

Open Access and archaeology in Italy: an overview and a proposal

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Abstract – The aim of this work is to provide an overview of Open Access policies to archaeological data in Italy, focussing on the documentation produced during the archaeological excavation. These documents are often excluded from publishing, and then belong to the broad category of “grey literature”. To trace a framework of the Open Access initiatives managed or supported by the Italian Ministry for Cultural Heritage and Activities and for Tourism (MiBACT), it is necessary to outline the actors involved in the production of the archaeological records in Italy: the MiBACT, which has the task of protecting and valorising the archaeological heritage, the Directorate General for Antiquities, which plays a coordinating role, the Superintendencies, peripheral offices of the Ministry, The Universities and the professional archaeologists. The proliferation of various institutional platforms for the publication of archaeological records is nowadays a critical element: the information is highly fragmented and hardly retrievable on the web. Each platform follows its own way of storing and organising data and documents, and only in a few cases common standards, recognised at a national or international level, are adopted. To draw a state of the art on this issue, a framework of the Open Access journals and platforms already existing is provided, in order to highlight critical situations and new challenges and to suggest possible solutions.

Keywords – Open Access, Open archaeology data, grey literature, repository

Zusammenfassung – Der Beitrag skizziert die momentane Situation der Open-Access-Politik in Italien, insbesondere im Hinblick auf die aus Grabungen resultierenden archäologischen Dokumentationen. Häufig werden Ausgrabungen nicht publiziert, die primären Berichte bilden dann einen Teil der sogenannten „grauen Literatur“. Um eine Übersicht über die Open-Access-Initiativen, die vom Ministerium für Kulturgüter und Tourismus (MiBACT) geleitet oder unterstützt werden, zu gewinnen, werden die Personen oder Gruppen umrissen, die an der Produktion archäologischer Daten beteiligt sind. Das Ministerium selbst bildet die höchste Instanz, die dem Schutz und der Erhaltung des kulturellen Erbes in Italien dient, es koordiniert siebzehn regionale Direktionen. Sein Leitungsbereich gliedert sich in zwölf Abteilungen, wobei eine dieser Abteilungen der Archäologie gilt. So werden in Italien archäologische Daten in den dem MiBACT unterstellten regionalen Dienststellen erstellt, zudem an Universitäten und von per Vertrag beschäftigten selbstständigen Archäologen. Als weiterer Teil dieses Überblicks werden die bereits bestehenden Open Access-Zeitschriften und Datenarchive in Italien skizziert, auch um das Thema der Lizenzen und der Urheberrechte kritisch zu beleuchten, um kritische Momente zu identifizieren und mögliche Lösungsansätze herauszuarbeiten.

Schlüsselwörter – Open Access, Open Data, Grabungsdokumentation, graue Literatur, Datenarchiv

Introduction

The aim of this work is to provide an overview of Open Access policies to archaeological data in Italy, focussing on how documentation produced during the archaeological excavations is made available online, and on the possibility to find an answer to the critical issues that appeared. The need to outline a clear frame on this subject grows from the observation that the digital revolution has only partially affected the daily practice of archaeologists in terms of quantity and quality of data really available in Open Access. The result is that today the main part of the documentation created during archaeological excavations is unpublished and the access to the documents stored in the archives (grey literature) requires a difficult protocol.

Thus, a framework of the Open Access initiatives managed or supported by the Italian Ministry for Cultural Heritage and Activities and for Tourism (henceforth referred to as MiBACT) will be traced, highlighting critical issues and possible solutions.

The proliferation of various institutional platforms for the publication of archaeological re-

ords is nowadays a critical element: the information is highly fragmented and hardly retrievable on the web. Each platform follows its own way of storing and organising data and documents, and only in a few cases common standards, recognised at a national or international level, are adopted. The Italian participation in the European project ARIADNE (Advanced Research Infrastructure for archaeological Dataset Networking in Europe, <http://www.ariadne-infrastructure.eu/>), represents an important step in reaching these objectives; nevertheless, only the actual use of these standards and the integration of the existing archaeological research platforms in this infrastructure could allow for the real opening of Italian archaeological information in the long term. However, this approach has inherent difficulties due to economic issues (long-term sustainability of costs) and cultural ones (change in the archaeologists' workflow, both in producing open datasets and in taking into account that their work will be published on Open Access platforms).

The paper is structured as follows: the first paragraph will outline the actors involved in the production of the archaeological records in Italy; then Italian

Open Access Journals and web platforms managed or supported by the MiBACT will be examined. Finally some relevant issues will be discussed.

Archaeological excavations and access to data

The execution of the archaeological excavations in Italy is entrusted to the State, through the MiBACT, which has the task of protecting and valorising the archaeological heritage. The Ministry operates on the territory through the Directorate General for Antiquities, which plays a coordinating role on the peripheral offices of the Ministry, the Superintendencies.

Preventive archaeology, which currently represents the main part of archaeological excavations in Italy, is held under the scientific direction of the Superintendencies, but field work is rarely performed by internal staff, and is usually entrusted to private companies or professional archaeologists and, with a recent law, also to the Universities (Legislative Decree no. 163/2006 and subsequent modifications and additions, art. no. 95 and 96, concerning the preventive archaeological impact assessment). Universities also have the possibility to carry out planned excavation under a regime of Concession, normally with the aim of training young archaeologists and students (Code of the Cultural and Landscape Heritage, Leg. decree no. 42/2004, arts. n. 88 and 89 concerning „research activities” and „research concessions”).

The briefly outlined framework shows that the collection of archaeological data involves the MiBACT, as well as Universities and professionals. In this workflow the Ministry holds the scientific direction or is responsible for the supervision of the investigations in case of excavations in Concession.

The scientific documentation is produced by private companies or professional archaeologists, who carry out the excavation. Recently, a Circular Letter of the Directorate General for the Antiquities (no. 10/2012) established specific recommendations on the type of documentation to be delivered in preventive archaeology. More detailed guidelines were expected to be published by 31 December 2014, in accordance with the Decree Law 133/2014, but the implementing regulation on this law, is currently being debated.

In the other categories of archaeological interventions, at a national level official standards are still lacking, even if in the last months some Superintendencies have elaborated specific guidelines addressed to professional archaeologists and private companies dealing with the production of ar-

chaeological reports and other documentation, e.g. about data formats and the topographic positioning of the site: for instance, it is possible to consult the guidelines provided by the Superintendencies of Lombardy (GUIDELINES LOMBARDY 2014), Piemonte (GUIDELINES PIEMONTE 2014), Tuscany (GUIDELINES TUSCANY 2014) and Veneto (GUIDELINES VENETO 2011).

In this way the archives of the Superintendencies represent the largest repositories of Italian archaeological data, where all the documentation produced is stored and conserved. Usually, these archives can be accessed by scholars through a written request, in accordance with the Law no. 241/1990, that regulates the access to the administrative documents (PALOMBINI & SCHIAPPELLI 2012). According to this law, the applicant has to claim a legitimate interest (work, study, research) in order to access the documents.

In recent years, Open Access philosophy has been rapidly spreading, and it is leading to a gradual adaptation of the institutional and regulatory framework to data accessibility: in Italy, unless otherwise specified, in accordance with the Decree Law 179/2012, data published online by public bodies are automatically released under a CC by license, according to the principle of Open by default (GUIDELINES AGID 2014). Moreover, in compliance with recent Italian laws on administrative transparency and digital agenda, public administrations are expected to publish a huge number of documents on their institutional website, such as documents related to the contracts, the use of funding and information of public interest.

This principle represents a real breakthrough in Italian regulatory framework, but at present all the documents related to the execution of archaeological investigations are excluded from these obligations, except for the contracts directly stipulated by Superintendencies. Furthermore, in the last months, an amendment to article 12 of law no. 106/2014 (the so called Art Bonus), introduced a ban on taking photos of documents from archives or libraries, even if for reasons of study or research purposes. This rule, which caused a heated debate, certainly puts new limits on the possibility of making these documents freely available to scholars (BRUGNOLI 2014, MODOLO 2014).

However, the way to publish the results of archaeological excavations has always been an open issue: already in 1972 a Circular of the Ministry of Education (a Ministry specifically devoted to Cultural Heritage would be established only in 1975), clarified the fundamental principle that „the publication is an essential part of archaeological research”, and dwelt on the need to „ensure

the publication of any results of work in progress and any recent discovery, albeit not so relevant”, as well as the „elimination of the unpublished”. Moreover, the ministerial Circular stated that the results of any archaeological investigation had to be published within 5 years by the end of excavation works, thus giving a reasonable time to carry out scientific considerations (SERLORENZI, JOVINE, BOI & STACCA 2013). Unfortunately this Circular remained mainly disregarded, as demonstrated by a statistical research of 1997, which showed how 90 % of archaeological reports remains completely unpublished (TRABUCCO 2009, p. 66).

Another important remark made by Stefano De Caro (General Director for the Antiquities in 2008) stated that „the publication of excavations and archaeological data, along with the protection and preservation of heritage, is the primary goal of archaeologists who work in the Ministry as well as a cultural and social obligation. As it is not only to put new and more precise segments in the inexhaustible framework of scientific research, but also to get the entire community involved by adopting different ways of communication. Indeed the community supports the costs of these studies, which hold the values of the story: in other words, this means to give more complete fulfilment to article 9 of the Italian Constitution (DE CARO 2008). Furthermore, article 9 of the Italian Constitution states that „The Republic promotes the development of culture and scientific and technical research. Furthermore it protects the landscape and the historical and artistic heritage of the nation”. If we apply this general principle to the reality of archaeological research we would expect a wider dissemination of the documentation produced during the excavation or, at least, a widespread publication of their results.

At the moment a rather heated debate is still going on among archaeologists, scholars and Superintendencies in Italy and is focussed on the following topics:

- which data and documents, held in Superintendencies archives, can be considered “public data” and published as Open Access;
- who owns the Intellectual Property Rights;
- who has the right – and the duty – to decide on the publication;
- which kind of licenses should be used to allow for the re-use of data
- how and who should guarantee for data quality;
- how and who should guarantee for the long term preservation;
- who has to pay for the creation and the management of the platform.

All these topics should be clarified at a national level by specific legislative and administrative measures. In this way a matter otherwise subjected to many various interpretations and solutions would be defined in a univocal manner. So, it could be possible to make information easily re-trievable by the users and to avoid the proliferation of autonomous actions that could hardly assure inter-operability.

Open Access Journals

The spread of digital publishing and online Open Access platforms represents a great allowance to make documents and data available to a wider audience and, at the same time, poses new questions and issues.

The oldest Italian Open Access journal is ‘Archeologia e Calcolatori’, published since 1990 on the initiative of the Istituto per l’Archeologia Etrusco-Italica (now: Istituto di Studi sul Mediterraneo antico) of the Italian National Research Council (CNR), that endorsed Open Archives Initiative (OAI) in 2005 (CARAVALE & PIERGROSSI, 2012). The papers, in pdf format, are published on the journal’s website (Archeologia e Calcolatori, n.d.), under a CC BY NC ND licence, and they are easily searchable by year, author, title and full-text; unfortunately, there is no provision for the publication of open dataset related to the papers.

Since 2008, the Directorate General for Antiquities has published as Open Access the Bollettino di Archeologia Online (<http://www.bollettinodiarcheologiaonline.beniculturali.it/>), formerly published in the traditional format, which was conceived as the official journal of the Institute. In the website the papers are freely accessible and downloadable, even if no user license is mentioned.

Recently, some Superintendencies started to make their bulletins Open Access: for example the ArcheoCaOr Open Journals (<http://www.quaderniarcheocaor.beniculturali.it/>) of the Superintendence of Cagliari and Oristano; this journal, which declares its compliance with the Berlin Declaration (BERLIN DECLARATION 2003), is released with a CC BY NC ND license that, in fact, excludes it from the Open Access as free and unrestricted online availability (BOAI 2002). This is even more serious because the journal envisages the publication of related contents and datasets, so it could have represented an example to follow in the publications managed by MiBACT.

An important example to cite is the transformation of the archaeological journal *Fasti Arche-*

ologici into an online Open Access journal, *Fasti OnLine Documents and Research*, which provides a linked web-platform that holds a Geographical Information System where it is easily possible to search for archaeological data. This transformation has been possible thanks to a partnership between the MiBACT and the International Association of Classical Archaeology (AIAC). The journal collects texts and images on ongoing excavations, geophysical prospections and relevant archaeological sites in Italy. It is a point of reference for the Ministry and its peripheral offices, insomuch as, for example, the Archaeological Superintendence of Tuscany requires that the final reports of the excavations held under Concession have to be published in this platform.

Web portals

In the last decades institutional projects aimed at the digitisation of archive resources and museum collections have grown exponentially, with a subsequent development of projects aimed at providing Open Access to digital contents, such as catalogue sheets, images, documents etc. The Central Institute for the Common Catalogue of Italian Libraries and Bibliographic Information (henceforth referred to as ICCU) and the Central Institute for Cataloguing and Documentation (henceforth referred to as ICCD) have been taking part in the major European digitisation Projects, such as *Dariah* (<http://it.dariah.eu>), *Athenaplust* (<http://www.athenaplust.eu/>) and *Europeana* (www.europeana.eu/). *CulturaItalia* (<http://www.culturaitalia.it>), for example, is the Italian data provider for Europeana.

As stated above, these web portals usually give access to already catalogued cultural resources, generally movable objects such as books, engravings and archaeological findings. Instead, with regards to the access to archaeological fieldwork reports and recent discoveries some examples could be cited: the Directorate General for the Antiquities manages a web page dedicated to archaeological excavations which contains abstracts, bibliographic data, photos and findings of the excavations carried out on the Italian territory (<http://www.archeologia.beniculturali.it/index.php?it/142/scavi>). This platform could represent a useful display for the preliminary publication of the latest excavation results. Indeed, several types of information are reported: the scientific and field management, the funding entity and source, the typological-functional and chronological con-

text of findings, a synthesis of the investigations.

Unfortunately, often the iconographic apparatus as well as drawings and plans consist only in low resolution images; moreover, no user licence is provided, neither the catalogue sheets nor other related datasets are downloadable.

Another Institutional platform is *Vincoli in Rete*, which collects four different databases:

- the database of protected historical areas and buildings, managed by the Directorate General for Landscape, Contemporary Architecture and Art (<http://vincolinrete.beniculturali.it>),
- the risk Map of Cultural Heritage (<http://www.cartadelrischio.it>),
- the SITAP, informative system aimed at managing, browsing and sharing information related to the restricted areas under existing legislation on landscape protection (<http://sitap.beniculturali.it>),
- the SiGeCWeb, the general catalogue of movable and immovable Cultural Heritage (<http://www.sigecweb.beniculturali.it/>).

At present only the first two databases have an Open Access section. Furthermore, a disclaimer in the website advises the user that not all the data available in the database are updated and the quality of data should be checked by formulating a specific request to the competent government departments.

The SiGeCWeb platform represents not only the biggest Italian repository of movable and immovable Italian cultural heritage, but also a portal where the data are inserted according to consolidated standards and guidelines. At present time it contains almost 2,500 000 sheets that, when will be opened to the public, will constitute an enormous shared knowledge. Furthermore, ICCD is working (April 2015) on the schema dedicated to stratigraphic units registration, that will be added to SigecWeb database.

In recent years the ICCD has oriented its work towards a simplification of the catalogue schema, for example it has created MODI catalogue sheet, an easier schedule usable for different archaeological objects (finds, archaeological complex, site etc.). Even for the Major Project Pompeii (Grande Progetto Pompeii 2015) the ICCD sheet apparatus has been revised for the monitoring and documentation campaign which begun in recent months. As far as Pompeii is concerned, it is necessary to mention two projects that deal with the open data issue: Pompeii sites (<http://open.pompeiiisites.org>), managed by the Superintendence, and Open Pompeii (<http://www.openpompeii.it>), which supports the Major Project Pompeii in opening data.

For a better interoperability in the future many of Italian cataloguing systems have been conceived to accomplish to ICCD standards and to be compatible with SiGeCWeb. In the last years ICCD has made great efforts for opening its data to the public and the announced short-term goal is to publish on line the first 600,000 cards concerning assets of public property (ICCD 2014). Unfortunately, as underlined also in a recent article by Stefano Costa, data will be available under a CC BY NC SA license (COSTA 2014).

Another relevant project funded by the MiBACT is the Archeomar project (<http://www.archeomar.it/archeomar/>) which is aimed at creating an archaeological underwater map of Italian sea. The project was foreseen to have two steps. The first one, Archeomar 1 (2004-2008), involved several regions such as Campania, Basilicata, Calabria and Puglia and some private companies. The second one, Archeomar 2 (2009-2011), involved other two regions, Lazio and Tuscany. All data collected during these projects are available on a WebGIS platform, but unfortunately the platform is no longer implemented and no Open Access policy is foreseen for specialists that could benefit from these important achievements.

At present time there are a number of open data platforms, provided by national or local authorities, as provinces and municipalities that publish some archaeological datasets/information, for example the province of Trapani (http://www.opendatahub.it/dataset/provincia-di-trapani_aree-archeologiche) and the Province of Trento (<http://dati.gov.it>, <http://dati.trentino.it/dataset/siti-di-interesse-archeologico-pup-986531>). However, these datasets often do not contain any homogeneous information (not easy to re-use) and in some cases contain just some tourist information such as the opening hours and locations of archaeological sites.

Access to archive data

The large amount of archaeological data stored in local archives and not yet published constitutes the largest Italian archaeology repository; however, most of these data are not accessible and still not digital.

In the last years the MiBACT tried to deal with this issue, establishing two Interministerial Committees for the realisation of a National Geographic Information System of the Italian archaeological heritage (SITAN), which involved a group of leading experts from the Ministries of Culture and Education, University and Research (MIUR).

The first Committee, head by Andrea Caran-

dini, was established in 2007 and, at the end of 2008, published the first guidelines for achieving this challenging goal (CARANDINI 2008, pp. 199-207. Ministerial Decree of the MiBACT in October 2007). The second Committee was established at the end of 2009 (Ministerial Decree no. 22/2009) and in 2011 unanimously approved a planning document for the practical implementation of the Geographic Information System (AZZENA, CAMPANA, CARAFA & GOTTARELLI 2013, pp. 41-45). The document highlighted that in Italy a considerable number of digital archives and archaeological GIS spread in Superintendencies and Universities already exist. Thus, the real need is to create a system able to link them, in order to build a unique Spatial Data Infrastructure to make all existing resources easily available and searchable online. To reach the goal of full inter-operability, the databases have to be ICCD-standards compliant; the document also specified the need to include both new acquisitions (surveys, academic research and preventive archaeology) and data digitised from the archives of the Superintendencies in the platform, in order to phase out progressively the unreleased data (AZZENA, CAMPANA, CARAFA & GOTTARELLI 2013, pp. 42-44).

Despite the efforts made so far, there is still a long way to go to ensure a wider access to the unpublished archaeological information stored in the institutional archives; it should be stressed that the vast majority of archaeological institutional archives do not use online tools, and often they even lack in the digitisation of their archive resources. Therefore, the increased adoption of online repositories of archaeological information would be highly desirable, both in the form of webgis platforms doing access to synthesis or catalogues, and of digital repositories of original documentation.

The existent platforms are mainly project-centered rather than institutional ones, and this creates a major fragmentation. Among the projects funded in the last years only three are currently on line: SITAR, conceived by the Superintendence for Cultural Heritage in Rome (<http://sitar.archeoroma.beniculturali.it/>), MAPPA, conceived by the University of Pisa in collaboration with the archaeological Superintendence of Tuscany (<http://mapaproject.arch.unipi.it/>), and Archeofi, conceived by University of Siena and the Municipality of Florence, with the support of the MiBACT (http://archeologia.comune.fi.it/PROGETTO_list.php). For the first time these projects are going to open institutional archives to a wider audience thus making also unpublished archaeological data accessible online.

The SITAR (Archeological Geographic Information System of Rome) allows for the consultation of catalogue sheets containing scientific and administrative data coming from the field reports of archaeological investigations carried out in Rome. Before being released online, scientific information is validated by the Superintendence. Currently, it is possible to freely access the information through the webgis platform of the project and using a WMS service; by the end of 2015 it will be possible to download data that will be released with CC0 licence (administrative information) and CC-BY/CC-BY-SA (scientific information).

Mappa Project (Methodologies applied to the predictivity of archaeological potential) publishes the archaeological data related to the city centre of Pisa on its Open Access webGIS platform, MappaGIS. Data are freely available online and reusable under a CC-BY license. It is also possible to print a raster geotiff map. Additionally, the project foresees the MOD (Mappa Open Data) where other datasets and reports (grey literature) are stored and voluntarily delivered by the archaeologists who produced them. Each dataset/report is associated to a DOI (Digital Object Identifier) and is released under CC-BY- or CC-BY-SA license.

In both projects the solution proposed for sharing data is to provide for each archaeological finding a sort of „identity card” with both administrative and scientific information. In line with the outcome reports of the Interministerial Committees, the data published concern a „minimum level of knowledge” which has to be shared with Ministerial offices and other public bodies, but also with scholars, professionals and with the community; both projects are fully compliant with the ICCD parameters.

A similar solution is applied in the project ArcheoFI (Archaeology in Florence), a WebGIS platform where scientific information is validated by the Superintendence before being published. Even if Archeofi is not fully compliant with the information levels suggested by the Committees’ guidelines (the project started in 2007 before the end of their works), it is envisaged that in the future the next step will be the inter-operability of the platform with the ICCD standards. On the other hand it should be noticed that this project is currently the only one that enables to download of the entire dataset in shp and csv formats.

Two years after its start date, MOD holds only 112 datasets which contain reports and other field materials. Probably there still is a strong cultural

resistance with regard to the voluntary data delivery. In fact archaeologists seem to not consider the sharing of their data as a priority for their profession; on the contrary, they seem convinced that the online sharing of the information may represent a danger, because they could lose control on their own scientific data, as clearly demonstrated by the results of MAPPA online survey in 2013 (SONDAGGIO MAPPA 2013). Moreover, the production of a document already suited to the digital publication and re-use requires a surplus of editing work to be properly organised (formats, metadata, etc.). Often the issue of Open Access to knowledge is seen as a question for a niche community and, paradoxically, the request for open data and information is lower than supply. In the last years, there has been an attempt at raising awareness among professionals and encouraging them to share information and increase their ability to work in the „digital environment” by using the tools provided by online platforms (for example see Open School 2015 and Studium 2015).

Discussion

Following the previous analysis it is possible to highlight some relevant issues that contribute to the discussion on how to carry out a good policy upon opening the access to archaeological data in Italy (**Figure 1**).

First of all, we have to talk about the management of the existing platforms and their costs. Several of the mentioned platforms have been built and are currently managed with a substantial contribution of diverse institutions such as the University of Pisa, the Municipality of Florence, the International Association of Classical Archaeology, always with the support of MIBACT.

As far as the economic aspects are concerned, the main part of the existing platforms is publicly funded: the challenge is to guarantee the future sustainability and the „long-term preservation” of data and infrastructure at the end of the projects.

One possibility is the creation of a network of interested public bodies and other stakeholders that may share the management costs, as suggested also by European trends (see for example the already cited ARIADNE Project and the Recode project, www.recodeproject.eu). The greater the number of institutions involved, the greater the chance that the project will continue to find funding and development sources, by guaranteeing its sustainability over time and allowing that the initial investments will not be lost.

	PROVIDER, PUBLISHER	LICENCES	DATA FORMATS	PEER REVIEW, VALIDATION	ORIGINAL DOCUMENTS
JOURNALS					
BOLLETTINO DI ARCHEOLOGIA	Mibact	CC BY NC	papers	✓	
FASTI ONLINE FOLD&R	AIAC	CC BY	papers	✓	
QUADERNI CAGLIARI	Mibact	CC BY NC ND 	papers, structured data	✓	✓
PLATFORMS					
SCAVI DIRECTORATE GENERAL	Mibact	CC BY NC 	summary sheets photos, drawings		
VINCOLI IN RETE	Mibact	- - - -	summary sheets webgis		
SITAR	Mibact	CC BY CC BY SA (forthcoming)	summary sheets webgis	✓	✓ only registered users
ARCHEOFI	Florence University	CC BY	summary sheets webgis	✓	
MAPPAGIS	Pisa University	CC BY	summary sheets webgis		
MOD	Pisa University	CC BY CC BY SA	raw data		✓

Fig. 1 Access to archaeological data in Italy.

A good practice is represented by ADS (Archaeology Data Service, UK) constituted by a Consortium of University Departments of Archaeology and the Council for British Archaeology, led by the University of York. Furthermore, the involvement of a variety of different partners could reconcile differentiated interests and viewpoints starting from the design phase of the projects, thus enhancing their functional aspects and technical performance.

The establishment of collaboration between different agencies is also the key to ensure interoperability between the various databases that have been gradually built. On this front, what is of great interest is the proposal of the creation of a single network, as proposed by the 2007 and 2009 interministerial Commissions (see §5 above).

Another problematic aspect regards data standardisation: many of the mentioned projects use the ICCD standard, which has been chosen by the Ministry as a standard for the new projects. The adoption of a single system could make it easier for users to also retrieve data in terms of accessibility and discoverability.

To this extent, the European Project ARIADNE has the aim to bring together and integrate existing archaeological research data infrastructures and it is currently mapping a lot of national standards with international high level ontologies such as CIDOC CRM, as well as those provided by the Italian ICCD (FELICETTI, SCARSELLI, MANCINELLI & NICCOLUCCI 2013).

The real impact of Open Access to archaeological information on the interested actors is another key issue. Certainly, most of the potential depends on the type and quality of available data and the possibility to retrieve them easily. As far as the examined Journals are concerned, the quality is assured by peer review. On the contrary, as regards to analysed web platforms, the process of data validation is less diffused; for example, in Archeofi the date of last update of the dataset is specified and the correctness of information is verified by Superintendence before its publication. SITAR does the same. On the contrary, in its disclaimer, „Vincoli in rete” warns the user that data are not updated and recommends to address the officers to obtain validated information.

The issue of data validation is a core part in the Italian debate. MiBACT, since it provides data to town planning bodies, claims to have the institutional responsibility of evaluating and certifying information created under its scientific direction (see §2 above). Some professional archaeologists and scholars, instead, highlight that the documents should be subject to the sole responsibility of the author, thus their quality and reliability would be evaluated by users.

Another key aspect regards the licenses adopted. It must be stressed that sometimes the terms of use are not specified. In these cases, the documents and information published by the public bodies, should be considered released with a CC BY license, according to „Open by default“ Italian law (GUIDELINES AGID 2014). Furthermore, in some cases, as in ArcheoCAOR (CC BY NC ND) and in the Vincoli in rete platform (CC BY NC SA), the license is not really compliant with an Open Access standard.

An increasing number of projects (Fasti Online, Mappagis, Archeofi) uses CC BY licenses. An alternative, provided by MOD to its contributors and now under discussion within the SITAR project (SERLORENZI, BOI, JOVINE & STACCA in press) is the adoption of a CC BY SA license. To a certain extent, this solution limits the potential of data reuse, because derivative works must be released with the same license as the original; but on the contrary, it can start a sort of virtuous cycle, binding those using Open Access resources to share, in turn, the results of their work.

Open data availability is still a sore point; it should be noted that the publishing of data papers is not well spread yet. A virtuous example is the Journal of Open Archeology data (<http://openarchaeologydata.metajnl.com>). Unfortunately, among the journals managed by MiBACT, only ArcheoCaOr Open Journals provides such a possibility, even if data are released with a closed license. Finally, as far as the access to archive resources is concerned, many of the so-far-described web-platforms do not lead to the direct access to the original documents stored in the archives. For example in SITAR the consultation is subject to authorisation and user registration, in MOD all the recorded datasets (voluntarily delivered by their authors) are freely accessible, whilst Archeofi does not consider this kind of data.

This multi-faceted scenario reflects the absence of clear legal rules for the disclosure of fieldwork reports in the current Italian regulatory framework. This is why in the MOD the individual archaeologists are entrusted to disclose and

share these documents online, in accordance with the Italian Law on Copyright (L. 633, 1941, as subsequently amended and supplemented).

Recently, at the 2014 „Archeo Open Data Forum“ at Paestum (<http://www.borsaturismoarcheologico.it/>), the Superintendent of Pompeii, Herculaneum and Stabiae, Massimo Osanna, assured that the office is going to digitise and release all photos and field reports concerning ancient Pompeii, collected in the archive since 1800s, online and make them freely accessible. His intentions probably referred to documents that have already fallen in the Public Domain (In Italy Copyright has a duration of 70 years after the death of the Author);

Another example is the digitisation of the field reports of the excavations carried out in Rome in the first decades following the unification of Italy (1873-1935), which were published in 2012 by the Historical Archives of the Superintendence for the Colosseum and the archaeological area of Rome (GIORNALE DEGLI SCAVI 2012).

Nevertheless, the issue of the publication of more recent fieldwork documentation and data is far from being resolved.

Some considerations and a proposal

At the current state, the scenario of Open Access to archaeological data in Italy seems to show the lack of a common view, with guidelines and rules shared by the different actors (institutional offices of cultural heritage, Universities, professional archaeologists).

An overview of Italian projects demonstrates that the most emergent aspects are the difficulty of retrieving the information online and, secondly, the lack of links between the various platforms.

The creation of a unique infrastructure which may serve as a central hub that brings together all projects, as suggested by the above cited Commissions (see §5 above), will simplify the inter-operability between the different datasets at a national level, by fostering the use of common standards and making the information easily retrievable. Institutional repositories would also guarantee the sustainability of the service as well as the long term preservation of digital documents, which are difficult to manage in a variety of distributed archives.

An aspect which deserves special attention is the access to archive documents. It must be pointed out that only a few archives have already come to the full digitisation of their resources, and that, in most cases, digitised documents are not accessible online but only from the archive itself.

Firstly, we have to take into consideration the great amount of archive documents which date back to the pioneering phase of Italian archaeology, for which the digitisation has also preservation purposes. This is the case of the „Giornali degli Scavi” of Rome and of the digitisation campaign launched by M. Osanna for the Pompeii historical archive (see §6 above).

More recent archive documents represent a totally different problem: for example, the unpublished fieldwork reports stored in the archives of the Superintendences, for which it is uncertain whether authorship rights are in force, so in the uncertainty of the current legal framework, in Italy there are only two cases: MAPPA Project, in which documents are voluntarily delivered by authors, and SITAR, in which documents, digitised by the Superintendence, are accessible only to registered users (see §5 above).

In order to achieve the goal to make this huge heritage of knowledge easily accessible to the public, currently subject to constraints imposed by paper means and by the physical location of the archives, it would be desirable that the Ministry itself took care of the publication of all archive documents in Open Access platforms. In this way, the publication of those documents could be rapidly achieved, in an easier and faster way than the mere voluntary provision by individual professionals and scholars. The recognition of authors’ moral rights would be assured by the adoption of proper licenses, which must provide authors’ citations at the moment of the publication of the documents and on the occasion of their re-use.

Certainly, at an institutional level, such a solution would request a huge amount of work and would raise managerial and financial issues (costs, management, upgrade, licenses, infrastructure, and so on). Indeed, it must be pointed out that the costs of the deposit and the digitisation of fieldwork reports and other materials are usually not considered in excavation budgets (about this see GESER & SELHOFER 2014, p. 148).

On the other hand, professional archaeologists’ distrust could be motivated by the fear that their own intellectual work may not be recognised (see §5 above).

Yet, in the last years, technical progress made the digitisation of the archives cheaper and easier, and a huge quantity of unpublished documents could be easily made publicly available online. It could represent a real breakthrough in professional archaeology. By partially losing the copyright on the documents that they produced, archaeologists could access a large amount of data and do-

cuments that are currently closed in the archives. Furthermore, the publication of the field reports on institutional repositories will increase the visibility, readership and citations of their work, so enhancing even the access to the labour market. However, the issues concerning copyright management could be solved by inserting appropriate contractual provisions that foresee the Open Access publication of the documentation produced by private companies and archaeologists. The certainty of public dissemination would motivate archaeologists to produce a scientific documentation of better quality, and would pull Superintendencies to define standards on data format. On the other hand, easy access, download and re-use of a great amount of data would ensure an improvement of future work.

Moreover, archaeological research in Italy is mainly carried out by using public funds (as highlighted in §2). Thus, the sharing of data should respond to the duty of transparency and the need to account for the use of public funds. This is also the path that has recently been taken by the universities. The deposit into Open Access repositories is considered a reward factor for the researcher curriculum (<http://aperto.unito.it>). Furthermore, in the last years several European projects have been funded in order to also foster the publication of data, such as the Openaire and Openaireplus projects (<https://www.openaire.eu/>) and the RECODE project (www.recodeproject.eu).

The Open Access to unpublished archaeological documentation is today a major challenge that Italian archaeology has to face. Such a deep change implies a proper understanding of the importance of making data and documents freely accessible, in the interest of transparency and accountability. At the same time, a genuine revolution is necessary, in attitude and in mentality, by professionals and Institutions, towards a real democratisation of knowledge.

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