

# Back to the Archive: The Challenge of Old Excavation Data from Ancient Mesopotamia

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**Abstract:** The analysis of scientific archives has emerged in the previous decades as an important element in the study of archaeological sites. While the theoretical and practical roots of this approach date to the early 1960s, the onset of the digital era provided the real breakthrough by enhancing and quickening data collection, elaboration and sharing through different media. In the paper, using a case study of ancient Kish, an important capital of Southern Mesopotamia, I will show how a single scholar can contribute to the study and reconstruction of an old excavation. The paper will raise the specific challenges affecting single scholar research. A working protocol will be proposed and evaluated based on the case study of the ancient Mesopotamian site of Kish.

**Keywords:** Archive archaeology, old excavation data, single researcher, working protocol, Mesopotamia, Kish, open access, replicability

The present work draws on the author's PhD research carried out using European and U.S. archives of the archaeological site of Kish<sup>2</sup> in order to allow single researchers to approach archaeological archives and design efficient strategies for such study.

After a brief introduction of the theoretical debate behind the emerging field of archive archaeology, I focus on some practical issues including the organisation of a proper working protocol for single researchers dealing with old excavation data. An overview of the development of methodological approaches to the study of old excavation data in the Near East since 1960s onward is followed by the definition of challenges and strategies concerning single researcher projects, eventually defining a possible working protocol developed in the frame of the Bologna OrientLab open projects. In the last paragraph I make explicit my approach through a case study of the ancient Mesopotamian site of Kish in central Iraq.

## Theories and Debates around Archive Archaeology

In the last decades new theoretical approaches and greater accessibility to sophisticated technologies boosted the interest for archaeological documentation and artefacts housed in both public and private institutions. The relevance of this new trend has been stressed by J. Baird,<sup>3</sup> stating that “the study of archaeological photographs – and materials – and archaeological archives can contribute to our understanding of the history and epistemology of archaeology”. Particularly relevant are the interests and scopes related to this practice, which extend well beyond the traditional reconstruction of unpublished archaeological contexts to include the history of the archaeological research itself.

This academic phenomenon gave birth to what has been defined as ‘archive archaeology’.<sup>4</sup> A wealth of mostly theoretically-oriented papers attempted to explore this subject with the aim of better understanding its potential and strategies to efficiently deal with archaeological archives.<sup>5</sup>

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<sup>2</sup> Zaina 2011; Zaina 2015a; Zaina 2015b; Zaina 2016; Zaina forthcoming.

<sup>3</sup> Baird 2011, 427.

<sup>4</sup> Baird 2011; Swain 2012.

<sup>5</sup> Lucas 2010; Baird 2011; Swain 2012; Hicks 2013; Baird – McFayden 2014.

This led to diverse definitions of archive archaeology and multiple points of view from which it can be addressed. According to J. A. Baird and L. McFayden,<sup>6</sup> archives should not be considered as static entities but rather subjects themselves, meaning that “the form of archive itself, is something that has direct relationship to the creation, form and possibilities of archaeological knowledge”. Archives comprise different levels of information, from ‘raw data’ (plain photos, artefacts, etc.) to notes and sketches where excavators provided their own interpretation, often “fitting the ancient structure in a known schema”.<sup>7</sup> Therefore, it is of the greatest importance to keep in mind how the organisation and past use of many archaeological archives is due to the archaeological knowledge and strategies in use at that time.<sup>8</sup> Understanding the background and mind of the archive creators and reconstructing the excavator’s personalities, including their purpose and the results, are critical. While a growing number of papers seek to fully explore and define the theoretical framework of archive archaeology, this practice has certainly shown all its potential through the internet and a wide range of new digital tools. Indeed, since the early 2000s a dramatic increase in the number of online digital archives has resulted at the initiative of public institutions like museums and universities. Access to at least parts of these digital archives through the internet has dramatically cut both the time and costs of scientific research. This is particularly significant as far as single researchers are concerned.

### **Previous Strategies and Current Trajectories in the Scholarship on the Ancient Near East**

Almost two centuries of excavations in the Ancient Near East produced an exceptional amount of data from hundreds of sites. Thanks to the continuous development of recording methodologies and the technological advances of the last century, the way data have been collected, stored and treated has changed considerably.

The area discussed in this paper, modern Iraq, has been one of the most densely explored since the dawn of archaeological research in the Near East. However, investigations carried out prior to the onset of World War II suffered from outdated excavation and recording methodologies and most of the results can no longer be verified. The situation has worsened during the last two decades due to the dramatic decrease of international projects, which further affected scientific advances in the study of ancient Iraq.

Since the early 1960s the reappraisal of old excavation data stored in museum and university archives has become part of the archaeological research agenda in the Near East. As a result, a growing number of what H. Martin<sup>9</sup> called “academic kind of salvage excavation” were undertaken by various institutions and scholars with different aims and results. To better understand what were and are still the main trends, I would broadly distinguish between two main types of archive archaeology projects in the Near East: 1) team-based projects, 2) projects carried out by single researchers. The former are composed by multidisciplinary groups of researchers including one or more academic institutions, generally supported by generous regional, national or even international grants, and dealing with entire sites and sometimes regions. Several years or sometimes a whole decade is the average time to provide final results.

On the other hand, single researcher projects usually span over a short time and have to deal with less funding. In addition, single scholars have to face the simple fact that they would hardly be able to process an entire site and the bulk of data that came from the excavation.

In this sense, different strategies have been applied by scholars, with the most challenging type of single researcher project certainly regarding the albeit rare reconstructions of the

<sup>6</sup> Baird – McFayden 2014, 16–18.

<sup>7</sup> Baird – McFayden 2014, 19.

<sup>8</sup> Baird – McFayden 2014, 16; Beyer – Stahl 2015, 20.

<sup>9</sup> Martin 1988, 2.

archaeology and history of entire sites. This has been the case of ancient Sumerian cities like Fara/Shuruppak,<sup>10</sup> Jemdet Nasr<sup>11</sup> and Bismaya/Adab.<sup>12</sup> Another and probably more widespread type of studies concerns researches focused on certain part of sites or selected classes of finds. These include among others the study of C. Beuger<sup>13</sup> on the pottery assemblage from the temple of Ishtar at Ashur excavated at the beginning of the 20<sup>th</sup> century and the stratigraphic and chronological reassessment of the Early Dynastic cemetery of Tell al-Ubaid by H. Martin.<sup>14</sup>

The digital era provided a step forward in the study of archaeological archives. Beside the classical paper-based researches, new solutions represented by online databases were explored. Numerous archives have been digitised and shared through online projects, which became especially valuable for materials and documentation coming from certain countries in the Near East affected by detrimental political situations. Indeed, public and private funding was successfully won by teams working to preserve, share or study materials and documents mostly kept in Western museums and other institutions and coming from countries where their cultural heritage was in danger. To this end, since the early 2000s, many digitisation and archiving projects of old excavation data with different aims and methodologies were launched. This is particularly emblematic for Mesopotamia, which recently received the attention of several large research initiatives sponsored by museums and academic institutions.

The structure and purpose of these projects may vary significantly. Classic online databases are usually dedicated to specific sites or museum collections, for example Kish,<sup>15</sup> Ur<sup>16</sup> or the Diyala expedition sites.<sup>17</sup> Multifunctional platforms include the international CRANE project<sup>18</sup> and the Turkish project TAY,<sup>19</sup> and those additionally providing editorial support for publishing researches carried out using databases as in the case of the British ArchAtlas Project<sup>20</sup> or the US Cuneiform Digital Library Initiative,<sup>21</sup> and the Italian platform OrientLab.<sup>22</sup>

### Challenges and Strategies for Developing a Single Researcher Approach

Advances in the study and accessibility of archaeological archives have favoured the emergence of numerous old excavation data projects. But what can an individual researcher do in front of large amounts of documentation?

First, there are a number of issues occurring during the research to be addressed or simply to be kept in mind:

1. Funding: Most of the articles addressing archive archaeology have underestimated this problem, taking for granted the ability to raise the necessary funds for this type of research. In some cases it is possible to understand the amount of funds through some reports<sup>23</sup> or online databases.

<sup>10</sup> Martin 1988.

<sup>11</sup> Matthews 2002.

<sup>12</sup> Wilson 2012.

<sup>13</sup> Beuger 2005.

<sup>14</sup> Martin 1982.

<sup>15</sup> Field Museum; Ashmolean Museum.

<sup>16</sup> Ur Online.

<sup>17</sup> Diyala Project.

<sup>18</sup> CRANE Project.

<sup>19</sup> TAY Project.

<sup>20</sup> ArchAtlas Project, <<https://onlineshop.shef.ac.uk/product-catalogue/faculty-of-arts-and-humanities/archaeology/archatlas-donation>> (last accessed 6 June 2020). The ArchAtlas Project is currently offline and depending on donations.

<sup>21</sup> CDLI.

<sup>22</sup> OrientLab.

<sup>23</sup> See Hicks 2013. With regards to Near East among others the Oriental Institute of Chicago provides open access online annual reports including the state of projects and funds, cf. Oriental Institute Annual Reports.

While large-scale projects aspire to substantial grants, individual researchers are used to sailing into more troubled waters. The most attractive and achievable ways include fully funded PhDs or postdocs, national or university grants or specific schemes provided by private foundations and donors.<sup>24</sup> In most cases, however, overhead costs typical of such researches are not included in grants.

2. Copyright and permission to publish: Different policies and degrees of accessibility are applied to copyright of both documents and artefacts depending on the museum and institution.
3. Expensive analyses: A third problem concerns some expensive analyses such as archaeometry that cannot be easily supported by single researchers. In some cases, however, carrying out low cost analyses thanks to the support of internal funding schemes (see below) or occasional external calls is possible.
4. Feedback: Although solitary research usually helps to improve the scientific independence and breadth of scholars, some issues lurk. Apart for supervised researches including PhDs and postdocs, single researchers need more feedback since they do not benefit from the expertise provided by research groups, especially when structural problems emerge.

With these problems in mind, it is then necessary to define a research protocol and timetable. In this paragraph, I illustrate the results of more than ten years of researches conducted by the chair of Archaeology of the Ancient Near East at the University of Bologna. Indeed, since 2002 many students have been involved in old excavation data collection and analysis in the frame of the BA and MA classes held by N. Marchetti.<sup>25</sup> Since 2009 this approach was transferred into an online open source and open access repository called Mesopotamia Exploration Survey (MES) within the OrientLab platform<sup>26</sup>.

OrientLab is a project grounded on concepts of inclusivity by fostering different disciplines “contaminating each other through shared objectives and views”, replicability because “social sciences may be deemed scientific when they allow the possibility of verifying each intellectual process at each step” and openness through accessibility, integration and feedback.<sup>27</sup> The platform is an open access tool divided into two main sections: web projects and publications. The former includes three exhibitions and EU project websites, a GIS platform and four online databases all concerning the cultural heritage of the ancient Near East. The publication section provides editorial solutions for data dissemination related to the web projects and beyond.

In this frame, MES represents a user-friendly tool to store, organise and perform researches based on old excavation data from different perspectives, including those focused on particular regions, sites and material cultures (Fig. 1). Any user upon accreditation can create new projects. Images, documents and other information can be uploaded and managed according to their scopes. Some of these projects later became BA, MA and PhD theses. Furthermore, numerous papers were presented over the years at workshops and conferences or published in various scientific peer-reviewed journals. Among these are papers dealing with the sites of Khafajah,<sup>28</sup> Kish,<sup>29</sup> Ur<sup>30</sup> and Nippur.<sup>31</sup>

<sup>24</sup> Recently online crowdfunding platforms are also emerging as potentially useful tools to get funding, especially in the US and UK (cf. DigVentures). However, while for several fields and subjects this practice has been successful, in the humanities it is still underdeveloped.

<sup>25</sup> See Marchetti 2006; Marchesi – Marchetti 2011.

<sup>26</sup> OrientLab.

<sup>27</sup> For the description of the philosophy behind the OrientLab project see <<https://www.orientlab.net/#orientlab/Inclusive>> (last accessed 18 Dec. 2019).

<sup>28</sup> Guerri 2008.

<sup>29</sup> Canullo 2010; Zaina 2011; Zaina 2015a; Zaina 2015b; Zaina 2016; Zaina forthcoming.

<sup>30</sup> Benati 2013; Benati 2015a; Benati 2015b; Benati – Lecompte 2016a; Benati – Lecompte 2016b.

<sup>31</sup> Scazzosi 2014; Scazzosi 2016.



Fig. 1 From paper to the web. The open access platform MES (source: www.orientlab.net)

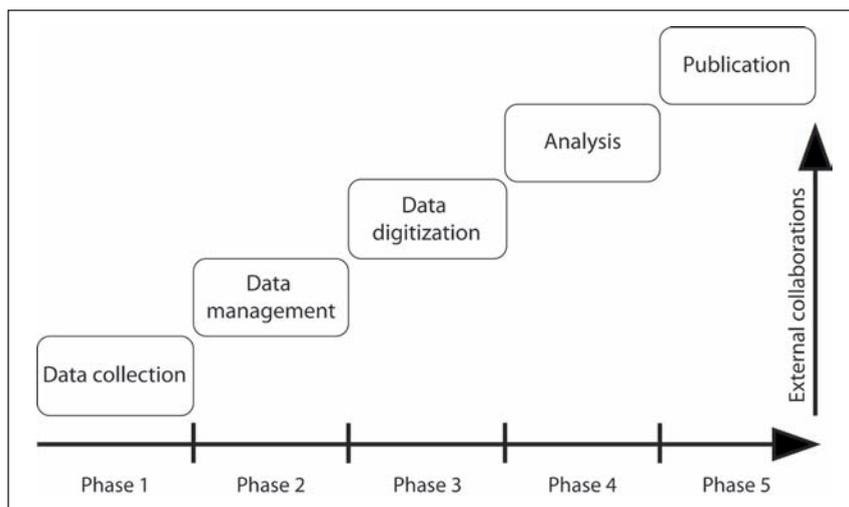


Fig. 2 The OrientLab.net platform provides support for both data management and open access publications (source: www.orientlab.net)

In order to complete the research cycle, in addition to the technical support for storing and organising raw data, the OrientLab platform provides various solutions for data dissemination. These include two open access peer-reviewed monographic series, OrientLab and OrientLab Series Maior, and an occasional publication series focused on the Gaziantep region in Turkey, GR-POP.<sup>32</sup> Since its introduction a proper research protocol was designed, tested and when necessary changed in the frame of the OrientLab approach. This protocol considers five main steps (Fig. 2): Step 1 – Data collection: This phase consists primarily of the research in archives or on the web and the documentation of artefacts from museum collections.

<sup>32</sup> OrientLab publications are all scientifically directed by N. Marchetti, cf. <<https://www.orientlab.net/pubs/>> (last accessed 18 Dec. 2019).

Step 2 – Data organisation: It is mandatory for the single researcher to organise the data into well-designed and easily accessible databases. The number of databases and their organisation depends on the type of project.

Step 3 – Digitisation: Plans, sketches, drawings and other written documents are digitised. For example, new maps are created from old drawings, maps and or sketches using CAD or GIS software and the graphic support of Adobe Photoshop® or Adobe Illustrator®.<sup>33</sup>

Step 4 – Data analysis: Once organised and digitised, raw data are ready to be processed according to the purpose of the research. This step also includes, when possible, laboratory analyses.

Step 5 – Data dissemination: This can take the form of peer-reviewed articles or monographs. In the case of the OrientLab platform additional content such as databases will be uploaded also and made available through copyleft in order to allow data replicability.

### Case Study: Tell Ingharra/Kish in Central Iraq

As observed by McG. Gibson<sup>34</sup> the ancient city of Kish in Central Iraq, “held an extraordinary position” in the formative periods of Mesopotamian civilisation. Located along the Euphrates River in the centre of the Mesopotamian alluvium, the city was occupied for approximately 5000 years, from the 4<sup>th</sup> millennium BC until the Islamic period (Figs. 3–4).<sup>35</sup>

The integrated use of historical sources and archaeological evidence allowed the recognition of the 3<sup>rd</sup> millennium BC as the most flourishing period of the city.<sup>36</sup> After impressive urban growth from the beginning of the 3<sup>rd</sup> millennium BC,<sup>37</sup> Kish emerged as one of the most influential polities of the region,<sup>38</sup> with its kings extending their hegemony over much of Central and Southern Mesopotamia.<sup>39</sup>

This flourishing period came to an end after some violent episodes including the conquest of the city by King Enšagkušu’ anak of Uruk,<sup>40</sup> which can be tentatively associated with the evidence of destruction recorded in many excavation areas at the site.<sup>41</sup> The city’s hegemony was thereafter rapidly overshadowed by the emergence of Sargon I, founder of the Akkadian empire, around 2350 BC.<sup>42</sup> Both archaeological and historical evidence indicate that these events eventually led to a slow decline during the following centuries.<sup>43</sup>

Given the history and extensive archaeological explorations, the ancient city of Kish represents a perfect case study for both large teams and single researchers. It was explored at different times between the 1910s and 1930s, but the excavation and recording methodology applied were outdated and the results were not comprehensively disseminated.<sup>44</sup> To fill this gap, from the early 1960s several projects were initiated. Of paramount importance were the works by P. R. S. Moorey and McG. Gibson, which paved the way to other researches carried out from the 1980s until today.<sup>45</sup>

<sup>33</sup> In order to cut the costs of software it is also possible to use open source tools such as QGIS, Gimp etc.

<sup>34</sup> Gibson 1972, 1.

<sup>35</sup> Moorey 1978, 180–181.

<sup>36</sup> Algaze 1983/84; Gibson 1972; Moorey 1978; Zaina 2016.

<sup>37</sup> Zaina 2016.

<sup>38</sup> Yoffee 2005; Butterlin 2013.

<sup>39</sup> Marchesi – Marchetti 2011, 97.

<sup>40</sup> Frayne 2008; Marchesi – Marchetti 2011.

<sup>41</sup> Zaina forthcoming.

<sup>42</sup> Moorey 1978, 171.

<sup>43</sup> Moorey 1978, 171–172.

<sup>44</sup> Langdon 1924; Mackay 1925; Mackay 1929; Watelin – Langdon 1934.

<sup>45</sup> Recent researches on 3<sup>rd</sup> millennium BC Kish include Algaze 1983/84; Breniquet 1984; Clayden 1992; Gregoire 1996.

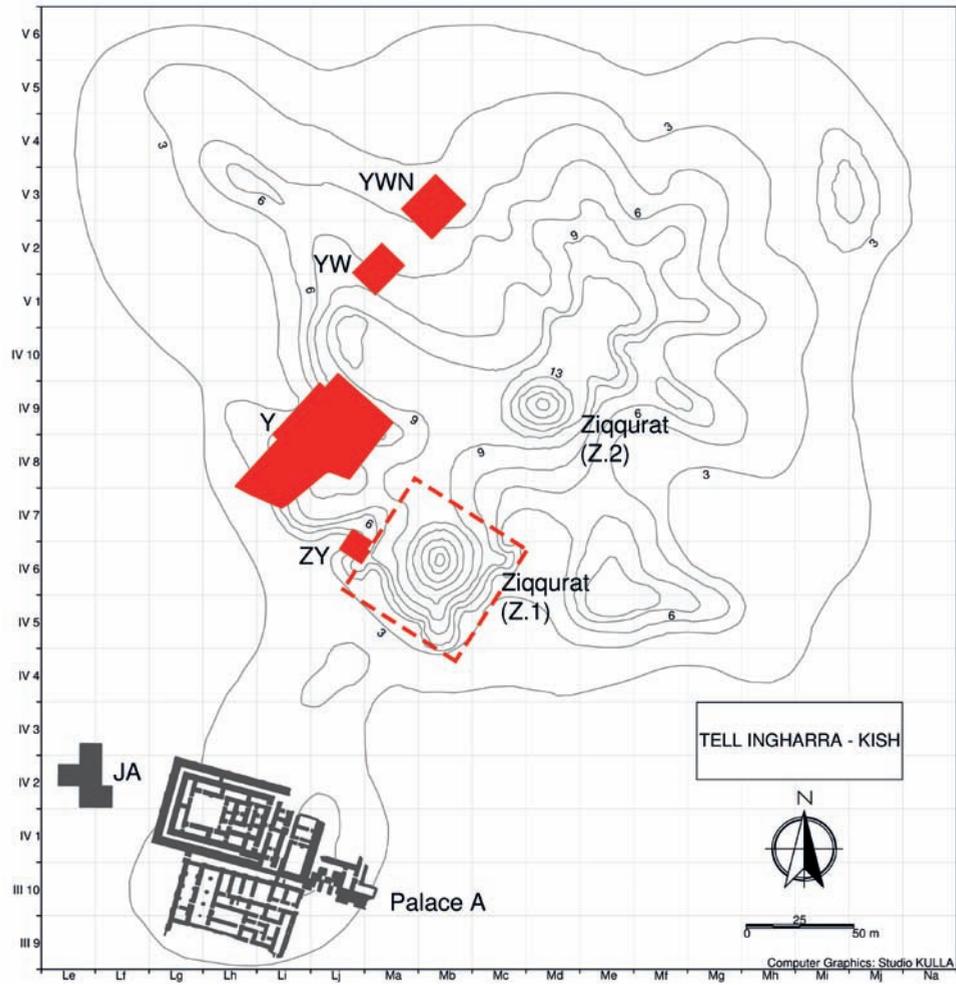


Fig. 3 New topographic map of Tell Ingharra/East Kish (Zaina 2016, 433, fig. 1)

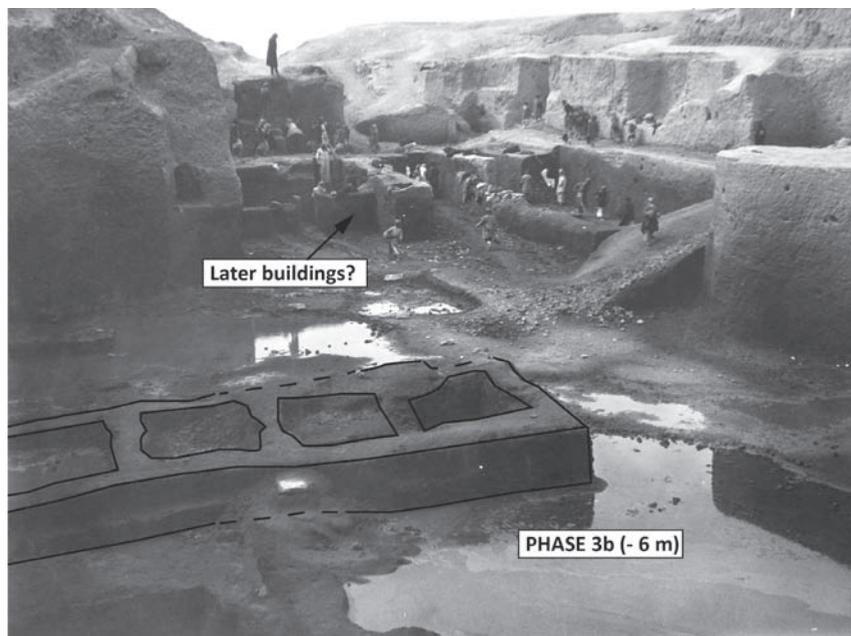


Fig. 4 General view of Tell Ingharra/East Kish from South-west (© Ashmolean Museum University of Oxford)

Indeed, the aim of their studies was to provide a reassessment of the previous excavations through a general stratigraphic and chronological analysis. As stressed by Gibson himself,<sup>46</sup> however, further work was necessary to fully understand the archaeology and history of the site.

The research I have carried out on Kish since 2007 started from the issues and questions left unsolved by these previous studies. The project was gradually enlarged during my BA (2008), MA (2011) and eventually PhD (2015) studies.<sup>47</sup> Due to the impossibility to approach the whole site, I had to select one part of the site, focusing on the 3<sup>rd</sup> millennium BC levels, as a case study. This choice was made for several reasons:

1. The 3<sup>rd</sup> millennium BC is one of the most important periods in the history of Kish.
2. Levels of the 3<sup>rd</sup> millennium BC are the most extensively excavated at the site.
3. Data from the excavation areas<sup>48</sup> considered are quantitatively and qualitatively sufficient to propose a new analysis of this period.
4. Excavations in the areas revealed different types of contexts including domestic, religious and public secular buildings as well as graveyards.

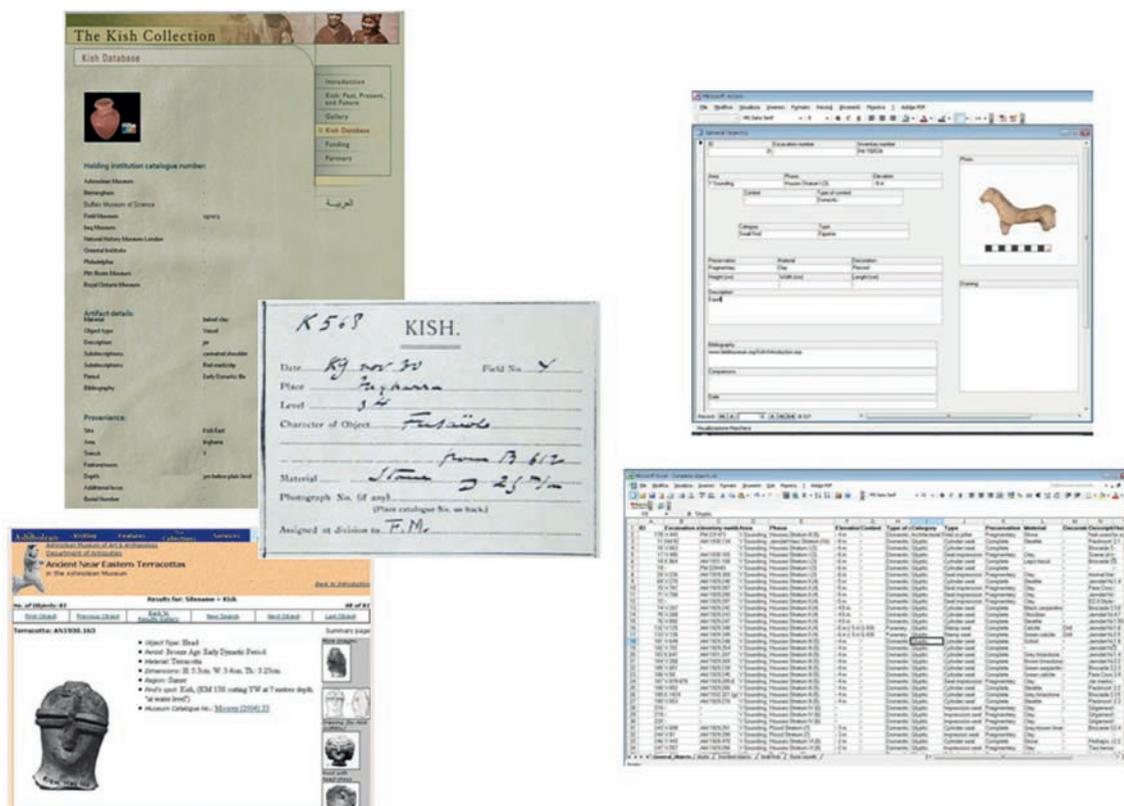


Fig. 5 Data collection. Integrating information from different sources into a general digital open access database (© Ashmolean Museum, University of Oxford)

<sup>46</sup> Gibson 1972, 116.

<sup>47</sup> From 2010 it was financially supported by a two-month grant (2000€) from the Alma Mater Studiorum University of Bologna to carry out research visits in the US and then by a three years fully funded PhD (2011–2015, approx. 13,000€ per year) by the Sapienza – University of Rome. Additional grants were also provided for participating in conferences and workshops by the Université Paris 1 – Panthéon Sorbonne (2013–2014, approx. 600€) and for further researches in museums and libraries by Sapienza – University of Rome (2013, approx. 1200€).

<sup>48</sup> The areas considered in my research are the Y, YW and YWN soundings at Tell Ingharra, area A and JA to the southwest of it and area P and JP to the northwest of it. For more details on the excavation areas and the selection criteria see Zaina 2016.

The first step included the collection of all documentation, both written documents or photos and materials. To this end, between 2010 and 2015, 15 research visits in several international museums including the Ashmolean and the Pitt Rivers Museums of Oxford, the Field Museum of Chicago, the Louvre Museum of Paris and the UCL stores in London were carried out. The total amount of objects for which information has been collected reached almost 9000 items, and among these almost 900 have been newly described, drawn and photographed. In addition, the entire documentation has been analysed, and all the information useful for the project has been collected. As a result, 235 letters and notebooks and more than 1000 photos of fieldwork activities and finds have been documented. This serves as an example when understanding the background and mind of the archive creators as well as their aims and results became crucial in order to choose what to select and study as well as how to interpret it.

Information collected during the research visits were organised in a Microsoft Access database including eight tables organised according to the type of context or the type of object. These two variables were selected on the basis of my main research needs. Each table was designed to contain a number of fields to provide specific information.<sup>49</sup> Despite the potential of multi-table databases, however, these have been often transformed and used as Excel spreadsheets in order to meet requirements for data sharing with certain museums or academic institutions (Fig. 5).

Graphic documentation was then digitised. Old maps, drawings and sketches of the site and the areas included in the study were newly drawn with the support of a professional topographer. CAD and GIS software were used for digitisation and geo-referencing, while Adobe Photoshop® or Adobe Illustrator® were used for graphics. Newly geo-referenced topographic maps of Kish and detailed maps, plans and sections of the areas excavated at Tell Ingharra were produced (Fig. 6). It was also possible to create new 3D reconstructions of some areas such as Palace A as well as digital elevation models of selected sectors of the site, like the area of Tell Ingharra.

The previous steps confirm J. A. Baird and L. McFayden's idea<sup>50</sup> that archives are not static entities, but their form can change or evolve, in this case from hard copies to digital and from raw sketches to processed data.

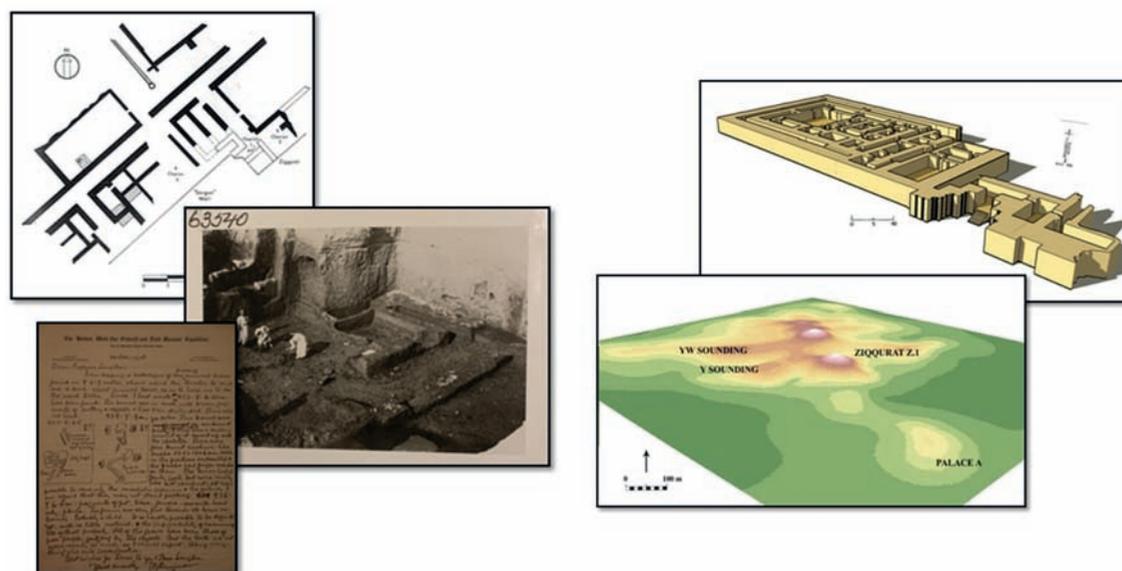


Fig. 6 Data digitisation. From sketches and drawings to digital geo-referenced maps and plans  
(© Ashmolean Museum, University of Oxford)

<sup>49</sup> Zaina forthcoming.

<sup>50</sup> Baird – McFayden 2014, 16–18.

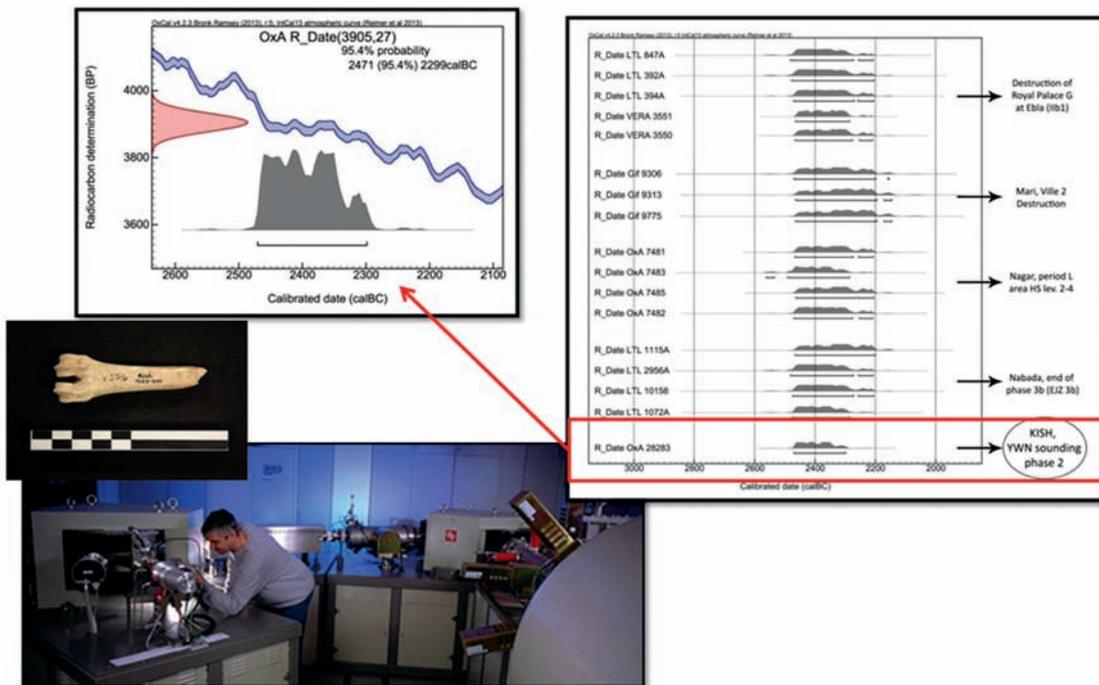


Fig. 7 The role of external collaborations. Radiocarbon analyses on stratified samples from Kish carried out at the Oxford Radiocarbon Accelerator Unit (© Ashmolean Museum, University of Oxford)

The fourth step, data analysis, proposed a new reconstruction of the 3<sup>rd</sup> millennium BC occupation at Kish.<sup>51</sup> Some interesting data regarding the urban and architectural development of the city emerged, and such evidence also allowed outlining some major episodes in the early history of the city, with the first significant occupation dating to the Early Dynastic I period (2900–2700 BC) and the monumentalisation of the Early Dynastic IIIa (c. 2600–2450 BC) as two key periods.<sup>52</sup>

During the research period additional support and cooperation with other colleagues helped to improve the project results. The first was active collaboration with two philologists<sup>53</sup> for the study of the epigraphic finds. The second collaboration was arranged with the Ashmolean Museum of Oxford and the team of the Oxford Radiocarbon Accelerator Unit (Fig. 7). Thanks to an internal grant (3600£)<sup>54</sup>, we submitted in 2013 some stratified bone finds for radiocarbon dating.

The last step of the protocol, the publication of data using digital open access support, can be considered as vital at least as much as the paper-based study. In line with the OrientLab philosophy, different strategies of data dissemination and sharing have been implemented. First, in order to maximise feedback and foster debate, since 2014 the *Session* of Academia.edu<sup>55</sup> was used to gather comments and critiques as well as articles to be published.

Once the research is completed, a final report on the 3<sup>rd</sup> millennium BC areas from Kish will be published in the online series OrientLab Series Maior, and it will be downloadable for free from the platform OrientLab.net. Additional raw data concerning lists of materials will be provided through the same platform in order to allow research replicability. With this strategy, the OrientLab project hopes to reach the largest number of students and scholars.

<sup>51</sup> Zaina 2016, 440, tab. 1.

<sup>52</sup> Zaina 2016, 442–444.

<sup>53</sup> Gianni Marchesi from the University of Bologna and Aage Westenholz from the University of Copenhagen.

<sup>54</sup> John Fell Fund Small Schemes of Humanities of the University of Oxford.

<sup>55</sup> Academia.

## Conclusions

This article illustrates the potential and problems arising when single researchers must deal with old excavation data. The growing field of archive archaeology and corresponding debate provide the theoretical background to allow single researchers to carry out such protocol efficiently. When approaching an archaeological archive one should keep in mind not only the objects or documents kept, but also the archive creators and their background and purposes as well as those of the scholars previously engaged. Therefore attention should be paid to a wide number of intertwining variables in order to have an inclusive understanding of the subject. In addition, we must always remember the ever-changing nature of archives, which cannot be considered as static entities<sup>56</sup> but rather something that may be subjected to reshaping and processing by different scholars in different periods. In this frame, a paramount role has been recently played by the media, chiefly the internet with the emergence of online open access databases of small and large collections.

The case study of Kish and the five-step protocol described must be considered as an attempt made by single researchers to scientifically deal with archaeology archives in the digital era. By illustrating the OrientLab open projects and focusing on the case study of the ancient Mesopotamian site of Kish, I attempted to show the feasibility of this procedure and suggested different ways to meet goals and overcome issues.

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<sup>56</sup> Baird – McFayden 2014, 16–18.

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