



Oceans of Data

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Edited by

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Bioarchaeology Module Loading...Please Hold. Recording Human Bioarchaeological Data from Portuguese Archaeological Field Reports

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Abstract

The Bioarchaeology Module as part of the Endovélico database maintained by the General Directorate for Cultural Heritage (DGPC) holds the record of archaeological and bioanthropological data. While primarily directed towards heritage management it has the potential to become a valuable tool to research by constituting a complementary record to the written archaeological field reports, making them more accessible for research.

The poster communication aimed to expose the particular case of entering data into a database pertaining to information concerning archaeological human remains in archived Anthropological and Bioarchaeological Reports. These not only cover a wide scope of chronological periods and territorial space but also, as the main archaeological archive of Portuguese archaeological grey literature, it has a diverse collection of documentation from early 20th century reports to the present day. We explore the issues brought on by terminology, data and the reports themselves and explore how these might be addressed.

Keywords: human remains, archaeological interventions, grey literature, databases

Introduction

The Directorate-General of Cultural Heritage (DGPC) is the Portuguese state's entity responsible for heritage management and, as such, houses the main archive of Portuguese archaeological documentation. This is in accordance with national heritage legislation, which holds the recording and inventory of information as the cornerstone for heritage protection and safeguard. All field reports from archaeological excavations are public and open to consultation locally upon request, since the vast majority of reports is still in paper format, although there is an effort underway to make the digitalised versions available for online consultation. This paper aims to be a reflection on our experience researching field reports, kept at DGPC's archives and with information pertaining to human osteological remains, and uploading the key field information to a database.

In Portugal, especially since the late 1990s as a result of a substantial increase of construction works and more comprehensive legislation,¹ in-field archaeological research is carried out mostly by private commercial

sector archaeological companies² which must comply with national regulations and are supervised by the Directorate-General to whom they must request previous approval and submit a final report. The DGPC also manages and updates an information system database 'Endovélico', created in 1995 to aid and enable heritage management, which is in constant update and articulates with a GIS system. It is subject to several constraints, both financial and policy related, that hinder a full remodelling of the IT system and the number of exclusively dedicated staff both needed for an improvement of the database.

An ever evolving system, the latest addition to Endovélico was the development, in 2010, of a bioarchaeology module (Duarte and Neto, 2010), devised to record information pertaining to anthropological field work (grey literature) concerning archaeological human remains. The development of this module stems from an increase of on-site information pertaining to human remains recovered, in response to legislation that made compulsory the presence on-field of experts with human osteology background, responsible for the exhumation of remains and the production of

¹ That makes archaeological surveys mandatory, especially in historical areas.

² Although, municipalities are also often involved. There are also several research projects carried out by the Universities usually within the scope of annual or multi-year research projects.

an anthropology report to be annexed to the final archaeological report.

The potential of the bioarchaeology module

There are currently several types of database, ranging from simpler minimalistic databases that constitute a simple inventory to help researchers to locate skeletal collections, to more complex multipurpose databases that allow the refining of results through query based searches (White, 2007). Most databases are connected to specific projects or institutions and therefore focus on answering specific research questions, often assuming a set of common core criteria that are collected and recorded by members of the same team, while they also tend to be directed towards the collection of primary anthropological data sets or act as a repository of anthropological reports. The fact that the bioarchaeology module, as an integrant part of the Endovélico database, belongs to the DGPC means that it encompasses the whole national territory and a wide chronological scope, as opposed to the aforementioned project related databases. This also means that it stands a greater chance of survival, maintenance and constant update, thus surpassing the temporality of specific research projects. Consequentially, one of the key features of this database is its interconnectivity of information that ensures the preservation of contextual information pertaining to GIS, artefacts and all previous works carried out on the archaeological sites.³

Although Endovélico's aim is first and foremost directed towards ensuring heritage management efficiency, and as such it is an instrumental tool for DGPC's staff, its bioarchaeology module holds the potential to become a valuable asset for bioarchaeological research. It can become a solution to some problems commonly related with the study of human remains, such as the poorly publicised existence of collections available for study, which has dictated the dependency on word of mouth in order to identify the collections available, and the possibility to trace collections with desired characteristics for specific research questions (White, 2008). A case-by-case search of reports in paper format can be cumbersome without tools that allow for query based searches in order to identify which reports might hold relevant information. This is especially relevant since reburial is not a common practice in concern to Portuguese archaeological remains (Umbelino and Santos, 2011) exhumed from salvage and rescue archaeology, and as such constitute a source of untapped potential for further study, since apart from atypical

cases of particular relevance, these remains are seldom studied further than the anthropological field reports.

Our input on data input

Despite the earlier creation of the bioarchaeology module, external constraints have delayed a regular upload of information into the module, but in 2014 an effort was undertaken to make a systematic upload of information onto the database and thus it was possible to demonstrate not only its great value and potential, but also to identify the need for a careful reflection regarding the reports themselves, the terminology employed and their data.

All reports kept at the DGPC are in paper format, and the majority also exist in digitised pdf format. The bioarchaeology module does not attempt to replace the reports, but to complement them, by becoming an auxiliary research tool to browse and query information more efficiently, in order to assist researchers to identify the reports of interest. In this way it will not only potentiate access to the information but will also ensure another form of digital preservation of part of the information, contributing to the prevention of digital obsolescence. The work consisted of the identification of reports that had information pertaining to human remains and the upload of anthropological information onto the database.

Field reports

As the main archive of Portuguese archaeology, to whom the reports are submitted and subsequently housed for storing, preservation and consultation, it covers a wide chronological scope that reflects the history of Portuguese archaeology in itself, comprising reports dating from 1939 to the present day (Neto and Seabra, 2015). This means that these reports, despite maintaining a constant technical and informative character with the purpose of informing the State in regards to its Heritage, they cover the passing of several schools of thought and approaches regarding archaeological⁴ practice up until Post-Processual Archaeology (de Alarcão, 1996). This is illustrated not only in the methodological approaches but also in what concerns the importance given to human remains excavated from archaeological sites. Through these documents it is also possible to observe the results from changes in legislation, that has become increasingly more complex, as well as the appearance of multi-disciplinary approaches with the involvement of field, conservation and other experts. In the particular case of human remains, it is possible to see a transition from near neglect — absence of

³ This is already possible to some extent in regards to archaeological information, which is available through the Directorate General's online Archaeologist portal <http://arqueologia.patrimoniocultural.pt/>

⁴ And to a certain extent anthropological practice, particularly its increasing involvement in the field.

information regarding the subsequent destination, for example – to their exhumation for subsequent study usually by researchers with medical background and anthropologists, however in the earlier times their results and conclusions were seldom included. The presence in-field of an anthropologist during the excavation of archaeological sites with human remains started to emerge during the 1980s but only in 1999 did it become required by law⁵ and ceased to be dependent on the excavation director's choice (Umbelino and Santos, 2011). Subsequent legislation in recent years⁶ has contributed to further define and strengthen the position and contribution of anthropologists in the field, which not only reflects the specific way in which archaeological human remains are perceived, but also the influence of the notions of *Anthropologie de Terrain* (Duday *et al.*, 1990; Duday, 2009) and the recognition of the importance of on-field observation.

So, with respect to the database, what criteria should be used to select the anthropological reports to be included? Should the sparse information from older reports be included, and if so, in what way should it be made available? This could aid the re-use of older information sources that can still have something to offer to current research (Törv and Peyroteo-Stjerna, 2014).

Terminology

As we have mentioned, most rescue and salvage archaeology work is undertaken by commercial private sector archaeological companies and freelancers, duly accredited and recognised during the request submission by the DGPC. As a consequence, the work and subsequent reports are done by a very diverse group of professionals, who graduated from different institutions and have different research interests. This means that, although there is limited standardisation in terms of *ad minima* criteria required by the DGPC, the way that this information is collected can be quite different, which may hinder inter-observer analysis (da Cruz, 2011). It is also to be noted, that the same author tends to use terminology indiscreetly and synonymously using many terms at certain times, and at others using the same terminology to mean different concepts, as there are not current standards for terminology. This is not a situation exclusive to Portugal, and many authors have stressed the importance of a common core of standardised terms (Knüsel, 2014; Knüsel and Robb, 2016). This is of particular significance since a certain level of standardisation is always required when dealing with digital platforms and databases. We are

aware of the difficulty of this task, especially because the database has a great chronological and spatial scope and the same 'term' can be more or less appropriate depending on the specific period and context. Care should also be taken when adapting foreign terminology that was devised taking into account different realities which may or may not apply to the Portuguese context. It is of utmost importance for any progress to be made regarding any database to find a good balance between standardisation and the specificities and uniqueness of each record, so as to avoid a 'forced' standardisation of the archaeological record.

Data

Finally, when considering the information to be inputted into the module, it is crucial to decide what type of data to include and in what way it should be included, e.g. closed entry check box, drop-down lists or open text. While there isn't much doubt on the value of some information, like the sample size and state of preservation, and place of deposit, other types of information, regarding funerary practice, age-at-death, sex and even paleopathology and taphonomy, could be very useful assets to filter or pinpoint collections of interest. How much detail should be provided? In a way this becomes a matter of determining what data are 'relevant' and what becomes 'noise' (White, 2008; Elton and Cardini, 2008), a selection that not only varies greatly according to particular research interests but also is impossible to determine what data will be relevant in the future. Cases can be made for both minimalistic approaches and more comprehensive data collection, which can be of more value in the long run (White, 2007; Elton and Cardini, 2008). On one hand a simplistic approach is less likely to lead or prejudice the researcher into assuming conclusions – for example a sample with a pathological condition that was not detected on field would risk not being studied because a filter search would not identify it as a relevant result. A minimalist database would certainly have the advantage of being more cost effective and easier to update and maintain. No doubt, however, that more complete and comprehensive data sets would be much more useful for filtering results efficiently, especially when sieving through big quantities of information. These would provide not only a management tool, but also a way to browse reports to be consulted as opposed to a means to substitute the reports themselves.

The type of remains themselves have also been under consideration, since there has been a tendency to underestimate the importance of disarticulated osteological remains; they have come to be seen as too time consuming for the amount of relevant information that they can return. This is especially the case in the context of commercial archaeology bound to strict

⁵ Regulation of Archaeological Work decree-law n.º 270/99, 15th of July.

⁶ Basic Law of Cultural Heritage n.º 107/2001 of 8th September; decree-law n.º 164/2014, of 4th November and Circular Nº 1/2014 biological anthropology in archaeological contexts.

deadlines and budget (Brickley, 2004), which must be negotiated with the contractor or developer, who is responsible for the costs by law. However, one could argue that the increasing methodological advances will have a tendency to improve cost-benefit over-time through, for example, easier access and cheaper laboratory examinations.

In summation

The bioarchaeology module is different from other databases, in the sense that it aims to integrate information on a broader scope, focusing on remains that have only been studied in the field during exhumation by different teams and specialists nationwide, covering the entirety of the national territory and a wide chronological scope. The fact that it is managed by the DGPC further ensures the potential for continuous update of information and maintenance. The database has the capacity to potentiate the scientific value of the exhumed remains, by enabling their disclosure and availability. Furthermore, we are certain that the difficulties identified can be overcome, although this is a work in progress with a long way to go. We consider it to be necessary for the engagement of the professional and scientific community, as well as to raise awareness to the importance of issues pertaining archive maintenance and survival of information.

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