting the production of this generation's scientific knowledge, in order to identify research trends and the corresponding theoretical frameworks. These are processes from which we must not exclude Portuguese archaeology in the former overseas provinces, including Angola and Mozambique, as the latest archaeological paradigms were followed in these places, often with greater diligence and persistence than in the metropolis (Martins, 2014) – an interesting feature to be unveiled and analyzed by our research project on Portuguese archaeology between the 1950s and the 1970s.

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The New Archaeology and the Archaeology of Australia

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Abstract

In 1980, Murray and White (T. Murray and J. P. White: Cambridge in the Bush? World Archaeology *13(2), p. 255-263), found in the new archaeology of the 1960s the seedbed of approaches and methods that underwrote the development of prehistoric archaeology of the continent of Australia. The great themes of the new archaeology approach to hunter-gatherer archaeology laid out first by Binford and others, and subsequently by British archaeologists such as Eric Higgs, were highly influential, but then so too were what would now be described as positivist approaches to theory building and methodology flowing from the work of Binford and David Clarke. 34 years have elapsed since that first assessment and Australian prehistoric archaeology is much changed both in focus and approach. It is thus an excellent time to reflect on the inheritance of so much path-breaking research in the 1960s and 1970s, particularly the socio-political context within which prehistoric archaeology is practiced in Australia.*

Key-words: *Australia, Archaeology, Heritage, Indigenous, Historical*

Résumé

En 1980, Murray et White (Tim Murray and J. P. White: Cambridge in the Bush? World Archaeology *13 (2): 255-263) ont examiné les influences de la 'New Archaeology' des années 1960 et les travaux de David Clarke, Éric Higgs et Lewis Binford, entre autres, sur le développement de l'archéologie préhistorique de l'Australie.*

*Trente-quatre ans plus tard, l'archéologie préhistorique de l'Australie a beaucoup changé en ce qui concerne les objectifs et les méthodes. En conséquence, c'est maintenant le meilleur moment pour réfléchir à l'héritage des années 1960 et 1970 concernant le contexte socio-politique de la pratique de l'archéologie en Australie***.**

Mots-clés: *Australie, Archéologie, Patrimoine, Indigène, Historique*

1. Introduction

34 years ago Peter White and I contributed a survey of archaeology in Australia and New Guinea to the collection *Regional Traditions in World Archaeology*, edited by Ian Glover and the late Bruce Trigger (Murray and White 1980). The editors were clear about their objectives. Contributors were asked 'to identify the distinctive aspects of historical practice… and to explain these by reference to the particular cultural and political contexts within which archaeological research has been undertaken' (Murray and White 1982, 100). Two aspects of the topic which Ian Glover particularly stressed were first, the ways in which the different colonial perceptions of the indigenous cultures conditioned the investigation of their past; and second, the extent to which the perceived interests of the native peoples of the region were conditioning the development of archaeology at the present time. The timing of the publication is more interesting now than it was then, in that we were writing at a time when the theoretical dominance of the New Archaeology was beginning to come under sustained attack (hence the somewhat postcolonial flavour of the Glover and Trigger proposal). Of course we were not to know that at the time!

Our goal was to capture the essence of a field that had only very recently come into being, and which exhibited very strong influences (especially theoretical influences) from the UK and the USA. Our core question was whether this application of theory to what amounted to a new archaeological world

had given rise to something new and different. Apart from noting that the practice of archaeology in Australia and New Guinea had already diverged as a result of quite different prehistories and socio-political contexts of practice, we opted to approach our survey in much the same way that Willey and Sabloff (1974) had characterized the history of prehistoric archaeology in North America. That is, we divided the history of Australian archaeology into three phases. Our original taxonomy was based on changes in elements common to all three phases: personnel, questions asked, methodology, data and disciplinary environment. We also found it necessary to consider the relationship between the discipline and such factors as white perception of Aboriginal Australians, the state of public interest and the association of archaeology with other disciplines, especially anthropology.

My purpose in this paper is to briefly revisit and update this now aging taxonomy, and to explore whether the last 34 years have fundamentally changed the context of the practice of Australian archaeology. This updating has required the addition of a fourth phase. First, a brief recapitulation of our arguments concerning the original three phases which draws heavily on our paper.

2. Antiquity and racial origins (1788-1910)

White occupation of the southern (temperate and sub-tropical) part of Australia was completed by 1850: most Aborigines were murdered, or dead through disease or neglect, and the social and subsistence fabric of their societies was seriously affected and in some cases literally destroyed. In the tropical north, white settlement (1860-90) was less dense and Aborigines proved to be more useful to the expropriators, so more survived. Nowhere was Aboriginal right to any land recognized by treaty or in other ways. Detailed studies of Aboriginal life and customs commenced with the first white explorers and settlers. Initially seen as a curious part of a curious landscape, by the mid-nineteenth century Aborigines had become valuable to anthropological science as examples of the lowest savages, Tylorean 'Palaeolithic survivals'. This was to become a fundamental and particularly enduring theme of Australian archaeology (and anthropology) (see e.g. Hiatt 1996; Kuper 1988; Mulvaney 1957; Stocking 1995).

By 1900, systematic ethnographies such as those of Baldwin Spencer and F. J. Gillen (Spencer and Gillen 1927) placed Aboriginal anthropology on a firm footing. Investigations of the histories of these societies fared less well. The only identifiable research theme was Aboriginal antiquity, to be defined geologically by clear association with extinct animals as in Europe. The failure to find such an association throughout the nineteenth century meant that natural scientists effectively abandoned this research by 1910. Contemporary studies of other kinds pointed to the same conclusion. Among these were the facts that (i) buried stone artefacts were no more 'primitive' than those in recent use and (ii) the harsh environment and violently changing surface deposits seemed to render improbable 'normal' (European) interpretations of deeply buried materials. A final difficulty was that Australian artefacts did not fit European typologies, while Aborigines used 'Palaeolithic' and 'Neolithic' technologies simultaneously.

3. Classification and culture change (1911-1959)

Between 1911 and 1959, archaeology was entirely in the hands of untrained amateurs. Most simply collected artefacts, secure in the belief that Aborigines were an unchanging people, with an unchanging technology (Golson 1986; Griffiths 1996; McBryde 1986; Mulvaney 1957). Spencer, and others, confirmed this in the field. Noting the technological opportunism of Aboriginal people and their general unconcern with 'types', he interpreted all variation in Australian tool forms and functions as a response to local conditions. One result was the conscious adoption of an Australian nomenclature and a rejection of links between Australia and the rest of the world.

A few amateurs, notably Norman Tindale and Fred McCarthy at State museums, continued to excavate with some methodological rigour. Between 1929 and 1936, culture change was demonstrated by the excavation of a stratified series of different stone tool types. These were interpreted as resulting from

distinct groups, some of whom were recent invaders. This evidence, coupled with Tindale's later work in South Australia, allowed observers to suspect a high antiquity with greater justification. The 'unchanging Aborigine' image fostered by socio-cultural anthropologists and accepted by archaeologists was now called into question, and the possibility of Aboriginal Australia having a history before the arrival of the Europeans was raised. Even the long-lived 'problem of the Tasmanians' was confronted when Tindale linked his sequence to Birdsell's tri-hybrid theory of Australian racial origins in 1938. Perhaps most interesting of all was that he advanced the possibility of environmental changes having occurred during the period of Aboriginal occupation – an idea which was only taken up much later. The only locally oriented pre-historian was John Mulvaney, trained in Cambridge and appointed to Melbourne University's History department in 1953 (see Kahn 1993; Mulvaney 2011).

4. The revolution of the 1960s and its aftermath (1960-80)

These were the decades when Australian archaeology came into being, and when Australian archaeology reconnected to a global program of prehistoric archaeology called 'World Prehistory' by Graeme Clark (Clark 1961). Of course a focus on typology and exploring the consequences of identified culture change in Australian prehistory were very much part of the practice of Old World archaeology too, but connections between the periphery of Australia and the theoretical core of the UK and USA were very much stronger during this new phase.

One major reason was demographic. Between 1960 and 1964, more than a dozen staff and graduate students were appointed at three universities. Nearly all were trained at Cambridge, most were not Australians, and only one came with experience of the area. In 1961, the formation of the Australian Institute of Aboriginal Studies provided funds for research. A few professional appointments were also made at state museums. But the 'Cambridge connection' was fundamental to the archaeology of this phase, although there was input from American and New Zealand universities. Over this period archaeology in Australia grew by at least an order of magnitude, with the establishment of university departments, state and federal heritage bodies, journals, both amateur and professional societies, and the first flowering of the archaeological heritage industry, which, after the 1980s, has come to completely dominate the practice of archaeology in Australia. During this phase, archaeology, particularly prehistoric archaeology, gained significant public profile, both because of what seemed to be an unending series of startling discoveries and the developing importance of major changes in public perceptions of Aboriginal Australia (see e.g. Byrne 1996; Murray 1992, 1996a; 2010).

This earliest group of professionally trained archaeologists were unimpressed with the 'un-changing Aborigine' image, or the idea that these people were of recent origin (the essence of an Australian archaeology dominated by anthropology and ethnography). The new approach was pragmatic: dig and see. The realized importance of C^{14} dating cannot be over-rated: not just sequence, but time depth could be achieved at one stroke. It is not an overstatement to assert that radiometric dating has to all intents and purposes created the prehistoric archaeology of Australia (see e.g. Allen 1994; Jones 1999).

In this phase there was a very strong emphasis on the importance of fieldwork and on the mastery of physical data, be they sequences, lithic technologies, plant and animal remains or site and landscape geomorphologies. Critically, there was little concern with theory or minimally, research design, with the key issue being the demonstration of antiquity and change. In this, there was a strong sense of continuity in the key questions that were to be asked about Aboriginal Australia, but the fact that Australian prehistoric archaeology was revealing surprises began to foster a more sophisticated sense of problem that would eventually lead to a more intense engagement with theory.

In world terms, we suspected that the most dramatic of these surprises was the discovery of Pleistocene edge-ground axe (properly hatchet) heads in northern Australia. This challenged both the neat old-world division between Palaeolithic and Neolithic and the widespread belief that all Aboriginal cultural and technological changes were derived from external sources.

The rapidity with which a chronological structure for Australian archaeology was obtained is still amazing. In 1961, the oldest date was some 9,000 years, by 1968 four sites older than 20,000 years were known and by the early 1970s at least two sites older than 30,000 years were accepted. Towards the end of this phase, 50,000 years was generally agreed on as a likely upper limit, though a few believed that considerably greater antiquity will be revealed. The 1960s also uncovered a broad outline of technological history which concentrated on stone artefacts (see e.g. Hiscock 2008; Jones 1999).

It is worth stressing again that during these decades, Australian archaeologists tended to work within a world of implicit theory, adopting a concern with approaches such as cultural ecology or palaeoeconomy (see e.g. Higgs 1972, 1975) as a methodological rather than a theoretical strategy. The same applied to responses to the precepts of the New Archaeology. Practitioners were well aware of Binford's work through *New Perspectives in Archaeology* (Binford and Binford 1968) and David Clarke's concerns in *Analytical Archaeology* (Clarke 1968), but interest tended to focus on empirical applications, such as Clarke's *Models in Archaeology* (Clarke 1972), or Ucko and Dimbleby's *The Domestication and Exploitation of Plants and Animals* (1969) rather than on a concern with theory-building *per se*. The disconnect between this focus on the local and the global discussion on hunter gatherers (a core element of the New Archaeology and exemplified in texts such as Lee and Devore's *Man the Hunter* (1968)) was often remarked, especially by North American archaeologists working in Australia, such as Jim O'Connell and, to a lesser extent, Lewis Binford.

Running continuously through the history of archaeology in Australia is the fact that recent prehistory is yesterday's ethnography. From Tylor and Morgan, through Sollas, Tindale, *Man the Hunter* to even Grahame Clark and Peter Ucko, Aborigines have been a mirror of the distant past, the living Palaeolithic, Conan Doyle's 'Lost World' of humans. This attitude, and its corollary that Australian prehistory is simply the nineteenth-century ethnography retrodicting for 50 millennia, was still far from dead in this phase. The notion that ethnographic and ethnohistoric data might provide models and baselines rather than analogues required a great deal more theoretical development than was thought worthwhile during a time when archaeologists were still trying to find the chronological 'corners of the room' (see e.g. Hiscock 2008; Murray 1988). Thus, the story of Australian prehistoric archaeology during this period tends to bear out Meltzer's argument that for the vast bulk of archaeologists, it was pretty much 'business as usual' notwithstanding all the 'paradigm talk' that flooded the pages of *American Antiquity* at this time (Meltzer 1979).

5. The decades of theory: An atomized Australian archaeology? (1981-present)

34 years on things have changed significantly. Reference to core surveys and overviews since Mulvaney published the first edition of *The Prehistory of Australia* in 1969 (Hiscock 2008; Lourandos 1997; Mulvaney 1969; White and O'Connell 1982) clearly demonstrates that during this time Australian archaeology has become far more diverse in its use of theory and the foci of research, with both historical archaeology and contact archaeology gaining real prominence, especially in heritage archaeology and in the public perception of Australian heritage (see e.g. DuCros 2002; Colley 1998; Smith 2004). The encounter between indigenous Australians and archaeologists, really an extended conflict that has now largely transformed into a more mature relationship (see e.g. Murray 2013), simply transformed the context of practice, and led to real changes in the kinds of research that were considered appropriate. One outcome has been a retention of interest in the global program of world prehistory, but this has been leavened by a more intense focus on the local, and a sense that archaeologists should write the histories of living societies, not (as previously understood) dead ones– marked by a change of terminology from 'prehistory' to 'archaeology'. The discourse between indigenous peoples and archaeologists was, of course, one of the defining concerns of post processual archaeology, and the Australian context once again provided important exemplars (indeed, as its focus on hunter-gatherer archaeology had done for processual archaeology) (see e.g. Lilley 2000; McNiven and Russell 2005).

Seismic shifts in approach and purpose have also occurred as a result of the importance of heritage archaeology as the major source of funding in Australia. Innovation here is focused on method rather than theory. Indeed, there is a strong sense of theoretical conservatism – or possibly just an absence of interest in theory whether it be processual or post processual. This is especially the case in historical archaeology (see e.g. Murray 2002).

However, the last 34 years have seen some continued interest in building theory around anomalous Australian data, particularly in addressing the questions of why there was no agriculture in Australia and the implications of what appears to be an environment of horizontal, rather than vertical, social evolution in Australia. These quite general questions rose to particular prominence in debates about the reality of late Holocene social and economic intensification in Australia, which made little progress and have now largely fizzled out (David, Barker and McNiven 2006; Hiscock 2008; Lourandos 1997). Major issues, such as an understanding of the nature of time in archaeology, attract scant interest. Other contexts of practice, particularly contact archaeology have seen a greater interest in theory building outside processual or postprocessual concerns (see e.g. Harrison 2004; Harrison and Williamson 2002; Murray 1993, 1996b, 2004).

34 years ago, Peter White and I concluded that notwithstanding the recognition of Australia's singularity, it being the one continent with a visibly unique fauna that had been shown to have a singular prehistory, methodologically and theoretically, Australian archaeology was and is archaeology first and Australian second. The last 34 years have confirmed that view, with Australian archaeology exhibiting much the same process of theoretical atomization that swept the discipline from the mid-1980s. There is little prospect of any change in this state of affairs anytime soon.

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Part III

Lobbying for Archaeology

Session organised by

Géraldine Delley and

Marc-Antoine Kaeser

Innovative alliances in the history of archaeology: introduction to a new field of inquiry

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Abstract

During the last decades, the strong development of the historiography of archaeology has drawn on post-processual approaches and postmodern attitudes, which have favoured the questioning of the involvement of our discipline in the legitimization of the main ideological, political, nationalist, and colonial trends of the nineteenth and twentieth centuries.

In our view, historians of archaeology should now concentrate their attention on other forms of involvement, more strictly economic and technical. It has indeed been observed that since the creation of modern states, archaeologists have often managed to gain the interest of non-archaeological organs or institutions in order to establish flourishing alliances and to reinforce their own scientific practices – especially in the context of economical and structural upheavals.

Relying on the conceptual tools of Science Studies, the analysis of such 'innovative alliances', a promising field of inquiry for the historiography of archaeology's past, offers the opportunity for a better articulation between the history of archaeological ideas and the epistemology of the discipline on the one hand, and the history of archaeological techniques and practices on the other hand. It should also contribute to the development of diachronic perspectives throughout the history of archaeology, from the beginning of modern times up to the immediate past and the present challenges of our discipline. Fundamentally, the critical historiography of archaeological 'lobbying' should eventually contribute to a reflexive approach to sensitive ethical questions such as the current problems of the financing of archaeological research.

Key-words: *History of Archaeology, Presentism, Science studies, Lobbying, Economic crisis*

Résumé

L'essor de l'histoire de l'archéologie au fil de ces dernières décennies a tiré avantage des approches post-processuelles et des attitudes postmodernes, qui ont favorisé la mise en question du rôle de notre discipline dans la légitimation des principaux courants politiques, idéologiques, nationalistes et coloniaux des 19e et 20e siècles.

A notre sens, les historiens de l'archéologie devraient désormais concentrer leur attention sur d'autres formes d'implications, plus strictement techniques et économiques. On peut en effet observer que depuis la formation des états modernes, tout particulièrement en temps de crise ou lors de bouleversements structurels, les archéologues ont souvent réussi à gagner l'intérêt et la participation d'organes et d'institutions non-archéologiques pour établir ainsi des alliances fructueuses qui ont permis de renforcer leurs propres pratiques scientifiques.

Fondée sur les outils conceptuels de l'histoire et de la sociologie des sciences, l'analyse de telles 'alliances innovantes' représente un domaine de recherche prometteur, susceptible de garantir des articulations bienvenues entre l'histoire des idées et l'épistémologie d'une part, et l'histoire des techniques et des pratiques archéologiques d'autre part. Elle devrait aussi contribuer au développement de perspectives diachroniques à travers l'histoire de l'archéologie, du début des Temps modernes jusqu'au passé immédiat et aux défis présents de notre discipline. En définitive et sur un plan plus fondamental, l'historiographie critique du 'lobbying' archéologique devrait contribuer à une approche réflexive sur des questions éthiques sensibles, telles que les problèmes actuels du financement de la recherche archéologique.

Mots-clés: *Histoire de l'archéologie, Présentisme, Histoire et sociologie des sciences, Lobbying, Crise économique*

1. Present challenges in the historiography of archaeology

History of archaeology has undergone a remarkable development in the course of the last three decades – more precisely, since the publication of Bruce Trigger's seminal book on the '*History of archaeological thought'* (1989), as well as Alain Schnapp's '*La conquête du passé'* (1993). It would be presumptuous to elaborate here on the origins, the specific trends, and the different national traditions, as well as the many causes of this development – all of which have already been pertinently analyzed (*e.g.* Trigger 2001; Schlanger 2002; Moro-Abadía 2007; Murray & Evans 2008).

Speaking in general terms, one can observe however that this development mainly results from the winding down of the *New Archaeology* and the emergence of post-processualist theoretical currents, which stimulated reflexive approaches regarding the archaeological practice. In other words, the relativism of post-processualist archaeology encouraged a disciplinary critique based on historiographical considerations. Since the research was initially motivated, above all, by questions relating to the ideological implications of archaeology throughout its history (nationalisms, colonialism, imperialism, totalitarisms and gender bias), the main focus has traditionally been set on political and identity issues (*e.g.* Trigger 1984, 1989, 1994; Arnold 1990; Diaz-Andreu & Champion 1996; Marchand 1996; Diaz-Andreu & Stig Sørensen 1998; Kohl & Fawcett 2000; Kaeser 2001, 2002). The history of our discipline therefore concentrated mainly on the analysis of archaeological *interpretations*, with a strong emphasis on ethical questionings about the limits of archaeological science.

Thus, the expansion of the history of archaeology was initially generated by 'presentist' concerns: the historiographic undertakings were subjected to the identification of modern, present problems within the discipline (Moro Abadía 2009). Problematic and disputable from the point of view of the historical method, these presentist biases progressively led, in the 1990s, to a renewal of historiographic practices within the archaeological community, on two levels. Firstly, on a methodological level, the new historians of archaeology felt compelled to set their own scientific productions within the broader framework of the history and sociology of sciences, in order to reach beyond their disciplinary backyard (Coye 1997; Kaeser 2001, 2004; Schlanger 2002; Hurel 2007; Richard 2008). Secondly, on a thematic level, it stimulated the development of research mainly focused on the remote past of archaeology (from the antiquarian undertakings of the Renaissance up to the Victorian times – periods reputed less sensitive from the point of view of the present expectations of the discipline, and which allowed to encompass the disciplinary foundations of archaeology in the wider domain of social and natural sciences (*e.g.* Diaz-Andreu 2007).

Since the beginning of the twenty-first century, the history of archaeology has eventually been able to take advantage of the current developments of the Science Studies (Van Reybrouck 2002), and to apply these developments to the historical analysis of archaeology in the first half of the twentieth century, with wider perspectives (Audouze & Schlanger 2004). On a methodological level, historians of archaeology now recognize the necessity of using the conceptual tools and methods of the history and sociology of sciences (Moro-Abadía 2007; Delley 2013; Link 2015), and of setting the history of archaeology within the broader framework of the history of humanities. As a consequence, focus has shifted from approaching archaeology as an isolated topic to analyzing archaeology as a set of practices engaged in interactions with other scientific disciplines, and more broadly with the 'Social' (Schlanger & Nordbladh 2008; Jensen 2012). In this sense, the historiography of archaeology simultaneously contributed to the development of cross-cutting research issues, like the history of archaeological institutions, of archaeological procedures, methods and practices, etc.

All in all, the present maturity of research in the field of the history of archaeology now enables us to treat presentist uses of disciplinary history in a frontal relationship. From this point of view, and on such bases, I actually think that it is finally possible to 'loop the loop', as it were: since historians of archaeology are now warned against the pitfalls of presentism, the time has come to confront

explicitly the initial motives of the development of this field of research. In this regard, one may return to the main questionings that nurtured the history of archaeology at its beginnings: those of the involvement of our discipline in the construction of national states and colonial empires. But after the global financial crisis of the end of the 2000s, this involvement should be contemplated from a different angle. That is, no longer from the essentialist angle of an intrinsic compromise of archaeology with nationalism, but rather, in my opinion, from the existentialist angle of shared interests between the needs of archaeology and those of the State – the State, which was then a most powerful and influential agent, capable of offering the discipline the means of its practical development, as well as of its institutional establishment.

Such is, in short, the purpose of the session on '*Lobbying for archaeology'* that we had the honour to organize with Géraldine Delley on the occasion of the 17th World Congress of the International Union of Pre- and Protohistoric Sciences in Burgos. As we understand it, lobbying can obviously be based on political or ideological grounds, but it shows itself in financial and/or institutional, perhaps indeed in practical, technical forms.

Considering the necessary renewal of the history of archaeology, this field of inquiry appears quite beneficial, as it allows a major part of the recent scholarship to be put back into a broader perspective. Moreover, analyzing the process of lobbying can prove quite instructive on questions such as the organization of the profession, or the distribution of symbolic authority and power within the discipline. Besides, it may contribute to the enforcement of diachronic perspectives, currently far too scarce in the historiography of archaeology, and above all, to the linking up of the institutional history (Richard 1992; Kaeser 2006) and the history of archaeological practices (Jensen 2012), which both presently run before the wind.

2. The nature of innovative alliances

In this perspective, historians of archaeology should focus, firstly, on creative and historically new forms of support to archaeology (from the private sector or from the public hand), which enrich our understanding of the networks supported by our discipline with human and non-human actors as diverse as possible (Callon 1988; Latour 1991, 2005; Law & Hassard 1999).

Secondly, the interaction between archaeological and non-archaeological entities in these networks should be assessed in a well-balanced way. This requires us to take into account also which benefit the partners of the archaeologists took in exchange for their support. Of course, it implies that we have to consider the impact of these alliances on archaeological research. As mentioned before, however, this impact should not only be evaluated as regards some probable bias in the archaeological *interpretations*, but above all, as regards the practical exercise of research, all along the 'chaîne opératoire' of archaeology, from survey to fieldwork, up to the post-excavation studies in the labs and the museums – considering especially the possible methodological repercussions of the support received by the archaeologists.

Such heuristic objectives obviously call for a careful attention to the precise nature of the non-archaeological entities supporting archaeology. On this account, one cannot merely point out the support of 'the State'; for in actual fact, this support assuredly could take quite different forms, whether it came through programs against unemployment, or from military bodies, or from economic development services.

3. Powerful allies mobilized on practical purposes

Obviously, the renewal of research into the history of archaeology commands us to focus rather on alliances with powerful entities, established for practical purposes (to the exclusion of manifest ideological motives, which have already been scrutinized at length), and which proved profitable in the long term to a sustainable strengthening of archaeological practices, or even the scientific

establishment of the discipline – occurrences which have probably been more frequent in times of economic crisis or structural upheaval.

In this respect, there are already some examples which come to mind, such as:

- the archaeological excavations conducted by the French 'Ponts et Chaussées' engineers during the eighteenth century, when, following the philosophy of Encyclopaedists, the documentation of Roman buildings was implemented in order to improve the techniques of the contemporary civil engineering sector (Pinon 2002);
- the archaeological expedition led by the Swede Sven Hedin in Central Asia and Inner Mongolia, which was supported by the Chinese government and which received its main funding through the German Reich – under precise conditions, which were even listed in official contracts (Fig. 1): the Beijing authorities expected information useful for a better control over those outlying provinces under warlords' rule, whereas the German Reich wanted accurate scientific data which could help the Lufthansa company to choose the most appropriate spot to build a stopover airport necessary for the opening of an air route to Beijing (Böhm 2003; Yuan 2015);
- the archaeology of the New Deal during the 1930s in the USA, where archaeological surveys and excavations could benefit from large unemployment programmes (Fagette 1996; Young 2007; Means 2013);
- the development of the radiocarbon dating method after World War II, when nuclear research strived to extend and advertise the scope of its civilian potential (Delley 2015, this volume).

Assuredly, there are lots of promising research subjects, which have simply not been taken into account from that angle. In actual fact, a quick glance at the history of archaeology in twentieth-century Switzerland already allows us to sketch here two potential case-studies which fit into the framework of the such 'innovative alliances' and testify to the fertility of this field of inquiry.

Figure 1. Sven Hedin signing the 1927 agreement with representatives of the Chinese academic community association authorities. Sven Hedin Foundation at the Royal Swedish Academy of Sciences.

3.1. Military internees and Roman architecture in Switzerland during World War II

At the beginning of the Second World War, the Swiss military authorities launched several occupation programs for the foreign military internees (mainly French and Polish); among these programs, some were implemented for archaeological excavations throughout the country. It can be observed that most of these archaeology programs were dedicated to the investigation of major Roman sites (Fig. 2). And they concentrated on the excavation and restoration of significant buildings (such as temples, theatres, amphitheaters, etc.: Castella 2012) – a focus on architectural remains, to the detriment of collecting small archaeological findings, and more generally, of the documentation of the material culture (Kaeser 2000).

At first, this bias towards Roman architecture seems to call for an obvious ideological explanation: during World War II, the Swiss authorities would have been eager to highlight the glorious Roman past of the Helvetic Confederation, in order to confront the Pangermanism of the Nazi regime, which claimed supremacy on the 'Germanic' territories of Switzerland. However, a closer look at the archives of these occupation programs reveals that there are two more positive, practical explanations. In actual fact, Roman urban sites were favoured firstly because, contrary to prehistoric dwellings or funerary sites usually located in remote places, far from the major modern trunk roads, these areas were still urbanized: it was thus much easier to find accommodation and supply for the large troops of military internees (Scheuner 2011).

Figure 2. Avenches, Summer 1940: French military internees engaged in the excavation of the Rafour. Aventicum / Site et musée romain d'Avenches, 1940-185.

Secondly, these Roman urban sites were clearly better suited to the working conditions of these occupation programs. As a matter of fact, the excavations were led and organized on the field by artillery officers, who were inclined to follow their own expertise in geodesy and topography. While the foreign internees were in charge of all the spadework, the identification, the measurement,

and the drawing of plans of Roman walls and architectural foundations constituted a useful (and inexpensive) training for these artillery officers.

In this respect, it is likely that the archaeologists applying for the organization of such occupation programs did at first anticipate some tacit ideological expectations, thus creating a favourable area for discussion. However, the actual choices and decisions were exclusively based on technical criteria and logistic needs, which the archaeologists, with their adequate practical expertise, were perfectly prepared to meet.

3.2. From salvage to preventive archaeology: the role of motorway engineers in Switzerland in the second half of the twentieth century

Similarly, to take another example, one may point to the mutation Swiss archaeology has witnessed over the last 50 years: an extraordinary expansion, with drastic changes in the practice of the profession as well as the institutional organization of the discipline, but also strong modifications as to the nature of its objects of research. In fact, this deep mutation was mainly the result of the enforcement of what Swiss archaeologists commonly call 'motorway archaeology' – the outcome of a special agreement as to the financing of archaeological undertakings entailed by the construction of motorways: while heritage in Switzerland is legally a cantonal affair, these new costs were however to be assumed by the Federal State.

The consequences of this agreement were both quantitative and qualitative (Kaenel 1998, 2002; Leesch 1998; Bandi & Niffeler 2007; Kaeser 2012). On the quantitative level, it allowed for the archaeological (and palaeontological) survey of linear paths covering all parts of the country's landscape, the short-, mid-, or long-term recruiting of several hundreds of archaeologists, excavation technicians and natural scientists from Switzerland and abroad, the identification, excavation and scientific study of hundreds of archaeological sites (with strong cantonal differences), a massive expansion of scientific publications in the discipline, in parallel with the development of a dozen new scientific series and periodicals, as well as a serious growth of activities intended for the general public.

On the qualitative level, above all, the enforcement of 'motorway archaeology' ensured the basis for an institutional reorganization of the discipline, as well as technical and logistical improvements in archaeological survey and excavation (Fig. 3), which derived from civil engineering, and were obviously borrowed from the building contractors with whom the archaeologists were led to collaborate. These improvements (such as the resort to exploratory trenches or the use of the bulldozer as a true excavation tool) actually had methodological and heuristic implications, which impacted the epistemology of what was to become preventive, 'contract' archaeology.

Now, an ongoing interdisciplinary research project funded by the Swiss National Science Foundation (Kaeser & Tissot 2013) already shows that the Federal decree approved on 13th March 1961, which established the funding by the Federal Roads Office '*of the excavations for antiquity research conducted on the future path of the national roads*', was in actual fact the result of an extremely circumstantial decision, which had been favoured by incidental motives and practical issues relating mainly to administrative agendas. While it was to have far-reaching repercussions for the discipline in Switzerland, this special agreement had been taken without any true reflection. Rather, it had been inspired by some bold and enterprising academics well-introduced in political circles, far from any debate within the archaeological community, which had not in the slightest anticipated its potential impact.

In this instance, following the path of the Actor-Network Theory, one may thus consider that it has been an alliance binding together a few university professors, some leading Federal authorities, mechanical diggers, computational tools, engineers, natural scientists, building contractors, as well as new administrative operating modes, which radically transformed the reality of archaeology in Switzerland.

Figure 3. Large-scale motorway excavations in Switzerland on the Neolithic lakeside settlement of Twann (1974-76). Archäologischer Dienst Bern (F. Roulet).

4. Promising perspectives

As the previous examples show, the study of these 'innovative alliances' should allow to better grasp, not only the motives, but above all, the ways and means implemented since the eighteenth century for the establishment of the archaeological discipline.

In fact, the echo this issue had at the Burgos UISPP World Congress obviously confirms the relevance of organizing a session specifically dedicated to this theme. In addition to the talks that could not be included in this work, the four contributions gathered in the following pages testify to the diversity of approaches and objects pertinent in such a perspective. Moreover, they demonstrate the decisive opening of history of archaeology to the contemporary period, from the end of World War Two up to current events.

- Géraldine Delley evaluates the motives that led to the collaboration of archaeology and physics in the framework of the implementation of a ^{14}C dating laboratory in Berne during the 1950s. She thus highlights the role given to archaeology in what were then crucial stakes for science policy, in the framework of the 'military industrial complex' during the Cold War.
- Alessandro Guidi examines the financial investments injected into great excavation operations and showcasing of ancient sites in the Mezzogiorno in post-war Italy, from 1950 to 1992. He shows how archaeology, soon referred to as the 'petrol' of the peninsula, contributed to

clientelism, on the part of leading parties, in the name of touristic promotion and the struggle to reduce unemployment... not without highly debatable scientific benefits on the long term.

– Sébastien Plutniak scrutinizes the relationships between the engineering and the archaeological fields during the second half of the twentieth century in France. Harnessing tools from sociology of interest groups, he analyzes the trajectories of four engineers active in archaeology and observes that in spite of their contribution to the development of statistics and computation techniques in archaeology, their activity did not lead to the institutionalization of these specialities.
– Tim Murray explores the strategic partnerships between industry and universities within the setting of archaeology of the modern city in Australia. Apart from an enhanced understanding of heritage values of archaeological places, his analysis shows that both governments and industry could be persuaded that archaeological research may yield improvements in development productivity. At the same time, the funding schemes developed by the Australian Federal Government had a significant impact on the conduct of archaeological research.

5. An assessment for the future

Getting back to considerations on the now possible return to presentist preoccupations, it obviously appears that the critical historiography of archaeological 'lobbying' could also contribute to a reflexive approach on sensitive ethical questions, such as the current problems of the financing of archaeological research (Coumans 2011; Kaeser, Reginelli Servais & Péré-Noguès 2013). Considering archaeology as a scientific, social, cultural, and ideological, but also technical, financial, and economic activity, such a critical historiography may offer the archaeological community some guidelines as to the ways to deal with the new liberal order, especially in the present context of global economic crisis (Schlanger & Aitchison 2010).

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Radiocarbon and archaeology: an innovative alliance in the post-WWII scientific field[1]

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Abstract

This paper evaluates institutional and political motives that led to the collaboration between archaeology and physics in the framework of the implementation of a ^{14}C dating laboratory in Berne during the 1950s. The innovative dimension of the method, the powerful position of nuclear physics in the scientific field and the pluridisciplinary dimension of the partnership looked very attractive for prehistorians. At the same time, ^{14}C dating offered interesting perspectives for physicists too. As an offshoot of nuclear research undertaken in the framework of the 'military industrial complex' during WWII, ^{14}C was perfectly aligned with the agenda of the politics of science regarding the new pacific developments of nuclear research after 1945.

Key-words: *radiocarbon dating, pluridisciplinarity, scientific field, Cold War*

Résumé

Cette contribution évalue les motifs institutionnels et politiques qui ont conduit archéologues et physiciens à collaborer dans le cadre de la mise en place d'un laboratoire de datation ^{14}C à Berne, dans le courant des années 1950. Le caractère innovant de la méthode, la position dominante de la physique nucléaire dans le champ scientifique, de même que la dimension pluridisciplinaire de cette collaboration constituaient autant d'éléments attractifs pour les préhistoriens. Parallèlement à cela, la datation par la méthode du ^{14}C offrait également de nouvelles perspectives aux physiciens et chimistes spécialisés dans le domaine nucléaire. A cela s'ajoute que le développement de la méthode du ^{14}C – en tant que retombée de la recherche scientifique intégrée au 'complexe militaro-industriel' durant la Seconde Guerre mondiale – s'inscrit parfaitement dans les agendas des politiques scientifiques qui cherchent, après 1945, à promouvoir de nouvelles applications pacifiques dans le domaine du nucléaire.

Mots-clés: *datation radiocarbone, pluridisciplinarité, champ scientifique, Guerre froide*

1. Introduction

In the1950s, the innovative dimension of radiocarbon dating (^{14}C), the power of the nuclear physics in the scientific field (Bourdieu 1976), as well as the pluridisciplinary dimension of the collaborations intended, contributed to make ^{14}C very attractive for prehistorians. At the same time, ^{14}C offered interesting perspectives to physicists. Deeply connected to the 'military industrial complex', nuclear physics needed, after 1945, to diversify its applications, especially for non-military purposes (Creager 2013; Joye-Cagnard 2010; Krige 2008). The radioactive isotope of ^{14}C offered an opportunity to broaden the field of application of atomic physics to pacific domains such as medicine, agronomy, botany, geology and the very popular field of prehistory. A close review of the archives and publications related to the project of ^{14}C laboratory in Bern sheds light on the argumentation of the scientists involved in the legitimation process of this innovative project.

2. The ^{14}C laboratory in Bern, a joint venture between prehistory, botany and nuclear physics

The idea of implementing a ^{14}C dating laboratory at the Institute of physics of Bern emerged in 1956. It involved three disciplines: nuclear physics, prehistory and botany. Physics was represented by

[1] See also Delley (2015), in particular, p. 33-41.

Hans Oeschger, prehistory by Hans-Georg Bandi and botany by Max Welten.[2] The responsibility of each actor was clearly defined in a project Bandi and Welten submitted to the Swiss National Science Foundation (SNSF) for financial support.[3] Regarding Oeschger, who would be leading the laboratory, his duty was to develop, test and adjust the devices required in the dating process (chain for the preparation of samples, counters, etc.). He would also supervise measurements and interpret the results obtained before their submission to archaeologists and botanists. The role of Bandi and Welten was to select the archaeological and botanical samples submitted by colleagues and to evaluate the coherence of the results obtained by the method, comparing them with the overall knowledge in the fields.

In addition to their official functions, Bandi and Welten were also facilitators. First, thanks to their experience and strong connections within their respective fields, they provided the laboratory of Oeschger with 'good samples', necessary for pursuing the development of the method, which was still in its early stages. Secondly, as experts, their appraisal of the results contributed to the verification process of the method, ensuring the reliability of the results delivered to archaeologists and botanists. In this way, Bandi and Welten took part in the process of 'stabilization' (Callon 1986) of the ^{14}C method, a process that was instrumental in the recognition of the method as a scientific tool. Thirdly, Bandi and Welten also contributed to the diffusion of the standardized attitude archaeologists and botanists were expected to adopt towards the ^{14}C method. This regarded the sampling in the field, the sampling preservation before their submission to the laboratory and the interpretation of the results obtained. This last aspect turned out to be a crucial step in the recognition process of the method by the archaeological community at large (Delley 2015, 112 ss.).

3. A project perfectly matching the agenda of the politics of science

Bern was an obvious choice for the protagonists of the project of a laboratory in Switzerland. In addition to the fact that Bandi and Welten were both based at the University of Bern, the Institute of physics had since 1951 started to specialize in the domain of isotopic dating. This shift was due to the appointment of Friedrich Houtermans, a brilliant physicist trained in Göttingen. Before coming to Bern, Houtermans had worked as an astrophysicist in prestigious laboratories all around the world and had contributed to the development of isotopic dating tools used for the evaluation of the age of meteorites and the earth crust. His arrival in Bern gave a new orientation to the activities of the Institute of physics.

At the same time, this new orientation coincided with massive investments approved by the Swiss government in the field of nuclear research. Such a support contributed to the diversification, in Swiss universities, of applications of nuclear physics in several domains such as medicine, agronomy and geochronology. From the end of the 1950s onwards, such financial supports were distributed by the SNSF, where a special commission (the most richly endowed) was supporting scientific projects in domains specifically connected with atomic physics and its offshoots (Joye-Cagnard 2010). As in many other countries, the Swiss decision makers defined nuclear research as a national priority. The ^{14}C laboratory in Bern was then fully integrated with the knowledge production regime which was implemented during the Cold War in the framework of nuclear pacification programmes.

4. Knowing the expectations of others

Interestingly, in their funding application to the SNSF, Bandi and Welten did not pay much attention to the heuristic outputs of ^{14}C for their reciprocal disciplines, a point the two scholars were asked

[2] All of them where appointed at the University of Bern – Hans Oeschger (1927-1998) as a young doctor at the Institute of physics, Hans-Georg Bandi (1920-2016) as an ordinary professor in prehistory and paleoethnography and Max Welten (1904-1984) as an extraordinary professor at the Institute of botanics.

[3] Bandi, H.-B., Welten, M. – [Application] 14.5.1956, [to the] Swiss national science foundation. File n°962, Division I. Archives of the Swiss national science foundation, Bern.

to complete in their project.[4] By contrast, they seem to have been particularly attentive to finding arguments that could comply with the expectations of the administrators of science regarding their future collaborations. An important point in the argumentation of Bandi and Welten regarded the figure of Oeschger. In their first application, Bandi and Welten made it clear that the money was required for 'developing the ^{14}C method and practicing age determination by the means of the gas counters the physicist Hans Oeschger developed for archaeology and paleobotany at the Institute of physics of Bern'.[5] Bandi and Welten explained that whilst conducting his research, Oeschger had developed a counter adapted to the measurement of low level natural radioactivity contained in isotopes like tritium and carbon 14. This new method, based on the measure of gas, proved to be more efficient regarding ^{14}C than the classical method developed by Willard Frank Libby, the inventor of the ^{14}C dating method, who prescribed the measurement of ^{14}C activity on solid carbon. Bandi and Welten dwelt on the fact that Oeschger's discovery had been presented to and recognized by the ^{14}C community at the second international ^{14}C congress held in Cambridge in 1955.[6] This favourable context turned out to be an important issue for the success of the project of the laboratory in Bern. When evaluating the application, the experts of the SNSF insisted on the quality of the team at the University of Bern.[7] The competences of the collaborators of the Institute certainly gave credibility to Bandi and Welten's project.

Bandis' activities in the domain of Swiss prehistory attest to a good knowledge of the system regarding scientific research and its promotion within society. He was aware of the decisive arguments that needed to be mentioned in order to be persuasive. In the application he submitted to the SNSF along with Welten, the two scholars insisted on the modernity of the ^{14}C method and the necessity of giving access to such a modern tool to Swiss scientists (archaeologists, botanists, geologists). A direct access to modernity was presented as a necessary condition to the practice of science. Bandi and Welten underlined the fact that every country practicing scientific research had at least one or two ^{14}C laboratories, even more in the case of the United States. But according to the applicants, such foreign laboratories could not carry out the dating of samples submitted by Swiss scholars, unless the latter were ready to wait a long time before receiving their results.[8] The price of the determinations in foreign laboratories was exposed as another problem. If Swiss archaeologists needed to send their samples abroad to be dated, the price would necessarily be higher than if the determination were done in Switzerland. They would need financial support that would probably be submitted to the SNSF. Supporting the project of a ^{14}C laboratory in Switzerland would solve the problem.

Evaluating the project of a laboratory in Bern, the authorities of the SNSF saw Bandi and Welten as experts in the new developments in the field of age determination. The need to provide Swiss archaeologists, botanists and geologists with a modern tool that American and leading European scholars had already adopted proved a convincing argument for the SNSF.[9]

Pluridisciplinarity was another crucial argument used by the applicants that had a decisive impact on achieving the laboratory project. The project of a ^{14}C laboratory was gathering specialists coming from different fields of research, an aspect that the SNSF had been promoting since its creation in 1952. The expertise report underlined that the team of the future laboratory would be composed of a physicist, a prehistorian and a geobotanist. For the experts of the SNSF, such partnerships between

[4] Bandi, H.-G., Welten, M. – [Letter] 15.6.1956 [to the] National research council, File n°962, Division I. Archives of the Swiss national foundation, Bern.
[5] Bandi, H.-B., Welten, M. – [Application] 14.5.1956, [to the] Swiss national science foundation. File n°962, Division I. Archives of the Swiss national science foundation, Bern.
[6] Bandi, H.-B., Welten, M. – [Application] 14.5.1956, [to the] Swiss national science foundation. File n°962, Division I. Archives of the Swiss national science foundation, Bern.
[7] [Report] 23.05.1956, File n°962, Division I. Archives of the Swiss national science foundation, Bern.
[8] Bandi, H.-G., Welten, M. – [Letter] 15.6.1956 [to the] National research council, File n°962, Division I. Archives of the Swiss national foundation, Bern.
[9] [Report] 23.05.1956, File n°962, Division I. Archives of the Swiss national science foundation, Bern.

disciplines 'guarantees the success of the researches and we can trust the applicants'.[10] In the postwar period, pluridisciplinarity had literally become a standard for evaluating the credibility and the quality of research projects,[11] a point on which Bandi and Welten seemed to be well informed.

5. Confirming the authority of nuclear physics in the field of science

Initiating alliances with well-established and authoritative sciences such as nuclear physics would help increase both the visibility and the legitimacy of prehistory among scientists and the general public. Archaeologists, however, were not the only ones to take advantage of the ^{14}C laboratory project. For physicists, establishing partnerships with archaeologists and botanists attested to the wide range of applications they could develop in a variety of fields. In other terms, physicists also had good reasons to support such an innovative alliance. In 1962, when the new department of 'exact sciences' was inaugurated at the University of Bern, Friedrich Houtermans gave an account of the activities of his institute in the Journal of the Swiss universities (*Schweizerische Hochschulzeitung*). Among the research presented by Houtermans, an important place was given to the ^{14}C laboratory, which was entirely funded by the SNSF. For Houtermans, ^{14}C dating corresponded perfectly to his intentions to follow interdisciplinary perspectives. In his presentation, he insisted on the interconnections between experimental physics and other fields of research such as archaeology, paleobotanic, mineralogy, geology, astrophysics, glaciology, oceanography, mathematics and statistics. For Houtermans, the aim of experimental physics was literally 'to find new methods to solve problems encountered by other laboratories and disciplines' (Houtermans 1962, 78). But this stance also brought legitimacy to the new institute which was argued as indispensable for the development of other domains of research.

6. Conclusion

The instauration of innovative alliances between archaeologists and physicists was perceived positively by both categories of actors. However, the motives which encouraged these scientists to cooperate were only partially the same. A common motive was, for instance, pluridisciplinarity, which constituted a new epistemic virtue among scientists from the 1950s onwards and progressively became a new norm.

An important distinction between physicists and archaeologists must however be underlined: since the 1950s, the position of prehistory and physics in the field of science has never been equal. While humanities have started since this date to integrate their role of dominated sciences and tried to establish alliances with authoritative disciplines as an attempt to ascend and gain credibility within the scientific field (Bourdieu 1976), for dominant disciplines like physics, such innovative alliances were merely confirming their central position in the scientific field. Moreover, if developing tools for others contributed to reaffirm one's dominant position, it also tended to present the activity of physicists as essential to the development and renewal of other disciplines such as archaeology, whose credibility would soon largely rely on its capacity to develop such innovative collaborations.

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[10] [Report] 23.05.1956, File n°962, Division I. Archives of the Swiss national science foundation, Bern.

[11] On this point, but from the perspective of molecular biology, see Strasser 2002, p. 557-559.

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Lobbying for archaeology in the Italian 'First Republic'

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Abstract

Nowadays, the period between the liberation from Fascism (1945) and the explosion of scandals that characterized the chronicles of 1992 is defined, in Italy, as the 'First Republic'.

The paper will examine, in this period, three examples of political lobbying carried out to the (economic) advantage of the major political party, the Democrazia Cristiana (DC) and, from the late 1970s onwards, of their preferred partner, the Italian Socialist Party (PSI):

- *the history of the Cassa del Mezzogiorno, a sort of state bank created to stimulate, with massive sums of money, the economy of the underdeveloped south of the country, an organism that especially in the 1950s and 1960s allowed many of the most important excavations of Greek and Roman cities and/or monuments and the ensuing creation of modern museums and archaeological parks;*
- *the promulgation, in the late 1970s, of a law for the creation of youth cooperative societies in the field of cultural resource management (legge 285; many of the young archaeologists, historians of art and architects were later absorbed in the State Antiquity Offices [Soprintendenze]);*
- *the metaphor, in the 1980s, of cultural resources as our 'oil' (hence the name 'cultural reservoirs'), with the creation of societies whose first aim was the computerization of the cultural patrimony ('Beni Culturali').*

Key-words: *Cassa del Mezzogiorno, Law 285, Cultural Reservoir, State Antiquity Offices*

Riassunto

Ai giorni d'oggi il periodo tra la Liberazione dal Fascismo (1945) e l'esplosione dello scandalo che caratterizzò le cronache del 1992 in Italia è definito 'Prima Repubblica'.

L'articolo esamina tre esempi di 'lobbismo' di quel periodo, finalizzato al vantaggio (soprattutto economico) dei maggiori partiti politici, la Democrazia Cristiana e, dai tardi anni '70 in poi, il Partito Socialista Italiano:

- *la storia della Cassa del Mezzogiorno, una specie di Banca di Stato creata per stimolare con massicci investimenti l'economia del Sud economicamente sottosviluppato del Paese, un organismo che specialmente negli anni Cinquanta e Sessanta permise di scavare in molti monumenti e/o città greche e romane e la conseguente creazione di moderni Musei e parchi archeologici;*
- *la promulgazione, nei tardi anni Settanta, di una legge per la creazione di cooperative di giovani nel campo della tutela e valorizzazione dei Beni Culturali (legge 285; molti dei giovani archeologi e storici dell'arte negli anni seguenti vennero stabilmente assunti nelle Soprintendenze);*
- *la metafora, negli anni Ottanta, dei Beni Culturali come il nostro 'petrolio' (da qui il nome 'giacimenti culturali'), con la creazione di società il cui fine principale era la digitalizzazione del patrimonio culturale.*

Parole chiave: *Cassa del Mezzogiorno, legge 285, Giacimenti Culturali, Soprinendenze*

1. Introduction

Nowadays, the years between the liberation from Fascism (1945) and the explosion of scandals that characterized the chronicles of 1992 are defined, in Italy, as the 'First Republic' (on Italy's modern history see Mack Smith 1997, Ginsborg 2003).

The paper will examine, in this period, three examples of political lobbying for cultural heritage carried out to an economical and political advantage of the major political parties, the Democrazia Cristiana (DC) in the 1950s and early 1960s, with the birth of the political alliance, its preferred

partner, the Italian Socialist Party (PSI), from the late 1970s the Italian Communist Party (PCI), always strong in the traditionally 'red' regions (Tuscany, Umbria and Emilia Romagna).

2. The Cassa del Mezzogiorno experience

The first example is the role of the Cassa del Mezzogiorno (the traditional denomination for Southern Italy), a sort of state bank created to stimulate, with massive sums of money, the economy of the most underdeveloped part of the country. This institution, especially in the 1950s and 1960s, allowed many of the most important excavations of Greek and Roman cities and/or monuments and the ensuing creation of modern museums and archaeological Parks; we will examine the period between 1951 and 1965. The second and the third examples will be laws (in the late 1970s and mid-1980s) created to allow a policy of access to work (as we will see with highly differing mechanisms and results) for young people in the field of cultural heritage.

The idea of the Cassa originated in 1950 thanks to a group of intellectuals – among them Rodolfo Morandi and Donato Menichella – led by the economist Pasquale Saraceno, who four years earlier had created the Association for the Development of Industries in the Mezzogiorno (SVIMEZ).[1] The Cassa tried to apply the Keynesian policy of local development agencies of the American New Deal to the territory of regions considered to this day as belonging to Southern Italy and to the major islands (Sicily and Sardinia). This programme was also applied to some provinces of Latium, like Latina and Frosinone, or to Abruzzi, part of the former Kingdom of Two Sicilies (Regno delle Due Sicilie), annexed to Italy after the political unification of 1861.

To help the development of the poorer parts of the country, weakened from years of war and suffering from terrible problems due to lack of infrastructures, generalized unemployment and illiteracy, the Cassa used money from the International Bank for Reconstruction and Development, an institution created to handle the generous funds of the Marshall Plan (Lepore 2012). The idea was to have a quick fix to fuel the economy of Southern Italy for a period of no more than twelve years; in fact, the Cassa ended only in the mid-1980s. Notwithstanding recurrent critiques of political clientelism (surely on the basis of its prolonged duration) and inefficiency, the Cassa was a powerful instrument of development, for example for its capacity to greatly enhance employment.

In theory, tourism was one of the sectors of intervention, chiefly in Sicily and Campania considering the concentration of art and natural beauty in this part of Italy. In this framework, the idea to request funds for archaeological diggings, sites and museums came from Amedeo Maiuri (1886-1963), head of the State Antiquity Office (Soprintendenza) of Campania.[2]

The kind of financing given from the Cassa was possible only for other 'State' offices, like the Soprintendenze. Using this opportunity and thanks also to his friendship with an influent politician, Pietro Campilli, head of the Ministry for the Cassa per il Mezzogiorno, Maiuri received in 1951 more than 400 million lire, a sum corresponding more or less to 6,590,000 euros of 2012.[3] As he wrote in a booklet published by the Cassa in the same year (Maiuri 1951), he achieved this result thanks to a brilliant intuition: the idea to utilize the great amount of excavation earths around Pompeii to create the embankments of the new highways built by the Cassa around Pompeii. Maiuri used the money of the Cassa not only for excavations, but also for the expropriation in favour of the State of private allotments located in archaeological areas. In the following years, there was a recurring problem: on one side, the Soprintendenze, with endemic lack of State funds, tried to get money not only for the creation of archaeological areas, museums and parks but also for scientific research and

[1] In the wide bibliography on the Cassa del Mezzogiorno see, among others, Ammannati 1981; Del Monte, Giannola 1997; Pescatore 2008.

[2] On this archaeologist and on his personal archive and library see http://www.comune.pompei.na.it/amedeo-maiuri.html.

[3] For the correspondence of Italian lire from these years and present euros, see the website http://www.istat.it/it/archivio/90055.

expropriations, while on the other, the Cassa tried (often unsuccessfully) to hold a line of financing only for the creation of sites of touristic interest.

From 1952 onwards, other regions (first of all Sicily) also got funds for archaeology from the Cassa; in this paper, I will discuss the sums allocated for the most important monuments, museums or excavations. The data are extracted from the balance sheets of the Cassa that I was able to examine thanks to the courtesy of Susanna Greco (SVIMEZ) and Paola Pozzuoli (Archivio Centrale dello Stato). In Campania, together with Pompeii and Ercolano, a great amount of money (more or less 350 million lire corresponding to more than 6 million euros of 2012 was allocated for the archaeological site of *Paestum*, with enthusiastic articles in the local newspapers.[4] Other Campanian sites were Baia, Santa Maria Capua Vetere and the Museum of Benevento. In Sicily, a great effort was made for Syracuse, especially for the archaeological park, created with the Cassa funds between 1952 and 1955 to unify the ancient monuments of the city (in this case, the sum allocated corresponds to 4,345,712 euros of 2012. Other sites were Agrigento, the fortifications and the Museum of Gela, the restoration and anastylosis of Temple E, in Selinunte and chiefly the complex and expensive expropriation, restoration of mosaics and development of archaeological areas at Piazza Armerina. In this case, over many years, more than 300 million lire were allocated, a sum corresponding to more or less 5,500,000 euros of 2012.

In Apulia, from 1952 onwards, special attention was given to the site of Canne della Battaglia, a tourist attraction for the historical memory of the famous battle won by Hannibal, despite the Cassa suspended the funding for this site between 1957 and 1963 given the strong polemic (still live today) over the real location of the battle;[5] notwithstanding, the site received a sum corresponding to over 1 million euros. Another point of interest here, especially for the quantity and quality of Greek painted pottery, was the National Museum of Taranto. In Lucania, one of the main sites is the Metaponto Temple, where the construction of a wide car park caused vivid polemics in the newspapers (Archivio Centrale dello Stato, AA.BB.AA. IId, 1959-1960). Although he became Superintendant only in 1964, it is important here to remember Dinu Adamesteanu (1913-2004), a Romanian scholar and political refugee from his country who became one of the leading archaeologists in Italy and a pioneer of the use of aerial photographs, which he often used to ask the Cassa for funds for his research (Bianco, De Siena 2012). In Abruzzi (which then included Molise), the main sites were Pietrabbondante and Sepino, while in Southern Latium, we must remember the discovery and subsequent excavation of the Villa of Tiberio at Sperlonga, during the building of the via Flacca, the new tourist road along the sea. In Sardinia, careful attention was given to the Phoenician city of Tharros.

On the ground of these data, it is possible to elaborate two tables, one (table A), based on the Cassa balance sheets, of sums allocated between 1951 and 1965, the other (table B), slightly different (although the general sum is roughly equal), based on raw data published in the 1960s in a book on Italian Cultural Heritage (Per la salvezza 1967, vol. II, p. 785-786), of the sums effectively spent during this period. Apart from the major role played by Campania and Sicily, two regions that got 80% of funds, we must underline that in 15 years the Cassa del Mezzogiorno spent 3,343 million lire on archaeology, corresponding roughly to 90 million euros of 2012. Obviously, given the tremendous touristic attraction of the historical archaeological sites in the south of Italy and in Sicily, pre- and protohistoric sites were 'condemned to the destiny of Cinderella' in the amount of sums allocated, receiving only 470 million lire (7 million euros of 2012), which represents no more than 12% of the total funding for archaeology by the Cassa. A first example of the intervention of the Cassa in this field is the skeleton of an *elephas meridionalis* found in 1954 in the Lower Pleistocene sediments of an ancient lake near L'Aquila (Elephas 1985). Four years after its recovery, the Cassa contributed 2 million lire (corresponding to 37,000 euros of 2012) to the assembly of the bones and their installation in the Museum of L'Aquila. Other examples of intervention in this field are the efforts to make pre-

[4] See, for example, *Il Mattino* (Naples newspaper), 20/12/1952, p. 5.

[5] See a polemic letter (30/1/1956) of the Cassa director to the Ministry of Public Instruction (Ministero della Pubblica Istruzione) and an article on the *Gazzetta per il Mezzogiorno* (2/8/1857).

Regione	1951	1952	1953	1954	1955	1956	1957	1958	1959	1960	1961	1962	1963	1964	1965	Tot.
Abruzzo	0	0	0	0	0	0	55:00:00	2:00	20:00	0	0:00	0	0	0:00:00	35:30:00	0:00:00
Basilicata	0	0	0	0	0:00	19:00	0	0:00	0	3:50	1:50	0	115:00:00	0:54:00	0.031	171:24:00
Calabria	0	0	0	0	0	0	0	0	15:00:00	0	52:40:00	0:00	40:10:00	42.90	0:00	150:04:00
Campania	404.80	205:30:00	129.70	63:30:00	45:50:00	137:00:00	19:00:00	108.80	191.60	204.80	44:40:00	466.80	45:40:00	225.60	56.90	2343.90
Lazio	0	0	0	0	0	9:00	0:00	63:00:00	0	0	100:50:00	49:50:00	16:50	36:00:00	0:00	274:50:00
Puglia	0	15:00	0	0:00	0	0:00:00	56.10	57:20:00	0	55:20:00	287:50:00	64:30:00	8:40	87.60	2:40:00	633.70
Sardegna	0	0	0	0	0	10:00	0:00:00	10:00	0	0	0:00	56:20:00	127.70	24.20	5.60	233.70
Sicilia	0	241:50:00	442:00:00	65:30:00	310.70	166:50:00	70:00:00	434:40:00	242:10:00	80:00:00	346.80	271:40:00	203:40:00	184.70	84.100	3142.90
Tot.	**404.80**	**461.80**	**571.70**	**128.60**	**356:20:00**	**202:50:00**	**200:01:00**	**673:40:00**	**468.70**	**343:50:00**	**833:10:00**	**908:20:00**	**556:50:00**	**601.40**	**216**	**6949.98**

TABLE A. SUMS ALLOCATED FOR ARCHAEOLOGY BETWEEN 1951 AND 1965 FROM THE CASSA DEL MEZZOGIORNO (SOURCE: CASSA BALANCE SHEETS; IN MILLIONS OF OLD 'LIRE').

Regione	1951	1952	1953	1954	1955	1956	1957	1958	1959	1960	1961	1962	1963	1964	1965	Tot.
Abruzzo	0	0	0	0	0	0	0	0	2:00	0	0	0	0	110:00:00	0	130:00:00
Basilicata	0	0	0	0	20:30	0	0	0	0	1:07	0	18:00	97:00:00	2:00	0	139:00:00
Calabria	0	0	0	0	0	0	0	0	33.60.00	53:00:00	0	5:30	38.80.00	35:00:00	16:20	181.90.00
Campania	616:20:00	358.60.00	40.80.00	118:50:00	93:00:00	108:00:00	61:40:00	180.70.00	152:00:00	163:20:00	95:40:00	68.80.00	354:10:00	83:20:00	0:00:00	2503.90.00
Lazio	0	0	0	0	0	0	8:50	0	0	12:00	90:00:00	65:00:00	36:00:00	0:00:00	0	211:50:00
Puglia	0	125:00:00	0	6,40.00	0	56:40:00	23:00	0	0	92.70.00	0	41.70.00	8:00	65:00:00	6:00:00	423.80.00
Sardegna	0	0	0	0	0	10:00	10:00	0	0	41:00:00	12:00	115:10:00	58:50:00	3:00:00	0:00:00	249:50:00
Sicilia	0	491:20:00	256:50:00	94:10:00	437.70.00	74:10:00	152:10:00	366:00:00	118:40:00	209:40:00	244.60.00	253:00:00	103.70.00	46.60.00	0:00:00	2847:40:00
Tot.	**616:20:00**	**984.80.00**	**297:30:00**	**219:00:00**	**551:00:00**	**248:50:00**	**254.60.00**	**536.70.00**	**324:00:00**	**573:00:00**	**441.90.00**	**566.90.00**	**696:10:00**	**345:10:00**	**22:20**	**6687:30:00**

TABLE B. SUMS EFFECTIVELY SPENT FOR ARCHAEOLOGY BETWEEN 1951 AND 1965 FROM THE CASSA DEL MEZZOGIORNO (SOURCE: PER LA SALVEZZA 1967; IN MILLIONS OF OLD 'LIRE').

and protohistoric caves (Pertosa and Castelcivita in Campania, Zinzulusa in Apulia) accessible to tourists. Only in the early 1960s, a period coinciding with the apex of the so-called Italian economic miracle, with a considerable increase of time spent on touristic activities, did the Cassa begin an intensive program of funding for the Sardinian *nuraghi* and for the Sassari museum.

But the most important contribution of the Cassa financing to Italian prehistory is without a doubt the construction of the Lipari archaeological museum. The main actor of this story is the most influential and best known abroad of the Italian prehistorians of the twentieth century: Luigi Bernabò Brea (1910-1999).[6] From 1947 on, he was Superintendant of Eastern Sicily; in this role, having discovered some important prehistoric sites in the Eolian Islands, he decided to excavate, together with his main assistant, the French scholar Madeleine Cavalier, the multistratified site of the Lipari acropolis, the sequence of which is to this day a milestone in Italian prehistory. This site was in the area previously belonging to a fascist lager for political prisoners, so Bernabò Brea asked for funds to renovate the buildings and the newly discovered archaeological site, a scientific and cultural enterprise that cost 60 million lire, a sum corresponding to more or less 1 million euros of 2012.

In conclusion, the Cassa gave to the archaeology of Southern Italy a unique imprint that we can find in a pragmatic approach in which scientific research, tourism needs and the importance of local communities (many museums were created in the last decades) are inextricably linked.[7]

3. Laws for young people in the field of cultural heritage

The second example I will touch on briefly is the promulgation, in the late 1970s, of a law ('legge 285') for the creation of youth cooperative societies in the field of Cultural Resource Management. The historical context of this law is the period of the widest diffusion of terrorism, the so-called 'years of lead'.

One of the causes of this situation was certainly the growing unemployment of young people, after years in which the access to work was easier. Giulio Andreotti, probably the most powerful Italian political leader of the 'First Republic', had the idea of the law, implemented to give work (often, unfortunately with clientelist policies methods, especially in Central and Southern Italy) to youth cooperatives and which, after some years, did indeed give an access to stable work to a considerable number of people (a rough estimate is of some thousands of people hired in all the Ministries).

An example of the influence of the law on our field of study is the history of the cooperative Archaeology and Landscape. Based in Abruzzi and constituted by archaeologists and anthropologists of Rome University, thanks also to the work of its scientific experts (among them, Maurizio Tosi and Giovanni Leonardi), this cooperative experimented with some interesting novelties in the then poor Italian panorama of archaeological methods and theories:

- a massive use of computer technology;
- the training of specialists in bioarchaeology and physical anthropology;
- the realization of the first intensive surveys;
- the accurate study, in the Tortoreto protohistorical site, also with the help of microstratigraphy, of the depositional and post-depositional aspects of prehistoric statigraphies (Balista *et al*. 1988).

This innovative scientific activity inevitably caused various jealousies (surely exaggerated) in the academic milieu, a feeling that grew when almost all the specialists involved in this operation were absorbed into the ranks of the newborn Ministry for Cultural Heritage (Ministero per i Beni Culturali e Ambientali), causing partly justified polemics with people hired with regular public contests and precluding hiring possibilities for years to come.

[6] On life and works of this 'giant' of Italian modern archaeology see Pelagatti, Spadea 2004.
[7] On this type of approach to archaeology, well present also in prehistoric research, see Guidi 2000.

The third example I choose is the creation in the mid-1980s of companies whose first aim was the computerization of the cultural heritage in a world (the beginnings of the still lasting era of triumphant Neoliberalism) in which a lifelong career was becoming a sort of chimera. To this period goes back the invention of the nasty metaphor of cultural resources as our 'oil' (hence the name 'cultural reservoirs'), the extraction and refinement of which must yield economic profit. The law, proposed to the Parliament in 1985 by a leader of the Italian Socialist Party, Gianni De Michelis, and approved the following year, consisted in several successive steps:

- individuation and extraction (scheduling) of things (monuments, documents, objects and so on)
- refinement with certain image processing programs;
- formation of data banks;
- marketing of data to sell to the public or to interested scholars.

Furthermore, De Michelis promised to occupy more than 9,000 people.

The law was also a first example of the business of professional training, with societies created to teach basics of information technology to young people. Although some of the 37 projects presented by pools of companies created for the occasion (again, 62% destined to Southern Italy) were of real interest for archaeology (for instance, projects on the digitalization of Pompeii, the ancient harbours or on aerial photographs) and some of them, like the project on Phlaegrean Fields, produced interesting publications,[8] after a few years, a sad reality emerged: the law was mainly a distribution of public money to private companies, the software used was soon obsolete, the data banks in many cases remained incomplete, almost none of the persons involved in the projects was hired. Given the particular historical time, this turn for the worse could be foreseen; one might recall one of the few critical voices, Antonio Cederna, a left-wing intellectual strongly engaged in the theme of safeguard of our cultural heritage.[9]

4. Conclusion

In conclusion, the lobbying for archaeology in Italy's First Republic was very active in the fields of tourism and employment. Apart from some episodes of clientelism, the Cassa activity was certainly positive for archaeology and Law 285 allowed many specialists to be hired, also in the fields of anthropology and archaeozoology under the Soprintendenze. Unfortunately, by contrast, the law promulgated by De Michelis did not have any real positive effect; more generally, the legacy of all these initiatives today is almost non-existent. This demonstrates (notwithstanding a secular Italian tradition of laws for the preservation of cultural heritage) how far we still are, in these fields, from a real framework of preservation and valorization of our archaeological patrimony.

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[8] See, for example, Amalfitano *et al*. 1990.

[9] See the article published, after the promulgation of the law, on the newspaper *La Repubblica*, November 22, 1985. On life and works of Cederna, see Guermandi, Cicala 2007; Antonelli Carandini, Mannucci 2008.

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Interests on the margins of the disciplines: computing, engineers and archaeologists in France (1950–2000)[1]

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Abstract

This paper explores the careers of four engineers who entered the archaeological field of research during the second half of the twentieth century. The relations between two communities of practices are addressed, relying on concepts we borrow both from the sociology of interest groups and from the social studies of science. Although these engineers promoted the use of statistics and of computing in France, their action didn't lead to the institutionalization of a 'computational archaeology' speciality.

Key-words: *Engineers, Formalization, Sociology of science, Interest groups*

Résumé

Les trajectoires professionnelles de quatre ingénieurs actifs en archéologie durant la seconde moitié du XXe siècle sont analysées. Elles permettent d'aborder les rapports entre ces deux communautés, en tirant le bénéfice de notions empruntées à la sociologie des sciences et à la sociologie des groupes d'intérêt. Bien que ces ingénieurs aient promu l'emploi des statistiques et des ordinateurs en archéologie, leur intervention n'entraîna pas l'instauration institutionnelle d'une 'archéologie computationnelle'.

Mots-clés: *Ingénieurs, Formalisation, Sociologie des sciences, Groupes d'intérêt*

1. Introduction

The introduction of formalization in a scientific discipline is an important step of its development, well documented in multiple cases, such as in physics (Gingras 2001). It can lead to a re-organization of the communicative and of the social network of a discipline. During the second half of twentieth century, the field of research devoted to speech analysis – dominated by linguists – was profoundly reorganized after the introduction of electronic computing by researchers coming from the engineering field. Michel Grossetti and Louis-Jean Boë showed how the introduction of electronics in this field of study resulted in a disengagement on the part of the linguists, while the phoneticians and the electronic engineers reached the most prominent places, thanks to their instrumental skills (Grossetti, Boë 2008).

In this paper, I aim to carry out a similar analysis by scrutinizing the positions and the roles engineers took in their attempts to formalize archaeology in France during the second half of twentieth century. Starting from the 1960s on, since a flourishing period of computational applications, what happened when archaeologists and engineers met around common archaeological objects of inquiry? What kinds of relationships – contentious or collaborative – did they have, and how did they act collectively, if they did? In the speech analysis case, engineers succeeded to provoke a methodological switch and a redefinition of the objects of inquiry: what about archaeology?

For a long time, archaeology was done by people sharing their time between multiple activities (physicians, military, priests…). During the 1940s and the 1950s, an ongoing professionalization

[1] First, I would like to thank the archaeologists who agreed to share their time and personal narratives with me. I am also grateful to Aurélien Tafani, Géraldine Delley and François Djindjian for their comments and proof-readings of the previous versions of this paper.

process happened in this field of research in France (Gran-Aymerich 1990). However, it did not result in a pure academic autonomy of archaeology, which is still deeply connected with non-scientific fields of activities (private entrepreneurship, administration, industry, politics, etc.). The introduction of formalization (both arithmetical and logical) in archaeology happened alongside this professionalization process. Of course, this introduction was not only managed by engineers. For instance, in the field of prehistory, Georges Laplace (1918-2004), François Bordes (1919-1980) and Henri Delporte (1920-2002), were regular archaeologists, who belonged to archaeological institutions and played a significant role in this matter. In the field of Eastern archaeology, Jean-Claude Gardin (1925-2013) had a similar profile.

However, to address the extent to which archaeology is shaped by its 'external' connections, we need to scrutinize the relations between two professional communities (engineers and archaeologists). The careers of four individuals who belonged to both communities, engineers who entered the archaeology field, will be explored based on insights from two sociological sub-fields, sociology of science and sociology of interest groups.

Since pioneer works by Robert K. Merton (Merton 1973), a wide range of studies aimed to enlighten the dynamics of scientific activities, their divisions in sub-groups (disciplines, specialities, paradigms, etc.) or their fusions (interdisciplinary, negation of disciplines). The formation of collectives – sharing similar cognitive interests – and their reciprocal interactions are among the most fundamental objects of inquiry in sociology of science. Relations between science and industry, researchers and engineers has aroused a renewed interest during the last decades.[2] These case studies showed how the disciplinary structure of scientific activities could be deeply transformed from the boundaries between disciplines, as those where engineers and researchers meet each other. Awards (Merton, 1968), credits (Bourdieu 1976) or citations are well-known forms of recognition in scientific activities, and could be considered as objects of interest chased by groups of scientists. Nonetheless, it is timely to note that actors belonging to non-scientific fields do not necessarily share these interests: the very notion of interest is in itself a debated issue amongst sociologists of interest groups,[3] who study the processes by which collective organizations try to influence a public policy (Saurugger 2004, 251).

I thus propose to tackle these issues and to conceive of the collectives involved in the development of computation in archaeology in terms of 'interest groups'.[4] From this perspective, a 'group' is supposed to gather around a common aim archaeologists, scientists from other fields or persons involved in non-scientific fields of activities. Following Lagroye (1997), a sociological perspective on interest groups needs to distinguish between the concepts of position, role, and function. The position refers to the rank a collective actor holds in a social system. It takes into account the resources this actor can access. The role refers to the way a collective actor strengthens its position and makes it efficient and understandable to the others. The function refers to the ability to act in order to be recognized as a relevant actor regarding a specific matter and to influence the people in control of the political and administrative powers (Grossman, Saurugger 2012, 12).

The intertwined relationships between these groups are taken into account. However, endorsing such a focus leads us to crucial issues regarding the norms of scientific activities and their potential and debated autonomy from the other fields of social action.

Engineering is both a way of working by gathering a range of formal and experimental sciences and a social position embedded in multiple markets and industrial fields. Engineers appear as a well-skilled class of actors characterized both by epistemic skills – especially in mathematics – and social and organizational skills. How did they use these skills when they started to interact with archaeologists,

[2] See the works by Dominique Vinck, Mieke Boon…

[3] Works by David Truman are among the main early references on this matter (Truman, 1951). Olson Mancur criticized Truman's works and proposed an alternative model focusing on the formation processes of interest groups.

[4] We assume that the scientific field can be analysed in a such way, as others fields of activities are.

at the flourishing time of computerization? How did they manage their identity and activities both as engineers and as archaeologists? First, the biography and the career of the four engineer-archaeologists will be presented and analyzed. I will then focus on their social and institutional networks and examine the collective entity they formed. Finally, I will tackle the common interests they may have shared and will give an account of the main characteristics of their actions in the archaeological field.

2. The careers of four engineers in archaeology

2.1. Biographical outlines

I collected the biographical material concerning these four cases in two ways. First, for all of them, I gathered their publications and other bibliographic material. Paratexts (author presentation, acknowledgements, etc.) often provide useful information. Secondly, I conducted interviews with Mario Borillo,[5] Bruno Bosselin,[6] and François Djindjian.[7] Concerning Hubert Masurel, I relied on published documents and information provided during interviews I did with other archaeologists.

Mario Borillo (1934-2013) earned an industry fitter certificate (around 1951)[8] and then graduated as an engineer from the *École Nationale Supérieure d'Électrotechnique, d'Électronique, d'Informatique, d'Hydraulique et des Télécommunications*, Toulouse, in 1958. He worked at the Institut Blaise Pascal in Paris (a pioneer research centre for computer science in France) and then at the CETIS (*Centre Européen de Traitement de l'Information Scientifique*) in Ispra, a branch of the EURATOM consortium led by the mathematician Paul Braffort. Afterwards, he was recruited by Jean-Claude Gardin in 1965, joined the *Centre d'automatique documentaire pour l'archéologie* (CADA) that Gardin created in 1957 and then moved to Marseille in 1964. During his CADA years, Mario Borillo used his skills in mathematics to solve problems raised by archaeological data. During this period only he published several works concerning archaeology (Borillo 1969; 1971; Gardin and Borillo 1970).

Hubert Masurel (1921-) belongs to an industrial textile family from the north of France. He graduated from the *École des hautes études d'ingénieur*, Lille, around 1950 and worked in the textile industry. At the age of 52, he applied to the École du Louvre in Paris and graduated in 1979 with a thesis about Roman locksmithing (Masurel, 1979). Afterwards, he was active in different research groups devoted to mathematical applications in archaeology. His main contribution to archaeology concerns the analysis of protohistorical fabrics, for which he developed a method based on his knowledge about textile industrial processes and his skills in mathematics and statistics (Masurel 1983; 1990).

François Djindjian (1950-) graduated from the *École supérieure d'électricité*, Paris, in 1974. He also graduated in physics (1974) and in statistics (1975) from the Paris IV University. Beside his science studies, he was interested in archaeology, and earned a degree with the help of Michel Brézillon, a collaborator of André Leroi-Gourhan interested in mathematical applications in archaeology. Starting from 1974 he led excavations and published his first archaeological contribution in 1976, a multidimensional analysis applied to prehistoric biface tools (Djindjian, Croisset 1976). He defended his PhD in 1980. He worked both as an engineer in the telecommunication and computer industries and as a prehistoric archaeologist.

Bruno Bosselin (1960-) had his first experience in archaeology thanks to his high school history professor. He co-authored with him his first paper in archaeology in 1980 (Bosselin, Watté 1980). He graduated as a chemistry engineer from the Institut national supérieur de chimie industrielle

[5] 12 November 2012, Vieille-Toulouse. I also used Jean-Claude Gardin's archives cured at Nanterre University.
[6] 29 April 2014, Paris.
[7] 29 November 2011 and 6 March 2013, Paris.
[8] Vieu, Aurnague 2014: 6.

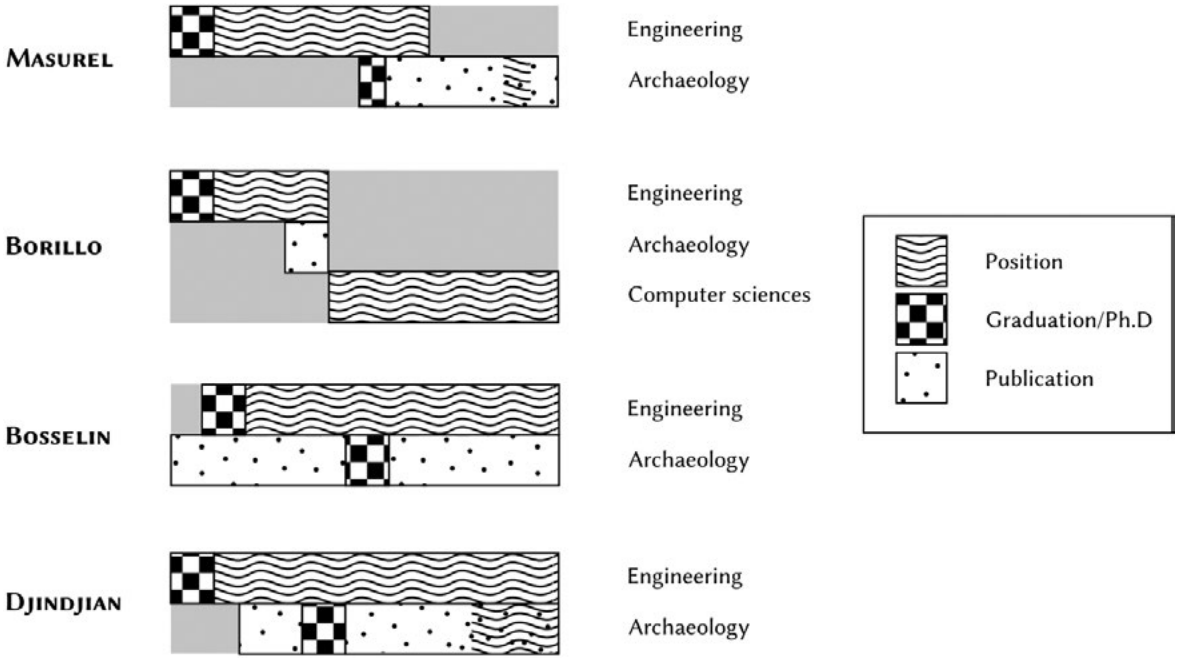

Figure 1. Patterns of four engineers' trajectories in archaeology.

de Rouen, in 1983. He worked in the chemical industry while carrying on research in prehistoric archaeology and preparing his PhD (defended in 1992).

2.2. Identifying trajectory patterns

In sociology, research relying on sequence analysis aims to scrutinize an aggregated set of individual activities along the time dimension in order to distinguish between their evolution patterns (Abbott, 1983). I owe to this sociological approach the style of the following development.[9] In Figure 1, each sequence is made up of three different states, corresponding to two types of recognition: a cognitive recognition (achieved by publishing papers or earning academic degrees), and an institutional recognition (achieved by obtaining an academic position or by receiving a salary). One can recognize two career patterns in this figure, corresponding to two ways a person can manage their activities in two professional fields. Djindjian and Bosselin managed both their activities in the engineering and archaeological fields over a large time range, whereas Borillo and Masurel integrated the archaeological field for a relatively short period, after already being established in the engineering field.

Migrations between scientific fields has been the topic of a long tradition of studies (Braun 2012). For instance, in a classic study, Joseph Ben-David and Randall Collins (1966), explained the growth of psychology by the migration of researchers from philosophy. They were attracted by the more competitive conditions of the new psychology field, and by the possibility to gain much more recognition. This model can enlighten the case of Mario Borillo. During the 1960s, computing was not yet an autonomous field but an under-valued branch of mathematics related to applied mathematics (Mounier-Kuhn 2010). Applied mathematics was taught in the engineering schools, but engineers

[9] This kind of analysis is, of course, usually done with bigger dataset.

were not supposed to integrate the field of pure mathematics. Therefore, at the CETIS and then at the CADA, Borillo began to apply mathematics with a focus on documentation problems. This field of inquiry was flourishing, bolstered by the strategic issues related to European military, nuclear, and scientific development. At the CADA, he obtained an 'ingénieur' position, a status allowed by the CNRS[10] institutional structure but which suffered from a lack of recognition.[11] From 1981 on, Borillo turned from applied mathematics to social and human sciences and to cognitive sciences, another flourishing field of research.

In Bruno Bosselin's and François Djindjian's cases, a multi-activity model fits better than a migration model. There is no migration from one scientific field to another; first, because the status of the engineering field as a science is not so clearly established, and secondly, because it cannot offer the same kind of symbolic profit that one can gain in the scientific field. Bruno Bosselin and François Djindjian never stopped their activities as engineers, but managed to practice both archaeology and engineering throughout their careers. They got both the economic benefits provided by the engineer field and the symbolic benefits (academic legitimacy and prestige, see Bourdieu 1976, 91) from the archaeological field.[12] We must notice that once he integrated the archaeological field, François Djindjian managed internal migrations between parts of the archaeological community: due to his involvement in favour of archaeological computing, he developed many more relationships with English-speaking archaeologists than was usually the case with French prehistorians (being notably involved in the 'Computer applications in archaeology' association). He is also the only subject in our sample that went further along a professionalization process: he got a position as a '*professeur des universités associé*', a rank in the French academic system provided for people with another activity,[13] and took on several functions in international archaeological organizations.

To get a better understanding of the reasons why none of them ever achieved a full professionalization process in the archaeological field, I shall now endeavour to scrutinize the relationships between these four engineer-archaeologists and their social network, in order to identify and evaluate their (potential) collective agency.

3. Is there an engineer-archaeologists group?

3.1. The engineer-archaeologists' relational network

The engineer-archaeologists were involved in the (quite confidential) research groups interested in formal approaches in archaeology. During the 1960s and 1970s, applied mathematics and automatic computation followed two trends of research and problems: numerical and non-numerical computing. These archaeologists pushed forward in both directions.

Jean-Claude Gardin was mainly interested in documentation, data sharing, and publication issues (i.e. non-numerical computing). He also supported research on numerical computing (i.e. works by Mario Borillo, Louis Bourelly, Alain Guénoche, Wenceslas Fernandez de La Vega).

The Typologie analytique group, gathered around Georges Laplace in Arudy, turned mostly toward numerical computing. The improvements of multidimensional analysis by Jean-Paul Benzécri, labelled as '*Analyse des données*', were very influential during the 1970s and 1980s. Prehistorians as François Djindjian or Georges Sauvet attempted to the lectures Benzécri gave at the Jussieu University in Paris. Henri Delporte organized around him, at the *Musées des Antiquités Nationales*

[10] *Centre national de recherche scientifique*.

[11] The CNRS '*ingénieur*' status does not corresponds to the title that engineering schools are allowed to give, but rather to a technician status. The CADA laboratory reports reflect the difficulties encountered to stabilize the position and to improve the salary of its '*ingénieurs*', Gardin Archives, JCG1/2, Nanterre.

[12] Bosselin and Djindjian stressed the difference of income provided in their industrial-entrepreneurial field and the professional archaeological field (interviews).

[13] Decree number 85-733, 17 July 1985.

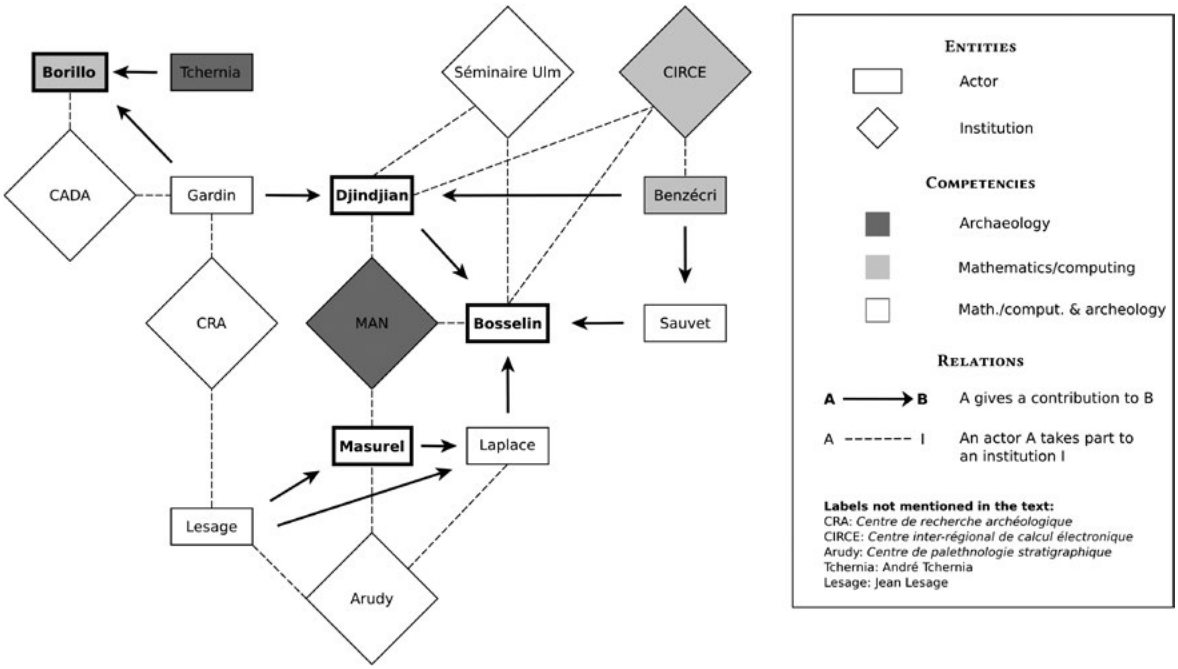

FIGURE 2. RELATIONS BETWEEN ACTORS AND INSTITUTIONS CITED.

in Saint-Germain-en-Laye, a group of researchers interested in the applications of the *Analyse des données* methods to prehistorical issues.

Figure 2 shows the relational network between the institutions and actors interested in formal approaches in archaeology. This network is quite dense, due to the actors who belonged to multiple groups or institutions. Furthermore, some relations are not shown, for instance the informal (and finally unsuccessful) attempts between the MAN's group and Arudy's group to work together.

3.2. Engineer-archaeologists and the archaeological computing trend

To go forward in this direction, this network structure could be analyzed in terms of processes. Nicholas Mullins' explanation of the growing of the Phage group (a pioneer group in molecular biology) is a classic model of scientific speciality development (Mullins 1972). He distinguished four phases. First, the Paradigm Group, when some unconnected scientists switched their practices: applying computing methods to archaeological data. Then, a Communication Network was formed, when they produced some results and gathered around new issues: engineer-archaeologists and archaeologists interested in formal and computing applications shared letters, papers, discussions (for instance, at the séminaire de typologie analytique organized by Georges Laplace from 1969 to 1987 in Arudy). A Cluster is formed when the actors benefit from institutional support and become reflexive regarding their communication network and their location in the field; that is the case when Henri Delporte organized his meetings with the support of the MAN. Finally, Mullins speaks of Specialty when procedures of education and recruitment begin to be effective: it is not yet the case for the computing trend in French Archaeology.

Figure 3 shows the period of activity of each engineer-archaeologist in relation with the state of development of the archaeological computing trend. Their potential of action was related to their time

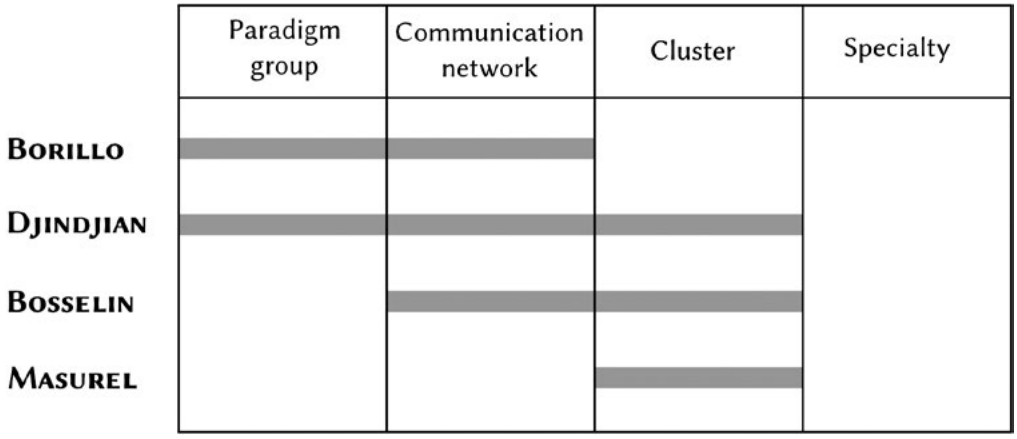

Figure 3. Interpretation through Mullins' 1972 model.

of entrance in the field. Both François Djindjian and Mario Borillo contributed to the appearance of a paradigm group. One can distinguish between two modes of action in the field: attempting to move the theoretical lines and increasing the knowledge base of the discipline.

Both Borillo and Djindjian were fore-runners of computer applications to archaeological data. Based on this early position, they intended to propose conceptual criticism on archaeological methods and theory, and to innovate in these fields. Borillo entered the archaeo-computing trend of research at its beginning and contributed to its growth in France (he organized the 1972[14] and the 1976[15] conferences on data banks and archaeology). Djindjian published textbooks, directed educational places (his seminar at the *École normale supérieure d'Ulm*), and organized several European summer courses (1981).

Hubert Masurel was 52 years old when he started to study art history and archaeology at the *École du Louvre*. In spite of his outsider position due to his age, he benefited from an already established cluster structure which helped him to integrate the archaeological field. The Masurel family owned a large textile production company in the North of France. The history of computing is closely bound to the history of textile production. By adopting formal methods to analyse the protohistoric textiles, Hubert Masurel linked his education, his family legacy and his interest for archaeology. He was satisfied with this, and did not have any ambition to reform the archaeological field.

Bosselin was not a method-designer. Even though he learnt the bases of computer programming during his education, his work as engineer in an industrial production consisted of applied chemistry, which faintly required knowledge of computers.

4. A shared interest? Engineer style in archaeology

4.1. Engineers confronted to the organizational features of archaeology

The relational network shown in Figure 2 must be seen as partially embedded in the archaeological field. In the 1970s and the 1980s, this scientific field was still faintly professionalized, and was

[14] Borillo, Gardin (eds.), 1974.
[15] Borillo, Bourrelly (eds.), 1976.

therefore open to newcomers (amateurs, migrants from other scientific fields…). For individuals like Hubert Masurel, it has been quite easy[16] to take part to the archaeological professional organizations, as well as in scientific journals. However, this openness at the lower levels of the field was balanced by a strong hierarchical structure at the upper levels. This structure was controlled by a small number of patrons and the positions of power were closed to newcomers. This helps to understand why an 'archaeological computing' speciality did not succeed in being institutionalized.

Beyond the hierarchical structure specific to the archaeological field, the social organization in the scientific field has been profoundly transformed during the twentieth century. Sociologists of science Terry Shinn and Pascal Ragouet identified three 'regimes' of scientific activities (Shinn, Ragouet, 2000). The 'transversal' regime is characterized by actors acting in multiple fields (transversality), characterized by an emphasis on 'research-technology' with a focus on general – rather than on discipline-specific – problem solving (Shinn, 2005). Engineers play a prominent function in this regime. One may have expected the engineers to have introduced such an entrepreneurial mode of organization into the archaeology field. However, among the cases studied here, none of them took part in provoking these changes. Mario Borillo could be seen as an early example of the transversal regime and is the only subject in our case studies who got economic resources for his activity into the archaeology field due his engineer status when he worked at the CADA under Jean-Claude Gardin direction. Gardin was not an engineer but managed his laboratory in ways closer to the project-based and the entrepreneurial-like organizations used in experimental sciences than to those used in the humanities fields. From 1971 to 1975 Borillo led the CADA and then the Laboratoire d'informatique pour les sciences humaines (LISH) until 1981. The existence and aims of these laboratories were strongly debated,[17] making clear the lines of opposition between archaeologists (who mostly considered themselves as humanistic scholars), engineers and formal science practitioners.

4.2. The engineer-archaeologists as an interest group?

We have recognized the engineer's relational embeddedness into the archaeological field. Could we now identify shared interests that may have brought them together into a group? I aim to show that even if the four engineer-archaeologists 1) had a similar reasoning style and 2) shared a common place in the intellectual space, 3) their views and goals regarding the institutional aspects of archaeology differ.

They have a common educational background and could have potentially shared a similar professional identity. At an organizational level, they did not really use their common belonging to the engineering field in order to perform a collective agency. However, this common belonging was not without effects on a cognitive level. They agreed on some epistemic or methodological values, such as clarity and disambiguation of the reasoning by the mean of formalization. In his typology, science historian Alistair Crombie distinguished six styles of scientific investigation and demonstration. The engineer-archaeologists appeared to have played a significant role regarding the introduction in archaeology of the style Crombie called 'probabilistic and statistical' (Crombie, 1994: 83-87). Regarding their ethos, we would note that François Djindjian refuses to consider himself as a theoretician. Instead, he claims to be a practical archaeologist trying, as engineers do, to use and to improve the best available tools, to coordinate the archaeological specialities beyond their institutional boundaries following an industrial way of organization. Mario Borillo did not claim he was an archaeologist, but considered that his experience in archaeology contributed to shape his ideas regarding the semantics and cognition of space and time that he developed later.[18]

To address the reception of the engineer-archaeologists' actions in the archaeological field I shall briefly refer to some results taken from a study concerning the use of multivariate analysis methods

[16] Compare to other fields as physics or philosophy.
[17] The study of these institutions and the debates concerning them takes part of our ongoing doctoral research.
[18] Interview. See also Vieu, Aunargue, 2014: 8.

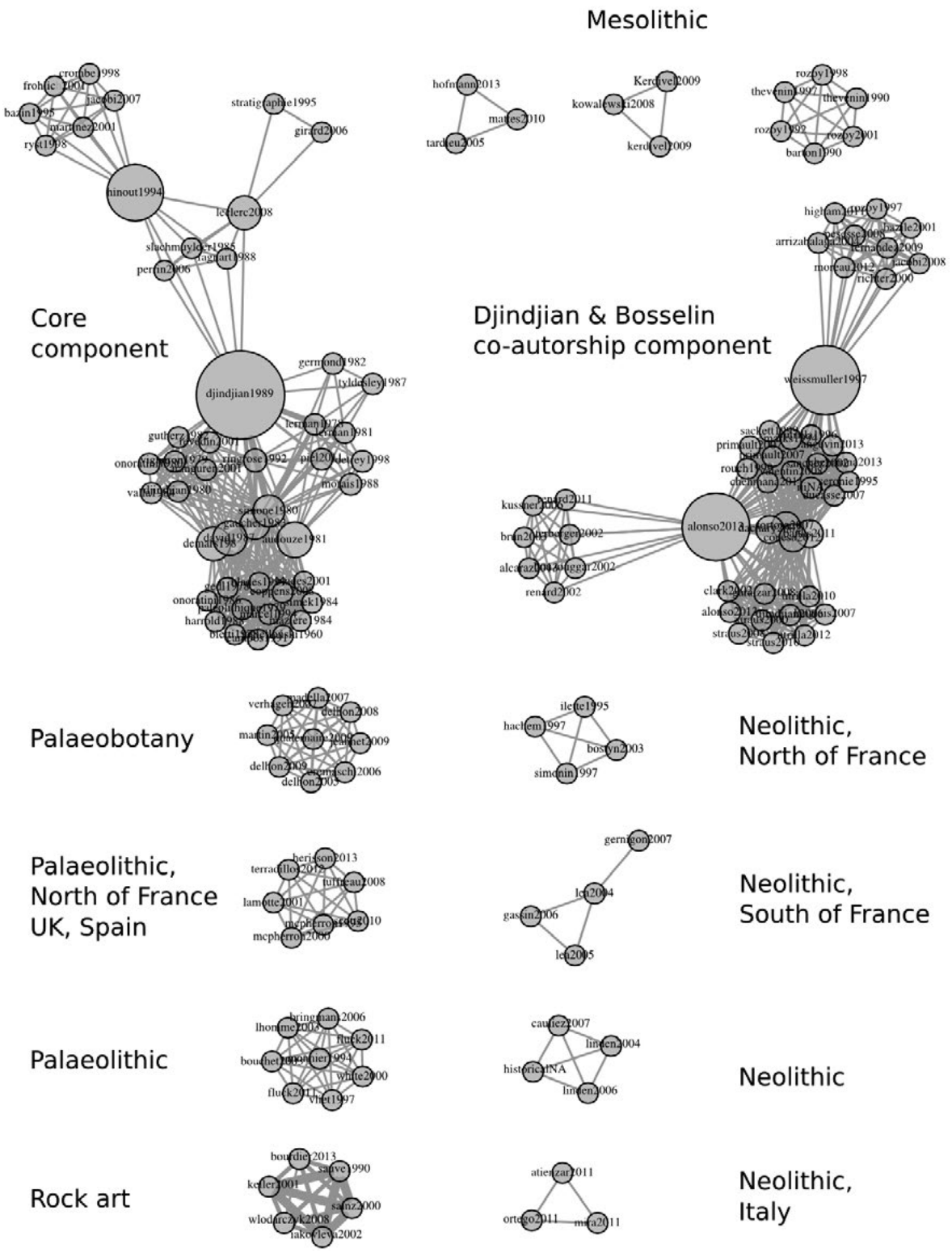

Figure 4. Bibliographic coupling graph of the papers from the Bulletin de la Société Préhistorique Française dealing with Multivariate statistical analysis.

in French prehistoric archaeology (Plutniak, 2015). I collected the citation data related to all the papers which contain a multivariate analysis in the *Bulletin de la Société Préhistorique Française*,

including the works by François Djindjian and Bruno Bosselin. A bibliographic coupling[19] analysis was performed on the set of papers which cite a paper containing a multivariate analysis. The resulting graph (Figure 4) contains two main components: a 'core component' which gathers general papers about Palaeolithic archaeology and another component made of papers that cite specifically Djindjian and Bosselin co-authored papers. One can identify a clear structure in this reception: the papers published by these two engineer-archaeologists – mainly relying on formal analysis of palaeolithic data – were received by a peculiar and distinct part of the prehistorians' community. How is this finding to be socially interpreted?

In their study of the chronobiology discipline development, Alberto Cambrosio and Peter Keating proposed the notion of 'disciplinary stake':

> '[…] characterized by the power, held by the producers, to define the doctrinal corpus to be transmitted, the curriculum, the rules of apprenticeship and finally the methods of certification and sanction'. (Cambrosio, Keating 1983, 328).

It relates to the actors' will to institutionalize a scientific practice and to change the distribution of the legitimacy regarding the objects of inquiry and methods in a scientific field. However, as only François Djindjian went further into this way, we cannot identify a specific disciplinary stake that the engineer-archaeologists would have shared.

However, to explain the roles and positions the subjects of our four case studies were allowed to reach, the 'processes of resistance to innovation', as coined by sociologist Samuel Barber in a seminal paper (Barber 1961), would have played an important role. As it has been shown, new methods and instruments in science could often appear as a threat to an established discipline (Cambrosio, Keating 1983).

5. Conclusion

In this attempt to scrutinize the relationships between the engineering field and the archaeological field through the concept of interest group, we encountered some difficulties to define the engineer-archaeologist group and to identify its borders and what might have been its shared interest. This case has to be contrasted with what happened in the English-spoken archaeology and with what happened in France in the very last decades.

New Archaeology defenders had intended to lead an improvement of the scientific value of archaeology by means of mathematics. This trend had a very flourishing development during the 1960s and the 1970s[20] and the current claim for an 'archaeological computing' speciality could be seen as a part of its legacy. In the French case, qualified as a 'continental insularity' situation by French commentators (Audouze, Leroi-Gourhan 1981), engineers played a prominent role concerning the introduction of formalization and data analysis. However they failed to institutionalize a speciality, contrary to what happened in many scientific disciplines all during the last decades. Such introductions had effective effects on the dynamics and on the structure of these disciplines and led to the development of 'hyphenated-computing' (Mounier-Kuhn 2010): bioinformatics, neurocomputing, computational physics, chemical informatics, etc. In other cases, a formerly established community has been dismissed by newcomers from the engineering field, as in phonetics or in synthetic biology, where the biologists were dismissed by chemical engineers and computer scientists (Bensaude-Vincent, Benoit-Browaeys 2011). Engineers' entry into the archaeological field did not provoke such effects. As illustrated by our four case studies, the subjects mostly marked a clear boundary between their fields of activities: although he was trained as a chemist, Bruno Bosselin never sought to introduce chemistry in archaeology. Georges Sauvet made the same sharp distinction between his work as a chemistry professor at the Paris 13 University and his research on Palaeolithic rock art, for which

[19] A bibliographic coupling link is created between two papers if they cite at least one similar paper.
[20] See F. Djindjian's contribution in this volume.

he also developed statistics methods and computer software. It is striking to note that in the end, this type of bounded double activity is not so different to the ways that military officers, priests or physicians devoted a part of their time to archaeology. It is as if the antiquarian roots of archaeology have not ceased to shape its position in the intellectual field over a long time range.

We shall notice that a foundation attempt finally happened and succeeded from another side of archaeology, at its border with geography and spatial analysis sciences: an '*archéomatique*'[21] speciality emerged in the late 1990s. Furthermore, and it does not only concern the French case, what has been called '*archéométrie*' does not relate to the measurement of sets of archaeological objects and of their relationships (similitude), but to the measurement of their physical and chemical properties, with techniques in use in the experimental sciences. The currently flourishing development of archéométrie probably implies a readjustment of the division of labour, which gives the engineers with a background in natural sciences a renewed position in the archaeological work process.

Recent transformations of the archaeological field are leading toward an increasing development of the relationships between scholars and contract archaeologists, natural sciences engineers (archaeometry) or civil engineers (rescue archaeology). This short study based on four careers which took place all along the second half of the twentieth century aims at contributing to a comprehensive understanding of these transformations.

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The Australian Research Council and the archaeology of the modern city in Australia

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Abstract

This short paper discusses the role of research partnerships between industry and universities within the setting of the archaeology of the modern city in Australia. Funding schemes developed by the Australian Federal Government, especially the SPIRT and Linkage Schemes are argued to have had a significant impact on the conduct of archaeological research into the modern city in Australia.

Key-words: *Historical archaeology, Urban archaeology, Research partnerships, Industry and academia*

Résumé

Cette contribution évalue le rôle qu'ont joué les partenariats entre industries et universités dans le domaine de l'archéologie des villes modernes en Australie. Il apparaît que les régimes de financement du gouvernement fédéral australien – en particulier SPIRT et Linkage Schemes – ont eu un impact important sur la conduite de la recherche archéologique dans les villes modernes australiennes.

Mots-clés: *Archéologie historique, Archéologie urbaine, Partenariats de recherche, Industries et universités*

1. Introduction

The last 34 years have seen a massive expansion in archaeological research in Australia. This expansion has flowed from the addition of new fields of research (in particular historical archaeology and the archaeology of European contact with indigenous peoples being added to an earlier focus on prehistoric archaeology and Aboriginal ethnography), as well as a diversification in the contexts of practice, particularly in the broad field of heritage archaeology. Indeed, one of the most striking features of the period under review has been the prominence of heritage archaeology as the primary funder of archaeological research in Australia and the most important source of employment for archaeologists. Much the same pattern has been observed elsewhere.

A great deal of this expansion was fueled by surging populations (especially in urban areas), and the long boom in primary resources extraction and export. The most important of these resources have been iron ore, oil and gas, coal, nickel and bauxite leading to the building of mines and associated infrastructure from railroads to ports, refineries and new population centres associated with such activities carried out right across the continent, but especially in the tropical north and northwest.

Thus, one of the defining characteristics of this recent period has been the sense in which the practice of archaeology has become firmly linked with the national economy, and governments at both State and Federal levels have been keen to harmonize links between archaeology and the development industry. The primary focus of this paper is to exemplify this process, particularly as it applies to the growth of urban archaeology in Australia, and associated developments in the construction and use of large archaeological databases.

To a limited extent, this focus is also intended to restore some balance in general discourse about heritage archaeology in Australia, which has tended (quite properly) to focus on relationships between indigenous people and archaeologists, particularly on matters generally glossed as debates about

'who owns the past'? (see e.g. Byrne 1996; Colley 2002; DuCros 2002; Langford 1983; McBryde 1985; McNiven and Russell 2005; Murray 1992, 1996, 2010, 2011; Smith 2004). During this period, many of the core issues related to ownership and control have been thoroughly ventilated, but more complex issues – especially related to the processes that are being developed to support indigenous Australians gaining economic benefit from the management of lands and heritage – are still very much in the making. Indigenous Australians have become closely linked with the development process by virtue of their ownership or control of vast tracts of land in the tropical north and northwest, or the pre-eminence of their interest in indigenous heritage, which has been enshrined in State and Federal legislation and in the code of ethics of the Australian Archaeological Association. Very significant sums of money have flowed into indigenous communities, which has further strengthened the drive for social, cultural and economic self-determination. Managing land and heritage, which in practice means managing the competing interests of communities, developers and governments, has also provided opportunities for the building of managerial skills, further supporting the capacity of indigenous communities to manage their own affairs.

Important as these developments are, my focus is on the creation of such a virtuous cycle within the archaeology of urban Australia, an archaeology that to all intents and purposes would not exist without significant investment from developers. Over the past 30 years, governments have sought to support urban development by streamlining management protocols, supporting pure and applied research in the archaeology of the modern city, and fostering developments in method that have enhanced the productivity of both archaeologists and developers. There have been several significant alliances of industry, government, academic and consulting archaeologists formed over the period – one of the most influential being the Parramatta Historical and Archaeological Landscape Management Study (PHALMS) launched in February 2000 by the NSW Government with the overall objective of seeing Parramatta's significant archaeological heritage incorporated into plans for the city's future development (Godden Mackay Logan 2000). In a pioneering project involving two levels of government and the property community, Parramatta's archaeological remains have been surveyed and a framework developed for their future management. In this sense, the two goals of preservation and development were considered to be reconciled. Of course, on the ground, things did not always live up to rhetoric of PHALMS, but the project was a significant milestone in the process of persuading governments at local, state and federal levels and industry to support archaeology.

2. Federal government actions: the SPIRT Scheme and its aftermath

From the late 1980s, the Federal government saw the enhancement of links between academia and industry as a major element in improving the overall performance of Research and Development in the Australian economy. During this time, significant funding for worthy and high quality research has been provided through several application-based and formula-driven grant schemes with the overall goal of maintaining and strengthening Australia's knowledge base and research capabilities by developing an effective research and research training system.

Two Schemes have been important for the growth of urban archaeology in Australia. The first, Strategic Partnerships with Industry – Research and Training (SPIRT) Scheme had the following objectives:

- to encourage and develop long-term strategic research alliances between higher education institutions and industry to apply advanced knowledge to problems, or to provide opportunities to obtain national economic or social benefits;
- to provide industry-oriented research training to prepare high-calibre postgraduate research students;
- to foster opportunities for postdoctoral researchers to pursue internationally competitive research in collaboration with industry, targeting those who have demonstrated a clear commitment to high quality research; and
- to produce a national pool of world-class researchers to meet the needs of Australian industry.

These collaborative research projects involved both government and industry providing funds. After a review of the SPIRT Scheme in the mid-1990s, the Federal government made some slight changes and relaunched the arrangements as Linkage Scheme – referring to links between academia and industry (Turpin *et al*. 1999). Both Schemes have fostered scores of significant archaeological research projects in both prehistoric and historical archaeology and in both pure and applied settings. The very short case study that follows demonstrates how this has played out in my own research on the archaeology of the modern city, which has seen the building of close links with the development industry, with governments at all levels and with the heritage industry. It also demonstrates that both governments and industry can be persuaded that archaeological research can yield improvements in development productivity, as well as deliver an enhanced understanding of heritage values of archaeological places.

3. The Archaeology of the Modern City

Over fifteen years ago, Alan Mayne and I became interested in finding a way in which we could tell the stories that were locked up in the thousands of boxes of artefacts derived from the excavations of urban sites in Melbourne, Australia. It was our view that unless this was done, then there was a distinct possibility that both government and industry would seek to discontinue funding for heritage archaeology for the simple reason that it was clearly of little interest to heritage practitioners or the societies they were serving. It has proved to be a challenging task requiring innovations in both theory and method.

Our first project was 'Little Lon', a site in the centre of Melbourne that was part of a city block generally known as the Commonwealth Block. Two bedrock goals for research were set here. First, to develop an integrated analytical framework – bridging history and historical archaeology – of urban society and its embedded material culture in nineteenth and early-twentieth centuries Australia; and second, to analyze within this framework material culture recovered from the site.

Improving regimes of analysis was obviously one way to promote the difficult business of meaningfully integrating quite disparate data sets, thus using archaeological data to seriously engage with (and possibly revise) conventional readings of social processes or socio-cultural categories over the last two hundred years.

We very soon discovered that significant tensions and oppositions lurked just below that pretty superficial understanding. Important tensions and issues that remain unresolved, comprise:

- The role of the particular and the general, the small- and large-scale, the national and the transnational in problem definition, analysis and integration;
- Serious problems related to the archiving of urban archaeological collections;
- Building databases that foster assemblage-based analyses of sites;
- and the pressing need to look, much longer and harder, at research design in urban historical archaeology.

Much of this continuing research now occurs under the rubric of 'e-research' or 'digital humanities', but the issues are more than methodological – given that they go to the heart of more abstract inquiries, into what we wish to know about the historical archaeology of the modern city.

My response, which has underwritten five projects that followed, all funded under the SPIRT and Linkage Schemes, was the idea that increasing both temporal and spatial scales could bring new patterns into focus and promote new strategies for excavation and analysis that would both improve the quality and accuracy of the information we were producing while significantly increasing the speed of our time on site and in the analysis phase (Murray 2013).

These subsequent projects have focused on major sites in Sydney such as the Hyde Park Barracks, First Government House, and the Cumberland and Gloucester Streets Site in The Rocks, as well as

on further archaeological work at the Commonwealth Block in Melbourne. It is the creation and manipulation of these new datasets, first begun with the *People and Place Database* which is now in its fifth iteration, that has provided a firmer foundation for our work in urban archaeology in Australia and overseas. These databases support our core goal of integrating historical and archaeological information and of creating and exploring patterns, in those datasets.

Our chief goal with the input of new data is to access *large* datasets that have hitherto existed outside the People + Place database. In essence, this is the goal of a current research partnership with Museum Victoria, where we are putting all of the records from the six different excavations into the database and then reconciling this with the Museum's own EMU database. This has been a very time-consuming task, but it has allowed us, for the first time since the first excavations at 'Little Lon' in 1987, to analyse the assemblages from the Commonwealth Block as a single unit. It is worth pointing out that when we have achieved this, the total assemblage will have a global significance of the highest order – being one of the largest and most comprehensive nineteenth century urban archaeological assemblages anywhere in the world. Its value as a research resource for ourselves, and for others both in Australia and overseas (particularly in North America) will be unparalleled. Its impact will be all the greater when we integrate the documentary research already undertaken on the site by Alan Mayne and others, and expand this by beginning a new round of research into the historical records of the Commonwealth Block.

As the project continues, we have become much more engaged in the sweep of digital humanities research and sought to create a platform for national and international databases of historical archaeological collections, excavated sites and the people connected to those objects and places. Right now, we have the capacity to effectively compare what we have in Melbourne with contemporaneous sites in San Francisco and New York City, thus supporting our aspiration to create a global archaeology of the nineteenth century city.

Although the broad project is still in its infancy, it holds out the prospect of an increasing sophistication of analysis and interpretation of properly integrated archaeological and historical data sets. Thus, our original goal of seeking ways to tell stories about the literally millions of artefacts locked away in museum basements all over Australia provided the impetus for over fifteen years of excavation and analysis, and led to both methodological and theoretical developments in Australian historical archaeology. That journey has also involved a change of focus: from deploying the evidence of archaeology to further explore the content of concepts such as 'the slum', to considering how historical archaeologists might engage more broadly with social histories of the city.

4. Concluding remarks

The analysis of assemblages derived from the earlier research at 'Little Lon' and the more recent work on the Cumberland and Gloucester Streets Sites, and on other sites in Sydney and Melbourne, has allowed us to establish whether there were similar patterns of residence, occupancy, ethnicity and community life, in two different cities on the edge of the modern world. However, in doing this, we have come to understand the complex and ambiguous nature of urban archaeological deposits from the mid- to late nineteenth century, and to more fully appreciate that the act of comparison between sites, cities, and continents is neither straightforward, nor innocent. Although we have not felt it possible at this point to draw definitive conclusions about 'life at the social and geographical margins', we have greatly expanded our understanding of the historical archaeology of specific sites within those cities, and contributed to the construction of new stories about people and places, thereby enhancing the heritage value of such places and strengthening our arguments for continuing developer-funded archaeological research. At a more general, level we have also clearly identified some of the major questions that will continue to drive our research in Australia and elsewhere, and further characterize comparisons between contemporaneous sites in Australia, England and North America.

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