# On Whose Authority?
# Interpretation, Narrative, and Fragmentation in Digital Publishing

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## Abstract

This paper explores the tension between authority, interpretation, and data dissemination in current archaeological publication. Digital technologies have irrevocably changed the way we conduct archaeological research. The tools we use in the field generate an exponentially larger quantity of primary data, much of it only in digital form. At the same time, web-based interfaces make it possible to present these data easily and contextually to a vast audience. These developments are reflected in discipline-wide discussions about field methods and in the proliferation of archaeological data and gray literature on the web. Yet synthetic and specialist interpretation by recognized authorities remains the standard for print publication, and the separation of these publications from online datasets is increasingly dividing data from narrative. We examine the problem in relation to our decisions about the publication of excavations at Chersonesos (Crimea, Ukraine), and argue for the embedding of explanatory narrative in online datasets.

## Keywords

digital publishing; authority; interpretation; dissemination; Chersonesos

The possibilities and expectations for the presentation of archaeological data have seen revolutionary changes in the last decade. This has been particularly clear in our work at Chersonesos in Crimea, Ukraine, where systematic archaeological research began in 1827. It is illuminating to compare with our own documentation the reports generated by Karl Kostsyushko-Valuzhinich, the founder of the site's antiquarium, for the Imperial Archaeological Commission in the late 1890s and early 1900s. These reports are preserved both as handwritten manuscripts interspersed with hand-drawn illustrations and as printed documents with both plans and photographs. They are remarkably thorough for their time, but nevertheless a scholar wishing to query Kostsyushko-Valuzhinich's material is obliged to go through a complicated process of contextual reconstruction, one report at a time. Although the relatively thorough discussion of the excavations might allow her to identify the room or area in which a particular object was found, neither spatial nor quantitative information is particularly detailed. In our recent work in the South Region of the ancient urban center of Chersonesos, however – across the street from one of Kostsyushko-Valuzhinich's 19th-century excavations – the use of GIS and a relational database has provided us with a wealth of contextualized material, from ceramics to paleobotanical remains (Rabinowitz *et al.* 2007; Rabinowitz *et al.* 2008a; Rabinowitz *et al.* 2008b) (*Fig. 1*). We are convinced that the potential for further research is exponentially greater for these
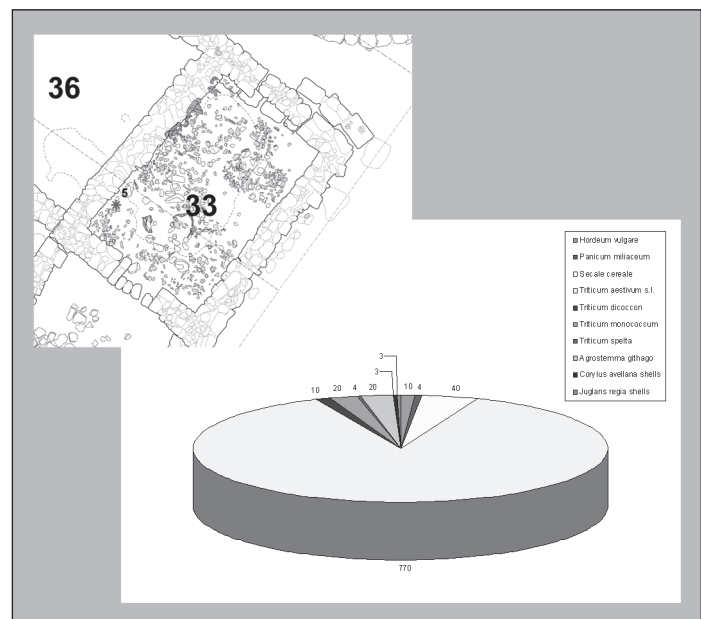


*Fig. 1. Location of paleobotanical sample 5 from 13th-century destruction level (asterisk in image in upper left) and pie-chart of the remains of edible plants recovered from it.*

*Fig. 2. Page from the online presentation of Kostsyushko-Valuzhinich's 1894 report to the Imperial Archaeological Commission. The image of the lock from these excavations is enlarged on the lower right; the lock found in excavations in 2005 is on the upper left.*

contextual data – but only if they are presented to the public in such a way that they can be understood and reused. The digital presentation of excavation data is fast becoming a standard practice, and a number of data collections in various formats are already available online. As data producers who are on the verge of publishing data online in conjunction with a formal, academic print publication, we would like to raise questions about the content of such online presentations and their relationship to interpretation. The increasing use of sophisticated digital data management systems has not been accompanied by sufficient discussion of the role of interpretation, either at the level of the digital databases or at the level of publication. In particular, there seems to be a growing tendency to separate data from interpretation, a practice that creates an illusory impression of objectivity while at the same time making it more difficult for users to challenge interpretations and formulate new questions.

Kostsyushko-Valuzhinich's reports in fact offer several analogies with our own documentation. On a basic level, they too use graphic, cartographic, and textual information in an attempt to replicate for the reader the process and results of excavation. There is an even more obvious analogy: like many important paper archives, these reports are now available on the web, both intact and divided into their component textual and graphic parts for easier browsing (www. kostsyushko.chersonesos.org). This is the result of

the efforts of the Megarika project of library and archives digitization at the National Preserve of Tauric Chersonesos, led by librarian Ludmila Grinenko. These data and their online platform have brought immediate advantages to our own work: the organization of images into thumbnail pages by year allows for easy casual browsing, in the course of which we came across an excellent comparandum for a 13th-century padlock from the residential block we were investigating (*Fig. 2*).

This chance discovery highlights one of the major issues we would like to address: the way archaeologists use published data. Data are not used in the same way we use interpretation, which feeds our synthetic and historical research more than it does our analysis of material. We can identify three primary ways in which data are used to further archaeological research, two of which are at issue here (the third is discussed below). First, and perhaps most important, primary data provide the tools to evaluate published interpretations. The similarities between our lock, from a well-dated 13th-century destruction level, and the lock published in Kostsyushko-Valuzhinich's report, for example, raise issues about the dating of the latter and the destruction of the area in which it was found. Second, primary data provide us with comparanda that help us understand our own material. In this case, the earlier padlock allows us to place our lock in a wider artistic and productive context, while the Arabic inscription on our lock suggests a connection between Islamic metalwork and the animal-protome decoration on the other.

Both of these approaches presuppose that the user knows what he is looking for – the hard evidence behind an interpretive statement, an object similar to one with which he is already familiar – and both are served quite well by current modes of online data presentation. Scholars searching for comparanda can find numerous sites with thumbnail pages organized by category for quick reference, and an ever-increasing number of projects provide some access to the records on which their interpretations are based. As this practice becomes more common, however, there is an increasing disjunction between data and interpretation, accompanied by a widespread opinion that primary data should be presented in as "raw" a form as possible to protect objective information from the subjectivity of interpretation. In some cases, this takes the form of data records presented without interpretive comment, or with reference to separate

print publications; in others, the presentation of undigested and unrevised textual material emphasizes the human context of production of the primary data. Paradoxically, this separation – in both approaches that suggest objectivity and those that highlight the subjective process of excavation – lends greater authority to those responsible for the interpretations and syntheses that appear in print. While a user may be able to challenge the identification of individual objects, or raise doubts about general issues like chronology, the detailed reinterpretation of contextual relationships is hampered by lack of access to the interpretive assumptions that conditioned the collection and organization of "raw" data in the field. The separation of data from synthesis can also obscure the inferential relationships between authoritative interpretation and the specific data on which its details are based. The digital presentation of contextual datasets as a complement to formal print publications encourages a certain measure of multivocality, especially in the interpretation of individual objects or special features. But the absence of the sort of guide provided by detailed, linear stratigraphic and excavation narratives makes it difficult to use the data to challenge authoritative interpretations on a broader level. One may compare the documentation of the 19th-century excavations that recovered the lock mentioned above. The lock's findspot is described in a narrative report, and while that report is not particularly detailed, it allows the reader to understand context and question interpretation much more easily than a series of individual records in a relational database.

The publication of recent work at Çatalhöyük provides a particularly telling example of the uneasy relationship between interpretation, authority, and the extensive online dissemination of documentation and data. For more than a decade, the Çatalhöyük project has employed a highly self-conscious and post-processual approach. It has also been a pioneer of online publication, providing unedited entries from the excavation diaries of supervisors who were encouraged to comment on the social context of the archaeological process (Hodder 1997). Large segments of its digital databases, containing information on buildings, excavation units, and finds, are currently available for searching and browsing online. Yet the most accessible interpretive publication of recent work is Hodder's *The Leopard's Tale: Revealing the Mysteries of Turkey's Ancient 'Town'*, a traditional single-author synthesis provided

by the project director (Hodder 2006). This work is deeply separated from the online data, to the extent that we were unable, using the databases alone, to identify records related to the leopard's claw that gave the work its title. In general, the reader is unlikely to be able to build an understanding of the site and the excavations by browsing the online data without narrative guidance. As a result, it becomes difficult to question Hodder's eloquent presentation of the meaning of the find: only through the director's intimate familiarity with the site can the site's "mysteries" be "revealed".

Readers are perhaps unlikely to build an understanding by browsing data in any case. A 1998 British survey of the way archaeologists use publications suggests that most look first to the introductions and conclusions of field reports – that is, to the most synthetic and least data-oriented components – for overviews and to identify potentially useful material or parallels (Jones *et al.* 2003). In essence, we willingly surrender to the interpretive authority of the authors, excavators and specialists in exchange for easy access to broad contextual information (the same British study noted that only 30% of its respondents "always" or "frequently" carried out "critical assessment" of the field reports they used: Jones *et al.* 2003). Only when we have identified specific points of interest relevant to our existing research questions do we examine contextual relationships more closely and question interpretive conclusions more aggressively. It is hardly unreasonable to assume that those most closely involved in the planning, coordination, and execution of an excavation project are the best prepared to summarize and explain the results. On the other hand, the increasing richness and detail of digital excavation data cannot be ignored. The archaeological community clearly recognizes this, and it has made great strides in using digital data presentation to facilitate the evaluation of interpretations and identification of comparanda.

We are doing less well, however, with the transparent presentation of the *relationship* between data and interpretation. The separation of online datasets from printed interpretation suggests that the data themselves are somehow more objective or "real", when most archaeologists would admit that even photography is an act of interpretation (cf. Shanks 1997). The spatial coordinates of finds in a GIS, and even the selection of finds to be surveyed in the first place, are heavily conditioned by the process

of excavation and interpretation in the field. Projects like Çatalhöyük recognize this explicitly, but all the same, the absence of any interpretive narrative embedded in the online data presentation – the deliberate choice to highlight the fragmentation of the site notebooks – creates an interface in which the viewer seems to be looking at unprocessed and thus "truer" information. An emphasis on fragmentation, while it rightly calls attention to the messy and subjective process of excavation, in fact obscures the lines of interpretive reasoning followed by the project authorities and interferes with the third way we use archaeological data: to formulate new questions about old data and/or to integrate them into broader interpretive narratives for a particular time or region. The development of new questions, we suggest, has traditionally come through browsing the sort of structured data found in final publications; "raw" or archival data usually enter the picture after those questions have already begun to take form. Digital datasets, however, by virtue of the wealth of contextual information they present and the tools available to identify patterns within them, have perhaps greater potential to inspire new lines of inquiry and enrich existing debates. But they cannot accomplish this in their current form, when in the best of cases they can only be understood through the lens of top-level, formal synthesis and interpretation.

The relationship between data and interpretation is a general problem in the sphere of online archaeological publication. Current approaches choose between an interpretive focus, along the lines of traditional synthetic publications, or a focus on searchable datasets, with few narrative connections
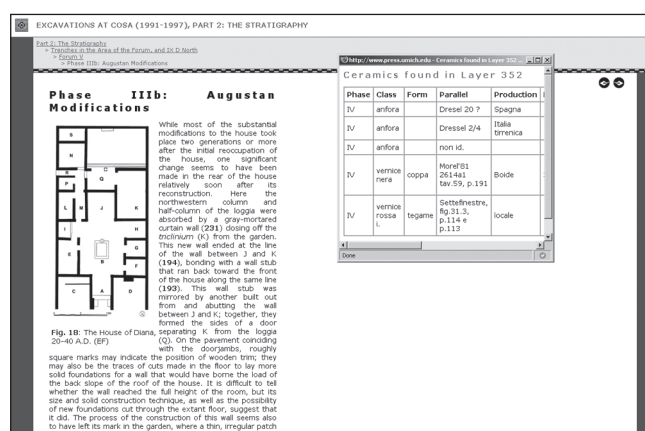


*Fig. 3. Screen capture showing a typical page in the online publication of the stratigraphic sections of Cosa V. At upper left, a table displaying the ceramic assemblage from a particular stratigraphic unit.*

between the two. One of this paper's authors first became involved in digital publication at the request of an academic publishing house that was reluctant to include, as part of a final excavation publication, a sixty-page stratigraphic report that, it asserted, was of limited interest to most readers (Fentress and Rabinowitz 2003). The report had already been written and submitted as part of a print manuscript, and to avoid abandoning altogether the evidence behind the interpretations, it was published on the press's website. Because we had to retrofit material intended for traditional publication, the result is one of a number of online presentations that can be considered electronic "imitations" of print publications. It follows a traditional table-of-contents based arrangement, and although there is some hyperlinked data (*Fig. 3*), the basic difference lies in the greater availability of color and the greater ease-of-use of appendices. Although we made it clear in the introduction that the site does not stand alone – the interpretive material can be found in the print publication – the narrative it presents, like a traditional publication, provides a full basic guide to the evidence for the reader. At the same time, the data are already structured in a form that does not allow them to be queried or reorganized.

The best data-driven sites, on the other hand, are extremely effective in their presentation of archaeological data, but even those that include narrative reveal a consistent separation of material classified as "data" from material classified as "interpretation". The Digital Archaeological Archive of Comparative Slavery (daacs.org), for example, presents fairly complete narrative discussions of the sites that provided the contents of its database, perhaps because it is heavily oriented to public education (cf. Jones 2004). The interpretive and synthetic accounts are organized separately from the data, however, and the expectation seems to be that the reader will examine a brief summary of a site before turning to a specific query in the database. The database, in turn, separates data by category, thus making searches for specific objects or contexts most attractive. The records are not cross-referenced, which leaves a researcher without a specific search goal shuffling back and forth between an array of object records, plans, summaries, and stratigraphic documentation.

A more powerful interface and the implementation of web 2.0-style tagging characterizes some emerging online content management and

dissemination systems, of which Open Context (opencontext.org) is a good representative. This system, developed by the Alexandria Archive Institute, presents data tagged and arranged by category, with narrative components derived, when present, from the material submitted by the excavators. The basic organizing principle, however, involves individual records of contexts and objects, to the point where excavation diaries from Petra were divided into individual locus records, rather than presented as a continuous interlinked narrative. The site's developer intends to use tools derived from blogging to integrate a greater narrative component with two-way hyperlinks in the future (Eric Kansa, pers. comm.), but the current approach, like most other archaeological content management systems, continues to separate individual records from explanatory narrative.

The joint work of the UK's Archaeology Data Service and the publication internet Archaeology has come close to the transparent integration of data and narrative. In particular, the publication of excavations at the Roman town of Silchester, with extensive hyperlinks to primary documentation housed by ADS, allows the user to "drill down" to the data referenced in the interpretive text (Clarke *et al.* 2007). The publication was conceived from the outset in digital terms, and as a result it takes full advantage of its all-digital nature in a way that "print imitations" cannot. But again, the tension between data and interpretation appears: while the data can be browsed directly through ADS, they only make sense in connection with the narrative publication, which in turn structures the user's approach to the data. The user must therefore choose between allowing the narrative to dictate her interactions with the data, or attempting a much more difficult exploration of the data themselves, which in the absence of reciprocal links to the text of the interpretive publication are fairly opaque.

And this is the challenge we are currently facing at Chersonesos. We are in the process of generating a traditional print publication, with traditional catalogues of material for scholarly reference and traditional synthesis and interpretation of our site. The material record is extremely rich, and we also plan to provide in the print publication specialist contributions on human skeletal remains, faunal material, paleobotanical evidence, and archaeometallurgy. As a result, it will already be a challenge to convince a publisher to include everything, even without a lengthy stratigraphic report or details of specialist work. At the same time, we feel that the extremely detailed contextual information made available by our documentation system should be presented to both scholars and the general public. We seek a solution in which we can integrate narrative and data, without repeating in the online component the syntheses and specialist information we plan for the print publication.

Such a solution must rely on the inclusion in the database of narrative strategies similar to those we employ when we explain our evidence in conversation. In the upper left of *Figure 4* is a photograph of the floor of a sunken-floor structure occupied between the 11th and 12th centuries AD; the dark spot in the center is a hearth. In the database, this material is represented by context records, finds records, photographs, and faunal and paleobotanical



Room 33: phase 9

**Ceramic** and **numismatic** evidence suggests that at some point in the 11th century CE a sunken-floored building was constructed in the area that would later become room 33. It seems to have functioned as a domestic structure. A beaten-earth surface (**675**) laid in a roughly oval cut in the bedrock (**527**) probably represents the first floor of this building. A second floor (**645**) was later laid over it, and on this floor were two small, ashy hearth deposits (**646** and **649**) from the final occupation of the structure. A flotation sample taken from one of the hearths (**646**) contained the carbonized remains of **legumes, grains, nuts and fruits**. A **coin** recovered from the surface of the second floor indicates that the structure may have been in use until the early 12th century. It was removed and the sunken area **filled in** during the following period of major reconstruction, before the end of the 12th century.
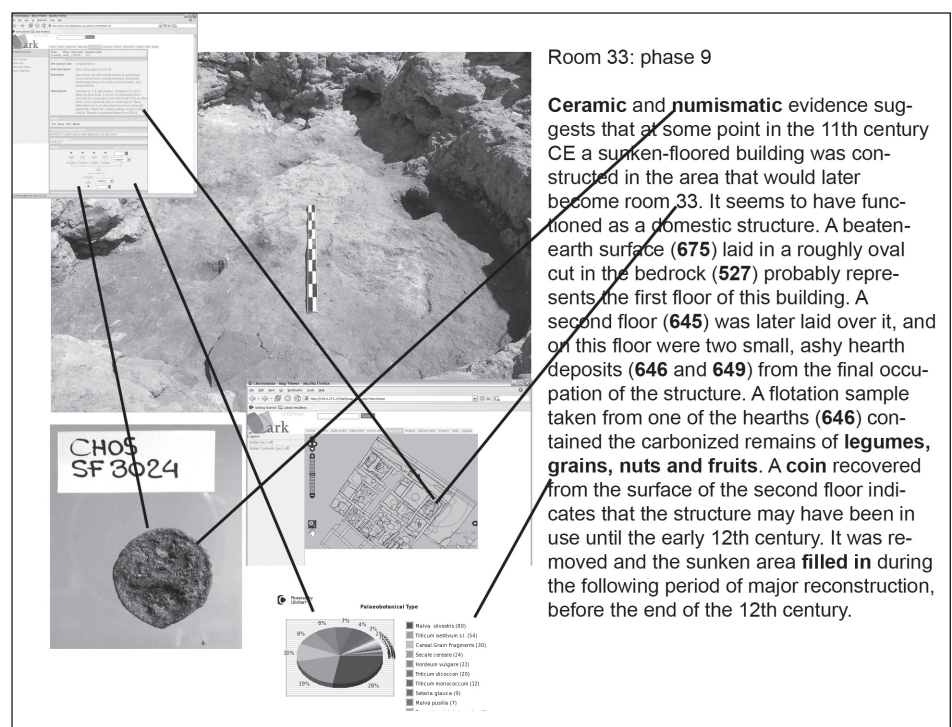
*Fig. 4. Contextual records for floor of sunken-floor building of the 11th–12th century AD at Chersonesos, with accompanying narrative "building-block".*

results, all of them linked to each other, with the context or stratigraphic unit as the organizing factor. But when we explain this room in conversation with other archaeologists, we tell a broader story of reoccupation, use, diet, abandonment, phasing, absolute chronology, sequence and evidence. That conversational explanation is a fundamental piece of our engagement with primary archaeological evidence, and plays a critical role in the generation of questions – but it seems to be conspicuously absent, at least in an organized fashion, from current online presentations of archaeological data.

There is some evidence that online data presentations are moving in a more conversational direction (Hunt 2008). We would like to propose here, however, a more formal approach to the provision of narrative: that is, the generation of a formal stratigraphic narrative for inclusion in the database interface, but one that could be broken into its component pieces and cross-referenced in both directions with the records involved. In our case, given the desires of researchers, it seems most useful to make the fundamental building-block one of space and time – that is, the group of layers in the smallest spatial unit of investigation (for us, a room) that can be assigned to one period of activity. These building-blocks could thus be combined either by space (the diachronic stratigraphic history of a single area) or by time (the situation of a larger area during a single phase of activity). An example related to the sunken-floor building is given in *Figure 4*, with records and narrative reciprocally cross-referenced to each other and to related items. These narrative blocks, when set end to end, could also form a continuous, linear stratigraphic narrative that could be browsed or read through in its own right.

This approach appears to run counter to a trend toward fragmentation in the interpretation of archaeological data, and counter to post-processual distrust of the single "authoritative" interpretation of a site. It could also be seen as a contamination of the primary data. The notion of authority, however, has by no means disappeared from the archaeological discourse, and in its traditional form – in the voice of an experienced decision-maker who has thought deeply about a particular body of material – it appears in the work of even the strongest theoretical proponents of multivocality. Furthermore, an online database is already the product of various acts of interpretation, as project members have returned repeatedly to correct and update records in light of further research. In general, too much is made of the potential objectivity of archaeological data. The inclusion of a narrative would make the database a more productive tool, especially for the generation of ideas for new paths of research, which are more the product of browsing behavior than of focused searching. It would also allow the user to approach the database from various different directions according to her interests and comfort level.

While the notion of an "authoritative" narrative dictating the approach of the user to an online database might be problematic for those who feel the data should be presented free of interpretation, the opposite problem applies to those of us working in academic contexts in the humanities. In those contexts, authority is determined in large part by the public response of one's peers to one's work, and is much more connected with one's contributions to interpretation than to data production. There are still few venues for the peer review of digital datasets, at least in the US and Ukraine, and in the humanities such datasets are viewed poorly as products of academic effort, no matter how many people worked on them, how long it took to develop effective interfaces, and how many users are served. The academic data producer has a difficult course to navigate, therefore, between the overdetermination of data, the facilitation of the development of new questions, and the insufficient projection of authority – a course complicated by the tendency to disassociate formal narrative and data in electronic publication.

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