

The Bioarchaeology of Humans in Italy: development and issues of a discipline

Marta LICATA¹, Adelaide TOSI¹,
Chiara ROSSETTI¹, Silvia IORIO²

Abstract. *In Italy, the “Archaeology of Emergency” influences the work of physical anthropologists. In fact, most archaeological excavations are not completely investigated because of the lack of funds destined to cultural heritage and the archaeological competences intervene especially when building works bump accidentally into archaeological findings. Emergency excavations cannot pull any whole osteoarchaeological sample, thus the anthropological study is never exhaustive. In addition to this, in Italy there are still problems related to a lack of job perspective because there is not an adequate professional recognition of the bioarchaeologist. Perhaps the issues should be discussed at the root, namely that there is no clear university education that prepares for this type of profession. Today, only a postgraduate education (PhD or Master) can determine the acquisition of specific skills in the several specialties of Bioarchaeology. In an era of cultural crisis, as ours is nowadays, it is a struggle to think of a right recognition of any professionalism employed in the field of cultural heritage, but we must insist for this to happen.*

Rezumat. *În Italia, arheologia preventivă influențează lucrările antropologilor. De fapt, cele mai multe săpături nu sunt efectuate exhaustiv din cauza lipsei finanțării destinate patrimoniului cultural, iar competențele arheologice sunt utilizate atunci când în cadrul unor lucrări de construcție au loc întâmplător descoperiri arheologice. Săpăturile de salvare nu oferă eșantioane antropologice complete, de aceea studiul antropologic nu este niciodată exhaustiv. În plus, Italia se confruntă cu o lipsă a perspectivei unor posturi, întrucât nu există o recunoaștere profesională adecvată a bioarheologului. Aceste chestiuni își au originea în faptul că nu există un cursus universitar specializat în această direcție. Putem vorbi de o astfel de pregătire doar de la nivelul de master în sus. Într-o vreme caracterizată printr-o criză culturală precum cea din zilele noastre, o recunoaștere a unor competențe profesionale reprezintă o luptă, dar aceasta trebuie continuată.*

Keywords: bioarchaeology, archaeology, emergence, physical anthropology, paleopathology.

¹ Dep. of Biotechnology and Life Sciences, Varese, Italy. Corresponding author: licatamarta@rocketmail.com.

² Department of Molecular Medicine, Sapienza University of Rome, Italy; silvia.iorio@uniroma1.it.

Introduction. Sciences in Archaeology:

The first technological approaches to antiquarian investigations

The 19th century already saw the flourishing of cultures converging on the objective of investigating ancient biological remains, and along this line much of the archaeology of the 20th century was affirmed. Despite this direction, the traditional system has had to adapt to the progress and trimming of specializations that no longer allows for pseudo-encyclopedic culture. In the second half of the 20th century, people dealing with archaeology, perhaps without realising it, have passed through one world to the other and these same people today may be puzzled by trying to enumerate the stages of evolution up to the present time, influenced by the power of new research tools and forms of scientific communication. If the archaeologist can still be recognized in a generalist vision, with the exception of the specialty guidelines already traditionally configured, this does not happen with those who temporarily were defined within subsidiary sciences. “Further contributions are also the result of analyses carried out by studying biological sciences (bio-archaeology). Biological evidence and data allow for an ecological and historical background of the investigated sites”³. We owe a great deal to applied research (radiocarbon archaeomagnetic dating, thermoluminescence), including those dedicated to the environment (e.g. plants, pollens, animals) and especially those that have opened new unexpected visions to anthropological studies (microscopy, radiology, etc.) (Figure 1). Moreover, international literature was enriched and enhanced by new studies that were not ignored in Italy: “Archaeological studies are now increasingly dependent upon a variety of scientific disciplines for valuable information”⁴. However, this report did not lead to immediate awareness within the scientific community. Furthermore, many articles published in scientific journals by archaeologists were not easily accessible in normal libraries. In this way, the complex panorama of reciprocal relations was slightly obscured. The contact points were not absent or lacking, yet generally we only found simple notes or scientific appendices to archaeological reports. Therefore, fifty years ago, the scientific community was well aware of the importance of this constant communication between the humanities and biological and technological research, offering a prediction as well: “there is no doubt that archaeo-scientific work will eventually mature into a discipline of its own”⁵. As a matter of fact, the next development, along with these studies, went precisely in the desired direction, and today we can appreciate the consolidated relationship among archaeology, science and technology.

About forty years ago, Sabatino Moscati, an important Italian archaeologist, recalled the entry of the updated tools of science and technology in archaeological research. He presented

³ GALLO 2014.

⁴ BROTHWELL, HIGGS, CLARK 1963.

⁵ BROTHWELL, HIGGS, CLARK 1963.

the new convergence between two areas—humanistic and scientific—now in working alliance. The assistance of these experts was summed up initially in the definition as a “subsidiary sciences”, which would have meant a sort of subordination of a field relative to others. In reality, it is not about subsidiaries or lower levels, but rather components with equal dignity on the research front. The traditional archaeologist could find working alliance with the scientific expertise of other professionals not outside, but in the same field of research. Moscati dedicated a few lines of his thoughts on the use of updated scientific methods, regarding new possibilities during the investigation of human remains, taking also into consideration those problems regarding the conservation of finds⁶.

Since its debut at the beginning of the 1950, *Sibrium Journal*, published by the Centre of Prehistoric and Archaeological Studies in Varese, Italy, has satisfied the need for a broader vision, offering a place for pioneering contributions of technology applied to archaeological research. Today, outlining their priorities is quite challenging. We would be a bit embarrassed

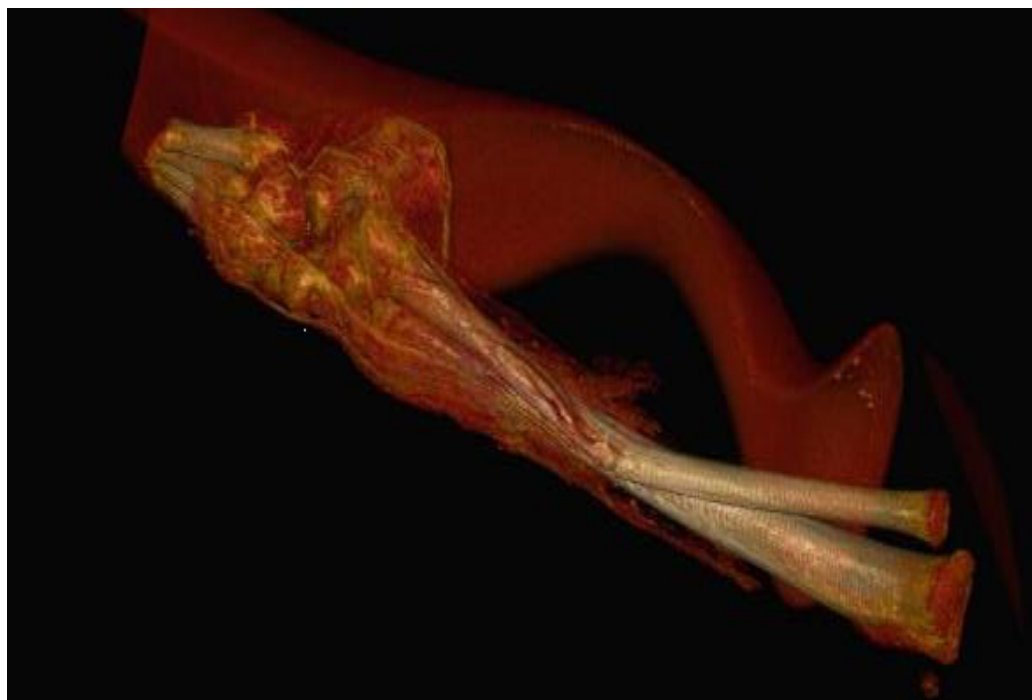


Figure 1. CT of a post medieval mummified lower limb from the Center of Osteoarchaeological and Paleopathological Research of Insubria University. From radiological investigation it was possible to proceed with the anthropological analysis to observe the ossification nuclei and establish the age at death at around 4–6 years, and to diagnose the fibulae fracture

⁶ MOSCATI 1975, 219–222.

to state that initiatives originated from the interests of humanists rather than by representatives of different sciences. These are questions we will not address, and one glance back shows how first cooperation attempts were remote and distant. In an effort to avoid excessive references to the past, we can cite many examples already found in 19th century literature, when the transformations of basic sciences, chemistry, physics and biology were also attractive for sciences that focused on antiquity.

In this paper, we will concentrate on the issues of the physical anthropological studies. In particular, we will analyse the scientific progresses of the discipline (especially focusing in Osteoarchaeology and Paleopathology) and we will discuss the problems related to the recognition of a specific professional role for people working in this field.

Bioarchaeology, Osteoarchaeology and Paleopathology: the anthropological studies on human remains

Within the great discipline of Bioarchaeology, there are Osteoarchaeology and Paleopathology. Both disciplines represent an investigative tool for studying ancient human remains. On the one hand, Osteoarchaeology poses as the primary objective the reconstruction of the biological profile of people with the aim of rebuilding the ancient demographic dynamics. On the other hand, Paleopathology, investigating the presence of pathologies, can reconstruct the ancient epidemiological frameworks. It is evident that, Archaeology receives an important contribution from the anthropological investigations of ancient human remains. They may provide information useful for the paleodemographic reconstruction of an area, revealing new elements in order to investigate epidemiological history, and helping us to discover new aspects of ancient life⁷. Archaeologists of the past seemed generally disinterested in analysing ancient human remains found in excavations. Today however, scientific methods and specifically those of biomedical research are able to enrich the osteoarchaeological research. Skeletons, as biological archives, are examined in the complexity of an entire sample in order to define the demographic dynamics of a site. From bone investigations, we are able to reconstruct the anthropological reality and the nutritional and working features of populations⁸. Paleodemography is accompanied by Paleopathology, an area of study that investigates the epidemiological history of a place and identifies the concept of pathocenosis, used to recognise the presence of disease patterns in the historical development and geographical distribution⁹. Human remains with signs of trauma can also inform us of certain degrees of violence within a group or regarding risks in

⁷ BUIKSTRA, BECK 2006; BUIKSTRA, 1977, 67–84; MILNER, WOOD, BOLDSSEN 2008, 561–600.

⁸ KROGMAN, IŞCAN 1986; BUIKSTRA, BECK 2006.

⁹ GOODMAN, MARTIN 2002, 61–93.

the workplace¹⁰. In some cases, the study of ancient human remains and their funeral rites represent a fundamental way of understanding symbolic and ritual pathways, while also developing approaches to the mortuary cult practices. During the 23rd International Congress of History of Medicine which took place in London in 1972¹¹, terms such as “Bioarchaeology”, “Archaeology of Death”, but also “New Archaeology” defined a new line of research. No longer these subjects were the result of random circumstances — rather, they had become new scientific disciplines. Since that moment, this new discipline grew independently from the combination of physical anthropology and archaeology elements¹². It can be said that now a continuous and organised collaboration between the various biomedical disciplines, anthropological and historical archaeologists is quite consolidated: “Further contributions are also the result of analyses carried out by studying biological sciences (bio-archaeology). Biological evidence and data allow for an ecological and historical background of the investigated sites”¹³.

Therefore, emerging issues developed with regard to various professionals and experts called upon to cooperate. Should we prefer a single expert with vast competence and experience, or would it be better to have groups of experts with different skills and expertise working together? And another question: what means of publication for these studies should be used? What will be the future of archaeology journals? Today, in the international field, there are many new landmarks in literature that show the level of development reached by these studies. By simply mentioning the titles of the *Journal of Archaeological Science*, the *International Journal of Osteoarchaeology*, or the *International Journal of Paleopathology*, we can demonstrate the important growth of new disciplines and areas of study that have arisen at the crossroads of archaeology and other sciences. These fundamental points of intersection are the result of the development of skills and expertise pushed and studied in institutions and university departments in which experts from different disciplines have found hospitality as well as the opportunity to work together. A substantial portion of medical historians, and especially those concerned with the investigation of ancient human remains, has long been oriented in this direction. However, these authors and their lines of research are often welcome in traditional publications on prehistoric archaeology, be it classical or medieval. Therefore, fields that seemed and may still seem quite different, finally meet along increasingly blurred and permeable boundaries due to the fact that the overall research must be based on knowledge and expertise that come from every direction. Yet here another issue arises regarding an aspect we have already mentioned, that of the skills of those who carry

¹⁰ KLAUS 2012, 29–62; GOSMAN, STOUT, LARSEN 2011, 86–98.

¹¹ MOLLER-CHRISTENSEN 1973, 411–418.

¹² STOJANOWSKI 2005, 417–431.

¹³ GALLO 2014.

out this research. This is certainly not a new issue but rather an old question that reemerges within the global change that we have experienced and that we are currently experiencing. However, closer to us there have been—as we shall see—the examples of archaeologists who, with pioneering spirit, offering their expertise as anthropologists and physicians in order to give a full explanation of skeletal or cremated materials that emerged from excavations and burial sites. In 1987, the Italian Society for the History of Medicine held its national congress on the theme *Archaeology and Medicine*, demonstrating that the path towards a new discipline had been started, with the definition of *Paleopathology*, interested in the study of human remains from archaeological excavations. The scene was greatly enriched thanks to the initiatives of other areas of research. Following the example of what has long been successful in other countries, even in Italy the creation of specialised research centres reveal the interest to see growth in this sector and these areas of study. For this reason, we would begin to more clearly outline specific expertise that can assist the work of the archaeologist in the field, at the intersection between historical-humanistic and medical-scientific areas, including biological or experimental approaches.

Bioarchaeologist, Anthropologist and Paleopathologist: training requirements and professional recognition

More and more frequently, biological expertise is called upon alongside those of the archaeologist when human remains emerge from excavation sites. Based on the previously mentioned, there is a clear need for a continuous and organised collaboration between the various disciplines and areas of study involved in research and studies on ancient biological remains, namely those of natural, biomedical, anthropological and archaeological science, each enriching the perspectives of the others. Therefore, within this desirable climate of growth, in conjunction and with the distinctive characteristics of these specialised fields, there is a specific necessity for us to make distinctions for each area of study, and at the same time find the points of contact between the various fields of expertise — those of physical anthropology, paleopathology, as well as the new frontiers of archaeology and forensic anthropology, which are of fundamental aid with regard to the investigative methods applied to criminal investigations, where it is necessary to proceed with the identification of human remains. Nowadays, in the field of investigations and studies of human remains, the number of specialisations has multiplied and diversified considerably, to the point that the needs of archaeology require quite fragmented skills and expertise, with electron microscopy techniques, and molecular genetics, with training courses and dedicated research sites. The main skills seen in this area of research are those of the mortuary archaeologist, the physical anthropologist, the paleopathologists, and we should note that in Italy we have seen the new need—namely the recognition of this area of study—for a specific professional identity. Here

we find ourselves facing an emerging issue. Could we outline a bio-archaeology as a discipline in itself? And could we view osteoarchaeology as an additional specialisation? We can offer partial answers to these questions by looking at what is already outlined in literature, and that which is well represented in some research institutions. From all over the world, we receive influential journals that are perfect testimony of a field of study with its own scientific autonomy: archaeological, osteoarchaeological, and paleopathological journals, compulsory reading for all academics of human antiquity. Typically these are scientific journals to which the authors have access by demonstrating skills of tools and methods of the natural, biological and biomedical sciences, but also expressing interests that coincide with those of the traditional humanities (historical and archaeological). In some countries, particularly in Anglo-Saxon universities and centres of excellence, the role of the bioarchaeologist seems to be already established. Is it therefore possible to imagine the possibility of individual and specialized bioarchaeological training in our academic courses? It is comforting to see that in Italy, some universities are already facing the problem of organizing Master's courses and PhDs in paleopathology and bioarchaeology. In particular, we want to remember the master of Bioarchaeology, Paleopathology and Forensic Anthropology of the University of Pisa, Milan and Bologna. However, this, in our opinion, is not enough. There are times when we must have a specialist who is able to immediately grasp all relevant information with regard to a site. And here we encounter different issues. A role or expert with all of these skills is not always available and in order to solve the problem of this shortage, universities—with their departments, be it traditional archaeology or scientific-biological, anthropological and paleopathological fields—should feel the need to promote education in this direction, proposing a more widespread activation of anthropology teachings and paleopathology, for medical degree courses, humanities, and science. Could we even think of a specific degree program? It is necessary to think of archaeology as an intersection with physical anthropology and other sciences, in particular biomedicine, which can investigate the state of health and the different diseases that occur in a population. We are therefore present in the field, yet we need to consider some issues. An overview of the anthropological and paleopathological studies in Italy have convinced us of the need to identify the points where we can concentrate the skills and expertise that are currently budding in universities, museums and even in the archaeological cooperatives. We are hoping and striving for a tried and true network, as well as the definition of qualified sites distributed on the basis of the greater or lesser wealth of geographical areas. This would allow for a true assessment of specialised studies and the identification of premises addressed to bioarchaeological research. Such a desirable distribution of expertise would also help where we intend to resume the study of materials of interest that still lie in storage by local and government authorities. As mentioned above, Moscati deems that the meeting place between a more traditional archaeology and subsidiary sciences should not represent a hierarchy of

competence or expertise, because it is actually the components that have the same dignity in research. The humanistic experts and those who base their operations on the multiple scientific skills and expertise in the field are truly all within the same world.

With regards to the recognition of the anthropological profession, we believe that there is still much to do¹⁴. The Gazzetta Ufficiale n. 183 of August 8, 2014 published the law of July 22, 2014, n. 110 on Modification of Cultural and Landscape Heritage, as referred in Legislative Decree n. 42 of January 22, 2004, on cultural heritage professionals and the establishment of national lists of such professionals. With the introduction of the article 9, concerning the competent professionals of cultural heritage, the operational measures of protection and conservation of cultural heritage as well as those relating to the enhancement and enjoyment of the same goods are explicated. They must be entrusted with the responsibility of professionals according to their respective competences, of archaeologists, physical anthropologists, demoehtnoantropologists, etc. However, the lists do not exclude in any way the possibility of practicing the profession for those who are not included and especially that they don't represent a professional register.

The “Archaeology of Emergences”: the daily life of the site

We should consider the fact that today, in Italy, the view of necropolis and burial site excavations is almost entirely that of “Archaeology of Emergences”, intervening in the construction sites when the project encounters ancient burial sites (Figure 2).

Typically, the investigation and studies come to a halt due to limits of available funding, to the point where we have excavations that are left unfinished, and consequently, the anthropological research is also left incomplete. Over the years, a market for services and archaeological excavations supported by the clients of construction sites and public works has formed, where the excavation and digs have been entrusted to companies, cooperatives or private professionals, usually based on the size of the job and the geographical area in question. Therefore, a continuing problem stems from the fact that archaeological investigations today, for the most part, are carried out as rescue operations, where construction work unexpectedly uncover historical finds or sites to be protected, or where action is taken in areas recognised at risk by the local government and superintendents. We are dealing with excavations that almost never assume the value of systematic operations targeted towards the diachronic reconstruction of a site, but rather those of periodic inquiries and dictated by contingencies. These excavations represent almost all the actions taken by the superintendents and authorities. However, we should not complain. Even “emergency” archaeology, considering how there is a lack of organised research campaigns,

¹⁴ LICATA *et alii* 2016, 1569–1570.

offers information and enriches the world's knowledge of antiquity. It is often limited to the remediation and repair of the places affected by construction work, leaving unexplored the other parts of the area that could give an overview of the site and—to the extent of our interest—the osteological material to be examined. Moreover, we should not limit ourselves to simply repeating that we should have a more active participation of all the entities and authorities that could be involved, from private owners to the institutions involved in the preservation of historical sites, in order to support the operational possibilities of the city or superintendent. This is a problem based on clear chronicity to which we must adapt and something with which archaeology studies and even anthropology laboratories must live and coexist. In our own experience, the majority of bone samples entrusted to us for study and research are related to random or casual discoveries. We all think that it would be very desirable to have new operational guidelines that should be extended to archaeological investigations and studies, beyond those of unplanned excavations. These limitations affect the completeness of historical research. Moreover, when cemeteries or single burial sites are found, even within churches, in many cases there we are faced with the choices of either recovering the grave or leaving the site intact, as often happens and exactly what happened in finds in our area. We will see, in the description of the sites from our osteological material, just how different the result would be if we had been able to carry out our studies and

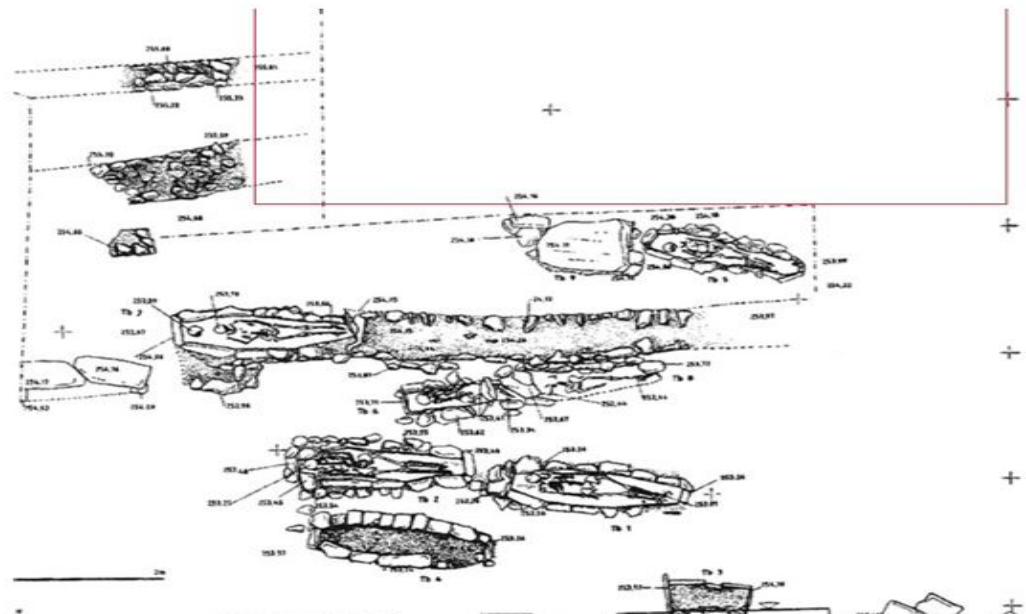


Figure 2. The medieval necropolis of Caravate. The archaeological excavation conducted in 2002 brought to light only the side near the church. The next investigations will focus on the unexplored area (red)

research in the spaces that are yet to be explored in some of necropolises, however unfortunately we are often interrupted before reaching the goals for recovery requested by the client, even when we feel the need for more information in order to outline the ancient demographics of an area. Furthermore, if we plan to globally study the osteological material with a chronological viewpoint, we should consider other issues and address other investigations and research work. We know that the city government and superintendent has osteological samples of old excavations in storage, yet unfortunately we know that past archaeological investigations, albeit not too remote, had almost always neglected skeletal material. Only recently have we seen confirmation of the need to pay attention to the restoration and preservation of human remains with scientific methods, in particular those of biomedicine, competing to enrich and enhance the research of archaeologists. There is no doubt that, complying with this new awareness, we could study the biological history of ancient peoples and obtain information relating to demographics, lifestyle factors and health status. In many cases, a partial remedy of the deficiencies that we have mentioned could be found in the thorough review data from the literature. We will see that it is a difficult task, also due to the fact that the passing of time has led to changes in many skills and our abilities with regard to technical and scientific investigation, to such a point that we are left unsatisfied with the data and results of the observations from those who had preceded us on these roads. And here is yet another emerging issue with no irrelevant arguments. Precisely because of what we are saying here, we recognise the validity and importance of the arguments of those who are convinced of the need to preserve human remains from the excavations, despite the problems of emerging ethical values, with regard to every other ancient artefact and finding. If we still had the material studied in the past, instead of the generally weak and limited reports that we find in literature, it is clear that we could re-examine it with more satisfying results and therefore support those who suggest not returning the human remains to burial sites. Unfortunately, many past reports and papers were left uncompleted by the anthropologist, and it is therefore even more difficult to obtain succinct osteological and skeletal descriptions from the archaeologist who carried out this work, as well as data that could be useful to our updated research. It is primarily a task that belongs to the universities and the superintendences to promote the research in strategic areas from the archaeological and anthropological point of view¹⁵. Nevertheless, it is also important to study and to preserve the existent collections of human remains, placed in museums or in other conservative spaces.

¹⁵ BONFIGLIOLI, BRASILI, BLECASTRO 2003, 36–56; GIUFFRA, FORNACIARI 2017.

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