JALC User Needs Report

Work Package 1

SURFshare project 2009 – Enriched publications in Dutch Archaeology

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Introduction

This report is part of the SURFshare project *Enriched publications in Dutch Archaeology*. This project is dedicated to the development of enriched publications, based on the Open Access e-journal *Journal of Archaeology in the Low Countries* (JALC), the 'e-depot Nederlandse archeologie (EDNA)', in cooperation with *Data Archiving and Networked Services* (DANS) and the 'Digitaal Productiecentrum (DPC)'.

The project contains work packages that address the technical, archaeological and user issues. The three main goals are:

1). To increase insight into archaeological research through the integrated presentation of publications and research data;
2). To gain experience with the organization and technique of assembling and making available enriched publications;
3). To stimulate interest for this type of publication and lay a foundation for long term involvement of researchers.

This report is the final product of Work Package 1, which addresses the user needs concerning enriched publications in archaeology. The main question we would like to see answered in this report is whether there is any support in the archaeological community in the Netherlands and Belgium (JALC's main target group) for enhanced publications. What kind of possibilities do archaeologists see when it comes to enhanced publications and what kind of drawbacks? Do they see them as a real qualitative improvement of the existing scholarly communication practice or are they more reluctant in their assessment of this new publication format? Next to that, on a more practical level, we would like to find out which enhancements archaeologists, both as readers and writers of scholarly publications, would like to see foremost in an Open Access e-journal.

The report will first give a summary of the main results gathered from a literature study on enhanced publications in general and enhanced publications in archaeology more in specific. The meaning of the term enhanced publications will be discussed as well as the main benefits and the main drawbacks connected to this kind of new format, as gathered from the literature. The report also presents the results of 14 interviews with archaeologists, working at universities and at private companies in the Netherlands and Belgium. At the end of the report recommendations will be given from the user needs viewpoint, based on both the literature study and the data gathered by means of the interviews.

Methodology

The scholarly communication system revolves around its users. The scholars, both as authors and readers of scholarly content, fulfill a double role of both producers and consumers. The scholarly communication system (of which scholarly publishing is an important part) should thus foremost serve the needs of this community. The system should take into account the demands and interests of scholars and should in its design find a close connection to the daily practice of this community. In this respect the system should be flexible and be based on a form of user driven innovation. When the possibility arises to improve the system, to make it more flexible and more applicable to the scholarly needs and practices, in other words when innovation is needed and possible (as for instance with the introduction of new digital applications), the input of users is essential.

User research in scholarly publishing mostly focuses on the demands, views and needs users have towards the system of formal scholarly communication. From this more general level one can then take a closer look at more specific parts or aspects of the system. When it comes to new publication formats and in this case to the introduction of a so called 'enhanced publication'[1], the system needs to adapt to this new format and the new workflow it entails. Users can and should however take part in the shaping of and adaptation of such a new system, since they are an integral and essential part of this system, and even, as mentioned above, the central point the system revolves around. Especially in the digital age, when intermediaries are more and more dis-intermediated from the scholarly communication value chain, the users seem to gain importance.

When it comes to a transformation in the scholarly communication system itself (which is of course never static but always in a flux), like for instance with the introduction of a new format, these kind of changes should preferably be implemented by ways of a reciprocal approach in which there is a constant interaction between the design of the system and its users needs and demands, to ensure the system's proper functioning. In the specific case of this project, the system design is initialized by the persons or institutions who want to introduce the new format, in this specific case enhanced archeological publications in the Open Access e-journal JALC, into the formal communication system. The initiators can be pinpointed as the publisher (AUP), the library or cultural heritage institution (DPC/UvA, DANS, EDNA) that takes care of the preservation and the ICT infrastructure, and in kind of a double role, the users themselves, the archaeological community in the Netherlands and Belgium, represented in DANS, and through the different universities represented in the JALC editor(-ial board). They set the guidelines for the possibilities within which the new format

[1] An enhanced publication is a publication that is enriched with three categories of information:

1. research data (evidence of the research)
2. extra materials (to illustrate or clarify)
3. post-publication data (commentaries, ranking) Source: SURF

can be introduced, from both a technical and a commercial/economic viewpoint. The demand side is fulfilled by the creators and users of the new publication format, in this specific case represented by the archaeological community in the Netherlands and Belgium, consisting of both academic institutions and commercial enterprises. This community, defined as the 'users' in this project, can give their view on what they want and need from such an enhanced publication within the lines of or the possibilities as set out by the (representatives of the) design perspective. In an ideal situation these approaches will of course be reflexive and will adapt to each others demands and the possible solutions. The goal should be to reach a consensus between design and interaction, between what is possible and what is needed.

Practical methodological implementation

When one wants to determine what users need or demand from formal scholarly communication, or more in specific from an enhanced publication, we need to extract some focus points that indicate what users want from a system of formal scholarly communication in general, and that show how the system in its functioning tries to fulfill these needs. According to Roosendaal, Geurts and Van der Vet[2], we can see four (or five) important aspects of what a system of formal scholarly communication should comply to: it should take care of the functions of *registration*, *certification, awareness* and *archiving,* to which one might add the function of *rewarding.*

Registration is the establishment of the claim of the author to the moral rights of his publication. Registration takes place at the moment the publisher receives the article or if it is published in another way (online for instance), *Certification* takes care of the quality filtering and control of scholarly content, mostly by means of the peer review system. The *awareness* function is mostly fulfilled by the publisher who takes care of the dissemination and the accessibility of the scholarly content, of the proper communication infrastructure with the scholar's peers. *Archiving*, as mostly done by libraries, makes sure the content is preserved for the next generations and the *rewarding* function makes sure there are incentives for publishing scientific content (partially overlapping with moral rights and awareness raising, incorporating also the financial aspect as an incentive).

Translating these functions the scholarly communication system fulfills into practical focus points for this particular project, we have established the following:

Registration: When it comes to the publishing of data as an integral part of the publication, issues arise concerning licensing, and problems concerning

[2] Hans E. Roosendaal, Peter A.Th.M. Geurts and Paul E. van der Vet – 'Developments in scientific communication. Considerations on the value chain', in: *Information Services & Use* 21 (2001) 13–32.

ownership and attribution of scientific content and in this respect of data and or datasets/datavisualisations.

Certification: How to establish the quality of the supplements of a publication. Should the underlying data for instance be peer reviewed?

Awareness: Issues concerning the use of new kinds of formats, will there be more awareness and dissemination of ones content because of a. Open Access, b. Online availability, c. Access to the data and attached materials and datavisualisations.

Archiving: Connects with issues having to do with the preservation of diverse datasets and formats, preservation of the publication in combination with the data and added materials in a flexible way. Creating a workflow that ensures a trusted environment for the preservation of enhanced publications.

Rewarding: The issues here concern mainly the creation of incentives or added value for the creation of enhanced publications. How does the creation of enhanced publications benefit the scholarly communication and the single scholar in particular?

For this specific project, which focuses on the creation of enhanced publication within the Open Access e–journal JALC, we have established the following list, extracted from the general focus points mentioned above (certification, registration, awareness, archiving and rewarding):

1. Practical implications of the added services for enhanced publications regarding the publication workflow and the long term preservation process
2. Quality establishment of enhanced publications
3. Incentives and rewards for enhanced publication creation
4. Licensing, attribution and ownership of enhanced publications

Using this list we will identify the demands, needs and views of archaeologists when it comes to enhanced publications. We will then try to translate these user needs into recommendations towards the system and publication platform JALC wants to design.

Tools

In order to gather user input on the above mentioned list, we have conducted 14 1-to-1 interviews. The information gathered from the interviews is supplemented with a literature study on enhanced publications in general and experiments with new publication formats in archaeology more in specific. The interviews were conducted with a selected number of representatives from what we have labeled our ‘user group’, the archaeological community in the Netherlands and Belgium, consisting of both academic institutions and commercial enterprises.

Representatives of both communities have been targeted, as their preferred means of publication might differ (traditional articles vs. gray literature reports) and their needs towards scientific publications might also differ because of their background and specific task or goal. An interview protocol has been developed on the basis of the above mentioned themes and focus points, to collect the necessary information on the user needs concerning enhanced publications (see attachment 1). We have conducted in total 14 interviews (see list in attachment 2).

At the end of the report some recommendations will be given on the basis of the literature study and the data collected by means of the interviews.

Enhanced Publications – the introduction of a new format

The context

In the Humanities and Social Sciences the uptake of electronic publishing has been rather slow, especially when one compares it to the almost ubiquitous use of e-publications in the fields of Science, Technology and Medicine. This low uptake also applies to the field of archaeology. There is a growing number of archaeological databases on the web, but the linkage to interpretative analyses of that data is still missing in almost all of the cases, as Richards et al. show.[3] Xia agrees in his article on publication practices in archaeology that electronic publishing of research results is still relatively scarce. The bulk of the attention has gone to the preservation and dissemination of archaeological data. This has lead to the particularity in this discipline, Xia argues, that there are a lot of online databases where the data records for excavations are kept, where there are still relatively few e-journals and repositories for scientific articles in archaeology, let alone Open Access journals.[4] Kansa mentions besides SHA's *Technical Briefs in Historical Archaeology,* the *American Journal of Archaeology* and *Evolutionary Anthropology* as examples of journals that offer articles downloadable for free.[5]

This disciplinary peculiarity, as Xia calls it, should be taken into account when conducting user needs research concerning electronic publishing in archaeology. Xia distinguishes two peculiarities when it comes to archaeological data: their 'individualization' and their enormous quantity. Archaeological data is unique because it is created by human hands, so visual inspections by scholars remain important when researching data. Excavations can also deliver huge amounts of archaeological data, resulting in the fact that it becomes almost impossible for a report or journal article to incorporate all the descriptions of every artifact.[6] The attachment of data to publications in an online environment could help with this problem.

This situation of data overload can also be found online. Woutersen et al. use a similar argument in the DRIVER report, stating that with the enormous growth of digital scholarly objects on the Internet (both formal and informal), we need to create an environment which enables us to discover the related objects

[3] Julian D. Richards, Judith Winters and Michael Charno, 'Making the LEAP: Linking Electronic Archives and Publications', in*: ALT Newsletter***,** July 7, 2008, 1.

[4] Jingfeng Xia, 'Electronic Publishing in Archaeology', in: *Journal of Scholarly Publishing* (July 2006) 270.

[5] Eric C. Kansa, 'Publishing Primary Data on the World Wide Web: Opencontext.org and an Open Future for the Past', in: *Technical Briefs In historical archaeology*, 2-11 (2007) 1.

[6] Xia, 'Electronic Publishing in Archaeology', 271-272

that are available online. This will make scholarly communication more efficient they argue.[7]

The addition of data to an article is not just a technical challenge. The most important thing when it comes to a new publication format, according to MacKenzie Smith, is the cultural paradigm shift for scholars it entails: scholars will need to learn to 'embrace a culture of sharing' and they will need to change their views on databases. According to Mackenzie Smith the new developments in publishing and on the internet are raising people's expectations: '*readers want interactive user interfaces for visualizing results, searching and browsing tools, collaboration tools, and linkages between text, multimedia, data, and tools to work with all of the above*.'[8]

Definitions

MacKenzie Smith's idea of a new 'enhanced' publication format is rather broad: all resources connected to a publication could be incorporated (related papers, personal information, data-mining tools etc.). We need to link all these resources up by means of an ontology for complex digital objects, which defines their relationships. Kanza also urges for such a formally described ontology of data sets in the field of archaeology.[9]

Marcondes takes the idea of enhanced publications a step further by incorporating the potential semantic relationships between articles. Marcondes sees web published scientific articles not only as texts but foremost as a 'machine readable knowledge base'. Marcondes idea of an online enhanced article revolves around the connection of the deep structures (assumptions, hypotheses, methodology etc.) of scientific articles, by means of semantic web technologies. Marcondes wants to use the 'formal knowledge base', or put more clearly, the underlying structure/argumentation of an article to be linked to other articles giving researchers the opportunity to discover these knowledge base structures to validate and compare them.[10]

Joost Kircsz mentions a modular publication model. This model leaves the idea of a traditional linear article, where the enhancements are added to, behind. In his modular concept the different (data) objects or modules can be linked together in various interacting ways to create a modular article. Only for the purpose of communication these objects form a coherent unit. This model, as the DRIVER rapport also mentions, allows for different paths through the article

[7] Saskia Woutersen–Windhouwer en Renze Brandsma, DRIVER, Digital Repository Infrastructure Vision for European Research II, July 2008, 8.

[8] MacKenzie Smith, 'Scientific research communication: the promise and current realities of enhanced publications', *Commons of Science Conference*, Washington, D.C., October 3-4, 2006, 1.

[9] Kansa, 'Publishing Primary Data on the World Wide Web, 1.

[10] C. H. Marcondes, 'From scientific communication to public knowledge : the scientific article Web published as a knowledge base', In M. Dubrova & J. Engelen (Eds.), *Proceedings International Conference on Electronic Publishing, 9th, ICCC ElPub,* Leuven (Belgium), 2.

according to the readers needs, which would make this reading activity much more efficient.[11] Jane Hunter's Scientific Publication Package on the other hand is much more oriented to(wards) the research workflow, forming a compound digital object with clearly defined relationships between the objects, already defined during the research process in formally described metadata.

The DRIVER report defines enhanced publications as follows, based on research done by Van der Poel, who has interviewed scientist about enhanced publications:

"*An enhanced publication is a publication that is enhanced with three categories of information:*
(1) research data (evidence of the research)
(2) extra materials (to illustrate or clarify), or
(3) post-publication data (commentaries, ranking)."[12]

JALC will focus mainly on the addition of the first two enhancements, but is also interested to know what the user needs are concerning post-publication data. This is why we have chosen to use the last definition, as set up by DRIVER, for the user research we have conducted for this report. Before we go on to the results of the interviews, we will take a look at the main possible benefits and the main drawbacks when it comes to enhanced publications in archaeology, as found in the literature.

Main benefits of enhanced publications

As Woutersen notes, one of the main benefits of enhanced publications is their ability to integrate scientific information providing links between related objects. This will provide a structure that can make publishing and communication much more efficient. It enhances scholarly communication; from static, print-like publications to more web based publication networks with possible semantic interrelations.

As already mentioned above, one of the main benefits of an enhanced publication is the possibility to add all kind of extra materials that do not 'fit' in a print publication. According to the DRIVER report this storing and sharing of data together with the publication has additional benefits. It can assist with data validation and make the publication itself and its underlying methodology more transparent. It also opens up the possibility for others to analyze the additional datasets that could not be analyzed because of lack of time or knowledge.[13]

This sharing and reusing of data can also benefit society at large. Lynch notices that this is part of a more general movement in scientific communication

[11] Woutersen en Brandsma, DRIVER, 12.
[12] Ibidem, 11.
[13] Ibidem, 31.

and publishing towards open access to scholarly literature and data. He also mentions the added benefits of enhanced accountability and verification as well as reproducibility and reanalysis.[14] And as Marcondes already showed in his model, enhancing could benefit the scholarly communication process where it permits critical inquiry, comparison, and the possibility of making (future) semantic relationships between articles.[15]

Brandherm mentions the inclusion of hypermedia features and the increased speed of scholarly communication online and of course its now ubiquitous availability.[16] This speed benefit is also noted by Xia, who remarks that the time to publish an article online is rather a question of weeks than months, even when peer reviewed.[17]
Online publishing could also have potential costs benefits. Brandherm gives a nice summary:

"On the other hand, publishing large documents in print at some point usually will meet with some very clear-cut economical limits, as the costs of disseminating, i.e. printing and distributing, lavishly illustrated multi volume site reports are bound to become prohibitive if they cannot be spread over a sufficiently large number of copies. In archaeology, copies sold of scholarly monographs or journals will normally be counted by the hundreds, rather than by the thousands. E-publishing, imposing almost no limitations on text size and allowing for the inclusion of a very large number of full color illustrations at very little additional cost (…)."[18]

According to Vince the publishing of archaeological excavation projects in reports has been in crisis for a long time already. For one, large excavations can take a very long time to collect, interpret and publish their results. Next to that the use of reports can be very cumbersome, giving too many or too little details and rarely serving the needs of both the casual user and the specialist. Only a few projects are able to have a dual publication in both popular and academic formats. The publication of the data in lists and catalogues also lead to a rising print cost. Vince also noted that the specialist literature and the grey literature in the field were growing further apart. Another benefit of online publishing Vince notices is that it can attract more readers, where the readership of *Internet Archaeology* for instance is very high.[19] Kanza underwrites this when he claims

[14] Clifford Lynch, 'The Shape of the Scientific Article in the Developing Cyberinfrastructure', in: *CTWatch Quarterly*, 3(3) (2007) 2.
[15] Marcondes, 'From scientific communication to public knowledge', 1.
[16] Dirk Brandherm, 'Scholarly Online Publishing in Archaeology: the price of progress', in: *Mediterranean Prehistory Online*, Issue 2 (2000) 4.
[17] Xia, 'Electronic Publishing in Archaeology', 277.
[18] Brandherm, 'Scholarly Online Publishing in Archaeology', 3.
[19] Alan Vince,'The Future of Archaeological Publication or an Evolutionary Cul-de-Sac?' In: Society for American Archaeology, 16(4) (1998) 1.

that Open Access publications are good for reputation, visibility and citation rates of articles.[20]

As Vince states, the online might also offer new quality control mechanisms. The journal *Internet Archaeology* is looking into which new ways of peer quality control the online medium might bring about, like open public peer review. They are even exploring the possibility of updating or versioning of articles:

"However, one thing we can do with a Web publication is publish a new edition of a paper. New data or new thoughts can be published and linked to the first paper without discontinuing the availability of the earlier version. Several authors are keen to update and expand their papers and we look forward to the technical challenge of making the new paper seamless with the old, yet allowing its publication history to be retrieved." [21]

Richards et al. mention the positive influence enhanced publications (once they become more common) can have on data management and research conduct in archaeology. Again, a mentality shift is needed:

"Traditionally the archive has been something of an afterthought, pieced together after the fieldwork is finished. If the archive becomes part of the publication, however, more care from the outset of an archaeological project must be taken with regards to data creation. This means that full metadata and documentation of the data must be created. Putting the raw data alongside the publication may force data producers to take more care in creating their data. Archaeologists can sometimes create data knowing that few outside the project will ever see it. This new exposure will hopefully force archaeologists to break the uneven data management habits that have historically afflicted the discipline."[22]

Summarizing one can say enhanced publications offer (1) the possibility to incorporate data that would otherwise not be added to a publication because of place and money constraints, and (2) it offers the possibility to create a more efficient scholarly communication system in which related objects can easily be retrieved. (3) It also promises enhanced data sharing and reevaluation, bringing possibly more transparency and openness to scientific research. (4) The online availability of research in a connected web can lead to more visibility and impact of scientific publications as well as to (5) more accessibility and ease for scholars in their function of readers.

[20] Kansa, 'Publishing Primary Data on the World Wide Web, 1.
[21] Vince,'The Future of Archaeological Publication or an Evolutionary Cul-de-Sac?',4.
[22] Richards et al., 'Making the LEAP', 6.

Main drawbacks of enhanced publications

On of the main drawbacks of enhanced publications, at least from the perspective of the author, is the amount of resources it will take to enhance a publication. This can be very elaborate work and if there are no incentives for authors, will they do it? As Xia notes, the way data are presented by the author determines their use. It requires a lot of work to create a good searchable and downloadable database for instance.[23]
This lack of incentive also has to do with the fact that, as Woutersen et al. note, researchers need to be rewarded for this extra work. She suggests proper citation and referencing of all different parts of an enhanced publication to make sure all the scholarly output gets credited for the amount of work put in.[24]

One of the meta-problems connected to this has to do with the problem when to reference to and when to incorporate data in the main article?[25] This question relates directly to questions about the set up of an enhanced publication. Who should be responsible for the infrastructure? According to the DRIVER report both researchers and publishers should invest in enhanced publications infrastructures:

"Publishers and researchers should both invest in enhancing publications. Software and several tools for publishers and repositories are available to add comments to online publications. Some publishers enhance articles by tagging the data in the article. For tagging they make use of many standards and ontologies which are all discipline-specific. It will be quite difficult to provide these services on a more general level."[26]

The problem how to relate the different parts of an enhanced publication remains however; they need to be meaningful relations. And this not only counts for relationships within the enhanced publications but also for the relationships with the rest of the online world via hyper linking, comments etc.[27]

Another concern when it comes to enhanced publications has to do with the problem of data archiving. Long term data storage is difficult and expensive and the question is who is going to take care of the preservation of enhanced publications.[28] This is especially important in the field of archaeology says Brandherm, as we have to work with unique data:

"As opposed to the sciences, whose basic information is derived from experiments which by definition have to yield reproducible results, the basic information for our work is extracted from the archaeological record, mostly by

[23] Xia, 'Electronic Publishing in Archaeology', 282.
[24] Woutersen en Brandsma, DRIVER, 44-45.
[25] Lynch, 'The Shape of the Scientific Article in the Developing Cyberinfrastructure', 2.
[26] Woutersen en Brandsma, DRIVER, 28.
[27] Ibidem, 7.
[28] MacKenzie Smith, 'Scientific research communication', 4.

destructive means, and therefore is unique in each of its pieces. Once lost, it cannot be retrieved, as no two archaeological sites are exactly the same and any given site can be excavated only once. A truism though it seems, these two simple facts must have far reaching consequences for how we choose to record and disseminate our data."[29]

Next to that there is also the problem of data interoperability and different data types and formats. For MacKenzie Smith the main challenge for enhanced publications lays in creating the appropriate infrastructure or better to find a way to better link together the existing infrastructure.[30] Kanza also sees a big problem here. We need to create standards to enable data integration.[31]

Peer review and quality issues can also be a concern with enhanced publications. As Richards et al. state, should we peer review all the underlying data? And what about objects the article links to in the archive or on the web? Should they be evaluated too?[32] As Woutersen et al. state, there are mixed feelings surrounding peer review of data, where some claim it is impossible to do, where in other fields you see elaborate peer review systems being build up around data looking into issues as 'qualities of coherence, design, consistency, reliability of access, and so on'.'[33]

The main problem has to do with the fact that users of enhanced publications may perceive them or their supplements as having lack of quality standards. Enhanced publications need to be made authorative, especially when it comes to the added material, says MacKenzie Smith.[34]

The moral and commercial ownership of enhanced publications and the underlying datasets can also be a cause of concern. Which intellectual credit should be given to whom? Should the people who create the database also be credited? This also has to do with another question according to Richard et al.: where does the publication end and the archive begin?[35] Woutersen et al. also see a big problem with the publishers in this respect, as they mostly don't state clearly who has the rights to certain added materials. There seems to be a lack of clear copyright policies.[36] These copyright problems might also lead to scrutiny when it comes to data sharing and the transparency of science. The competition element is of course large in science, not everyone wants to open up all their data and show every step of their research process, although this problem might not necessarily be big in the field of archaeology.[37]

[29] Brandherm, 'Scholarly Online Publishing in Archaeology', 4-5.
[30] MacKenzie Smith, 'Scientific research communication', 4.
[31] Kansa, 'Publishing Primary Data on the World Wide Web', 7.
[32] Richards et al., 'Making the LEAP', 4.
[33] Woutersen en Brandsma, DRIVER, 38.
[34] MacKenzie Smith, 'Scientific research communication', 5.
[35] Richards et al., 'Making the LEAP', 5.
[36] Woutersen en Brandsma, DRIVER, 43.
[37] Richards et al., 'Making the LEAP', 6.

Enhanced publications and the preservation of them can also lead to some financial problems. As Judith Winters from *Internet Archaeology* (which went from an Open Access journal back to a subscription model) says, the maintenance and quality assurance of the added materials leads to a lot of extra costs[38] Creating and maintaining online databases and electronic publishing of archeological data will require a great deal of curation, argues Xia, and of course, this will cost a lot of money.[39]

Summarizing one can say that the main drawbacks of enhanced publications have to do with the fact that they (1) take a lot of extra time for the scholar to produce, (2) with a lack of incentive to do that work (no real rewarding structure yet). Next to that there is (3) no infrastructure set up yet and the responsibility concerning such a infrastructure and the creation of meaningful relationships is unclear. There is also the problem of (4) data archiving and interoperability and a concern about (5) quality control and peer review when it comes to the enhancements. The (6) moral and commercial ownership of data and datasets is an issue due to unclear copyright policies accompanied by a (7) fear of opening up one's data. Finally there is the problem of (8) finances when it comes to the costs of maintaining and editing the enhancements.

Now if we look back at the main questions asked at the beginning of the report, does the literature on enhanced publication show a support for enhanced publications in archaeology, looking at the possibilities and the drawbacks of the new format? The answer would be yes and no. Their clearly are a lot of benefits to archaeological research, however, the drawbacks mostly show that a lot of things are still unclear and in a start up phase. As MacKenzie Smith says, there are some problems that still need solving and experiments with the new format seem to be clearly needed.[40]

In this respect it is Brandherm who makes a good point when he states we need to take it easy with the enhancements, for we need to be able to balance the benefits of added materials with the practical reality of their maintenance and quality assurance.[41]

[38] Judith Winters, 'Internet Archeology Editorial', in: *Internet Archeology* (2002), 2-3.
[39] Xia, 'Electronic Publishing in Archaeology', 282.
[40] MacKenzie Smith, 'Scientific research communication', 4-5.
[41] Brandherm, 'Scholarly Online Publishing in Archaeology', 8.

Interview Results

Introduction

The interviews were conducted to gather input concerning the question asked at the beginning of the report: is there support in the Dutch and Belgium archaeological community for enhanced publications; what do archaeologists see as the main possibilities and drawbacks of enhanced publications; and what kind of services or enhancements would they like to see most?
The interview protocol starts off with some introductory personal questions and questions concerning reading and publishing practices (print or online) and the prior familiarity with the term enhanced publications, to get an idea of the context of the interview candidate (Question 1-9). The interview protocol was further set up on the basis of the in the methodology listed functions and values that a scholarly communication system needs to fulfill to meet its users demands. More in specific it was set up on the basis of the main themes and focus points we selected to be most suitable for this project and the archaeological context. These were:

1. Practical implications of the added services for enhanced publications regarding the publication workflow and the long term preservation process (Questions 10, 11, 12, 13 and 14).
2. Quality establishment of enhanced publications (Question 15, 16 and 17).
3. Incentives and rewards for enhanced publication creation (Question 18 and 19).
4. Licensing, attribution and ownership of enhanced publications (Question 24 and 25).

On the basis of the policy issues on versionings in *Internet Archaeology* and the discussion on the possibility of updates and the possibility of the endless rewriting of 'never finished' or 'liquid' enhanced publications in the studied literature, questions were added to the protocol concerning updates and post-publication comments and services (Questions 20, 21, 22 and 23).

The possibilities and drawbacks as formulated in the literature research were also implemented in the protocol. The list of possible services was developed by taking a close look at the journal *Internet Archaeology* and the enhancements they currently offer, accompanied by the expertise input from members of the Faculty of Archaeology of Leiden University (Milco Wansleeben and Yvonne Lammers-Keijsers). When it comes to the questions concerning the infrastructure and workflow, input was also received from Amsterdam University Press (Jeroen Sondervan).

The list of interview candidates was established on the basis of the contact list of the JALC editorial board and the publisher's contacts,

accompanied by some suggestions for commercial companies to contact from again Yvonne Lammers-Keijsers and Milco Wansleeben. The interviews were conducted by students from the Master program Book and Digital Media Studies at Leiden University (Lydia Peitx, Suzanne Schramm, Mariya Mitova, JingJing Chen and Estefania Yunes) and by Janneke Adema from the Department of Book and Digital Media Studies.
As already mentioned before, a total of 14 interviews were conducted with archaeologists from Belgium and the Netherlands, from universities, commercial companies and consultancy agencies (see attachment). The results of the interviews can be found underneath, summarized per theme, following the order/logic of the interview protocol.

a. Introductory questions: Online reading and publishing

As stated above, in this theme we tried to get a clear image of the reading and publication practices of the interview candidate in order to get a better idea of the context of the interviewee. When it concerns the reading of and publishing in e-journals, 8 out of 14 participants stated they read articles online, varying from 'sometimes' to 'increasingly', where half of those that read articles online, read them on a weekly basis. There is a slight preference for the younger (25-35) age group to read online articles. 5 participants have published in an online journal in the past, of whom two in an Open Access journal.
Of the 14 interview candidates 13 prefer to read from print. Only one candidate (in the 25-35 age category) has no preference and is increasingly reading from the screen. 3 of the people who prefer print also indicate to read from the screen increasingly.
This data suggests that although the interview candidates seem to be increasingly reading articles online from the screen, their reading preferences are still towards print, everything being equal and as far as close reading is concerned.
When it comes to the familiarity of the candidates with the concept of enhanced publications, 6 out of 14 candidates have either heard of enhanced publications or have a rather good idea of what they entail, most of them stating it has to do with the addition of data or multimedia objects. The rest was unaware of them until the interview.

2.1 Practical implications: Added Services

In this part of the interview, the interview candidates were shown some examples of possible enhancements, mostly from the journal *Internet Archaeology*, after which they were asked to state which services they deemed most important. Underneath a list which contains a classification of the preferences for the different possible services JALC could offer, with the most wanted service on top and the least wanted or useful on the bottom.

Classification:

1. The possibility of GIS maps: interactive spatial environments
2. The possibility to search the text.
3. The possibility to add color to your publication.
3. The possibilities for Hyper linking, back and forward linking, links to other resources.
5. The possibility to add a database to your publication.
6. The possibility to add tables/graphs/supplements.
7. The possibility to add an image database (with more photo's and artifact drawings/pictures).
7. The possibility to zoom in, click on details or change the resolution on images and maps.
7. The possibility to perform database queries.
10. The possibility to add post publication data, post publication comments.
11. The possibility to explain the research procedures in an appendix.
12. The possibility to add data visualization tools (3d presentations and models).
13. The possibility to add movies.
14. The possibility to add Panorama Pictures.

The preference for the first enhancement, the possibility of GIS maps is very interesting. Most of the interview candidates were very enthusiastic about this option, although most of them were also aware of the fact that these kind of environments might be hard to implement. Some remarks were made about the possibility to download the data from the GIS environment. One candidate remarked that it would be an interesting service, but one that should not be part of the publication itself.
The next three services (search, color, hyper linking) were all named as standard must haves in a digital environment. When it comes to hyper linking some remarks were made about the quality of the outlinking sources and who should check them. Another candidate found it annoying to leave the publication environment through a hyperlink.
The next four services have to do with the addition of datasets and image collections and the possibility to query them. Some participants stated they found it absolutely necessary to have a search function with the database when a database was added; others found this less necessary as they want to be able to have access to the raw database which they want to then query/structure themselves. As two candidates contradictory stated:

> *"That goes hand in hand with the database, I think. If you add a database to your publication, it needs to have the possibility to search it."*

"The possibility to perform database queries I think is not so important. Because if you can access that database and you want to do more with it, you can use the database. So the search function does not have to be within the publication."

Comments should not be an integral part of the publications most candidates stated, errata could be however.
Regarding the possibility to add a section on methodology most candidates answered they thought this should be and integral part of the (textual) publication itself. The last three services (data visualizations, movies and panorama images) were seen as nice features/gimmicks but not very relevant for the scientific quality of the publication. There were three people however who found it very interesting to have the possibility of 3D modeling available for their research.
Most people found that they wanted all these services as a reader and thought they should in principle also be able to deliver them as an author, but most of the candidates urged that (lack of) time and also knowledge issues might be a big problem in this respect.

2.2 Practical implications: Workflow and research conduct

Whit regard to the workflow and questions of who should take care of the infrastructure or workflow concerning enhanced publications, 11 out of 14 candidates state that this responsibility should lie with the publisher or the editorial board. 2 candidates would like to keep it with the researcher, making it as flexible and adaptable as possible to their own work and research. 1 candidate thought the responsibility should lie with the universities or government to ensure uniform standardization. As he stated:

"I think it's very good to show your data in a uniform way and I think government is the only participant that will get the group of universities to reach an uniform way of presenting information on the internet. Because everyone is presenting their data or information in their own way making it very difficult to compare things with each other. And I think if you have one group of people who are responsible then you can make a committee, for example from a group of universities or from the government. For example, in the Netherlands, it would be the RACM, most suited to get your info always in the same way."

Most of the interview candidates prefer a standardized or formalized workflow, but it needs to be flexible, adaptable too. Most of the candidates see a big role in this respect for the publisher as they think the researchers will not have the time, incentive, or the knowledge to create/structure an enhanced publication on their own. The researcher stays responsible for the material but the publisher should determine the standards (as flexible as possible).

Concerning the influence of enhanced publication on the way researchers conduct and or write their research article, all of them agree that the conduct of

the research itself (data acquisition and interpretation) will not change, with the exception that they might take more care when acquiring data (more precise etc.) when they know it will be published. The writing of articles and reports might change almost half of the group states. The structure might change and there might be more focus on interpretation instead of description of the data. As one of the candidates stated:

> *"Yes, I think so because you will spend more time on ... what's the… You can write away the data in a database and you have to spend less time on describing your data. So you can spend more time on interpretation. But I think the difference in time, there won't be a difference in time because you will write about other things."*

The candidates from a commercial background did not think their writing would change. They write reports and they need to confirm to certain standards. Enhanced publications are more a thing for scientific articles, one respondent stated:

"No. Because we are not a real science firm. People have to pay for archaeology and people want a report. We put our report on the internet and that's it. If we do more than that people won't pay for that, because people think it's annoying enough to have to pay for archaeology. And perhaps it's more an issue for universities that they can present added information and to give a site more possibilities, like you said before."

3. Peer review and quality standards

To establish the amount of value the interview candidates attach towards quality standards of scholarly articles, some questions were added to the protocol on the possible usefulness and qualitative improvement of enhanced publications and on the quality criteria and the establishment thereof when it comes to datasets and other enhancements. Of the 14 interview candidates 3 candidates deemed it absolutely necessary that the data should be peer reviewed and 2 candidates thought it should not be peer reviewed (both from commercial companies). The rest (9) thought it should be peer reviewed but see severe practical problems and doubt whether this would be feasible. At least it would be very complicated and will take a lot of time. See for instance the comment made underneath:

> *"If It's available to everyone it should be automatically included in the peer review process. At a certain point you are doing it all over again, it's important. If you claim to be scientific the article must be scientific, it takes a lot of time to check but it needs to be done if it's possible. It's good but I don't think it's realistic."*

4 people believed it would be useful to add data to a publication, but it will not mean a quality improvement. The other ten did think that in some way or another,

the enhancements could lead to a qualitative better publication (more transparent, better research field etc.). Most candidates stated enhanced publications should concur to the same quality standards as normal publications, though some candidates did state this would be harder to obtain, with the amount of time it will cost to check the quality of the enhancements by the peer reviewers. The issue however, most of them stated should still be good peer review, and in this respect it should not matter which format (print, online, enhanced) the article is in.

4. Incentives and drawbacks

We asked the interviewees two very straightforward questions: what do you see as the main possibility of enhanced publications and what as the main drawbacks, to find out what in their eyes could be the main incentive to publish in such a new format and what in general holds them back.

The most important benefit of enhanced publications according to the interviewees is the fact that it gives them the opportunity to add data that would otherwise not fit in a traditional printed publication, 75% of the candidates answered in this manner. Half of the candidates also mentioned outright that they felt enhanced publications would lead to more data transparency and a wider dissemination of their work to their peers. The sharing and re-using of data was also mentioned a few times as a possible benefit

As the main drawback the extra work and time the creation of an enhanced publication would cost was mentioned by half of the interviewees. Comments were also made about the fact that the enhancements could distract you from the main narrative and the addition of extra material would only lead to information overload. The problem of costs and how to finance the set up and maintenance of enhanced publications was also mentioned a few times. And finally a few candidates feared the quality aspects when it concerns enhancements: how will the quality of the enhancements be properly checked and measured?

From this data it seems clear that, although the interviewees do see a lot of potential benefits of enhanced publications, they are still reluctant when it comes to the practical feasibility (time, costs, quality standards). More in general they were also concerned about the information overload concerning all the enhancements. From this data one can thus distract that a lot of missionary work and convincing still needs to be done to get scholars ‘onboard’.

5. Versioning

Regarding the question of versioning and updating of papers, the candidates were unanimous against this except for one, who stated that it would be a much faster and cheaper method of scientific communication. The other interview candidates felt this would be dangerous for science, would lead to unfinished and temporary research, citation problems and argumentative problems, and articles that will never be finished. As one candidate stated:

"From a practical point of view, I think it's easier that if it's published, then it can't be changed. Because then you start referring to a published, finished product. And then even if you can see the history of it, I think it's better to have a new publication in which the old results and old conclusions are revised in the view of new data rather than adding and changing. And if you have a new data, which sheds new light on things, it's worth a new publication. It's not just re-writing an old one. So I think it's better to have a closed [article]. It has gone through a review process and it's finished, it has been published, it's online, closed for comments. If you have new data sets you make a new paper."

Exceptions are made by most of the candidates when it concerns corrections, at least when clearly stated that it is a later correction. Most candidates welcome post publication services like hyper linking and comments. Most candidates do think however the comments should be on a separate platform and not an integral part of the publication. Download statistics and rankings are seen as nice but not necessary.

6. Copyright and attribution

We also asked the interview candidates questions on who they think should have the moral and commercial rights to enhanced publications as a whole and the added datasets or enhancements and whether the copyright should stay with the author or the publisher. What seemed to be clear from the answers of the candidates was that there still seems to be a lot of misunderstanding and lack of knowledge concerning copyrights amongst the interviewees. 50% of them state the copyright should be on the whole publication, with the authors of the article, the other half thinks the different datasets should be licensed separately for the separate creators of the enhancements. Again 50% of the candidates think the data should be free for reuse with the right citation or reference or after asking permission. Most of the candidates state there should be clear policies in this respect, especially when it comes to reuse of data, which is of course much more easy on the Internet. For most of the candidates the commercial rights seem less important, they are more concerned with their moral rights and the proper attribution, citation and reference to their work. As one of the interviewees stated:

"No, I don't think it has to be separated. It's too much, how do you call it? Too much fuzz about nothing. What is important for a scientist is not the copyright itself but if somebody else uses your text that, how do you call it, they put your name in brackets behind it. That is important for a scientist. I think, to prevent that somebody is copying your book on the copying machine that is."

Tips and recommendations

We also asked the interview candidates if they still had some questions or problems with enhanced publications which JALC could look into or whether they had some tips or recommendations. Some of the remarks from the candidates towards JALC are added underneath:

- How will you publish the paper version? Won't this mean loosing a lot of the features you have added in the enhanced version?
- It might be useful to look how other e-journals in related fields are organized for instance in geosciences, earth sciences, environmental sciences.
- Enhanced publications will not be very useful for standard reports. It will require to large an investment especially for commercial companies.
- Make everything as open and non-protective as possible to give science a real impulse.
- Quality issues should be clearly addressed with reagards to the adding of (scientifically relevant) datasets.
- It would be nice to be able to make ones own PoD journal of selected articles.
- What will happen with the primary data? Make sure preservation and copyright issues are clearly taken care of.
- A print version of the journal would be very much appreciated.
- Once there is a lot of content, alternative ways to open up and explore the data should be explored.

Conclusions and Recommendations

To reach general conclusions and recommendations seen from the users perspective towards the implementation of enhanced publications in JALC, we first need to go back to the main questions posed at the beginning of this report, namely 'is there any support in the archaeological community in the Netherlands and Belgium (JALC's main target group) for enhanced publications? What kind of possibilities do archaeologists see when it comes to enhanced publications and what kind of drawbacks? Do they see them as a real qualitative improvement of the existing scholarly communication practice or are they more reluctant in their assessment of this new publication format? Next to that, on a more practical level, we would like to find out which enhancements archaeologists, both as readers and writers of scholarly publications, would like to see foremost in an Open Access e-journal. '

One could say, taking into account both the literature study and the data gathered by means of the interviews, that there is a lot of potential interest amongst the archaeological community for enhanced publications, but it is hard to conclude that there is a real support for this kind of publication format. Most of the archaeologists are quite aware of the potential benefits an enhanced publication might offer to their research, their field, and scholarly communication in general, especially when it concerns the addition of material that would otherwise not fit in a printed publication, increasing the efficiency of scholarly communication and leading to increased data transparency and the wider dissemination of their work to and the sharing of their data with their peers. However, the drawbacks of the new format are also clearly seen and felt, especially with regards to the extra work and time that will go into enhancing, with a lack of true incentive, the information overload and distraction as a side-effect of the enhancements, the financing of and upkeep (data interoperability, solid infrastructure) of the enhancements and the ownership, the quality establishment and the peer review of the additional material.

In this respect a few things seem necessary. First of all a lot of missionary work still needs to be done, not so much to show the community what the benefits of enhanced publications are, but more focused on taking away fears and uncertainties it might feel towards the new format. Next to that experiments need to be done, which was also apparent from the literature study. This will not only be the start of a more clear infrastructure and clearer policies when it comes to enhanced publications but will also give an example for archaeologists of what an enhanced publication might look like in the context of the OA e-journal JALC.

When it comes to establishing which services should be offered in the first experiments, to follow Bertram's adagio from the literature study: let's start simple. And this also concurs with the needs of the interviewees when it comes to the added services. Apart from the possibility of GIS maps (of which most of the interviewees were quite aware they might be hard to implement), most of the enhancements they said they deemed most important are the most basic ones: color, search, add a database or dataset of images etc.

It thus seems clear that when introducing such a new format, the (feelings surrounding the) old, print format still plays an important role. We can also see this when we look at the data gathered form the interviews, where most participants still prefer to read from print and have a rather 'traditional' view when it comes to formal publishing concerning quality standards, peer review, copyright issues and the updating of papers. It seems especially clear from the last that there is no support within the archaeological community to go from mere enhancements to more liquid and fluid forms of publications where the article becomes more wiki-like for instance. The static print based article or print paradigm still is very much the norm in this community, regardless of age or background and the added services are mostly seen as exactly this: enhancements of things that are simply harder to achieve in a print publication.

So concluding one could say that there is a large base of potential support, but the necessary missionary work is still needed next to some practical experiments that should still take the print paradigm and more traditional scholarly communication methods as their starting point, to ensure the best uptake of the new format in the archaeological community and to take away most fears and uncertainties.

Evaluation and Recommendations

Taking into consideration the practical implications of this missionary work, the focus should be on the potentialities of the new format, on the fertile soil from which enhanced publications in archaeology can be further developed. Although archaeologists do see the possibilities of the addition of extra materials and are quite enthusiastic about (certain kinds of) possible future enhancements, one of the main problems seems to be unfamiliarity. Unfamiliarity with the concept and application of enhanced publications can lead, or leads, to fears and uncertainties within the archaeological community both in their respective roles as authors and readers. It is thus necessary for JALC to show and develop more enhanced publications in order to get the format wider attention and promotion. This can be established in two ways. The readers can be attracted via a feedback system. This form of user driven design can get the users involved in the development process, it let's them give comments on the examples which can then be further developed from there. Next to that the publisher should actively acquire and attract enhanced publications from archaeological researchers. The publisher should, especially in the beginning, play an active role in the acquisition of publications that include enhancements and should perhaps even actively assist in the creation of enhanced publications, offering help, advice and a solid workflow and infrastructure to guide the authors and make it attractive for them to do experiments with the new format. Attracting and involving the archaeological community in such a way seems to be the most logical recommendation for a smooth introduction of enhanced publications in this field.

Interview Protocol JALC – Enhanced Publications

Through this interview we want to find out what the needs, demands and views of the interview candidate (in this case a representative from the Dutch/Belgium archeological community) are concerning enhanced publications in Archeology. They will be taken into account when implementing future enhanced publications in the Open Access e-journal JALC (Journal of Archeology in the Low Countries).

Introductory Questions

Basic questions concerning the background of the interview candidate. You can fill in question 1 and 3 in advance.

1. **What is your name?**
2. **In which year were you born?**
3. **Where do you work?**
4. **Which position do you hold within the company/institution?**
5. **What is your specialization? What are your main archaeological interest(s) / field(s) of study?**
6. **Do you read online journals? If so, how frequently?**
7. **Have you ever published in an online journal? Have you ever published in an Open Access journal? If so, how frequently?**

> ***Electronic journals*** *are scholarly journals that can be accessed via electronic transmission. Some electronic journals are online-only journals; some are online versions of printed journals, and some consist of the online equivalent of a printed journal, but with additional online-only material*

> ***Open-access*** *(OA) literature is digital, online, free of charge, and free of most copyright and licensing restrictions. OA removes price barriers (subscriptions, licensing fees, pay-per-view fees) and permission barriers (most copyright and licensing restrictions) and thus stands for free availability and unrestricted use of scholarly content.*[42]

8. **In general, do you prefer to read an article from the screen or from print?**

[42] Peter Suber, Open Access overview, http://www.earlham.edu/~peters/fos/overview.htm

General questions

Basic questions concerning enhanced publications, introducing the definition the project uses.

9. **Have you ever heard of the term enhanced publications? What do you think an enhanced publication entails?**

The Open Access e-journal JALC will offer researchers the possibility to create so called enhanced publications, in which the primary research data, datasets and data-visualizations, as well as multimedia objects will be presented as an integrated part of the peer reviewed publication.

Practical implications of enhanced publications: the added services

This part of the interview focuses on which services the user/interview candidate would like to see most in an enhanced publication. The following questions can be conducted whilst at the same time making use of print outs/examples of the different possible services. In this way the interview candidate can pinpoint exactly what he or she wants or needs.

We would like to take a look at some services an enhanced publication could offer to you as a scholar, both as a writer and a reader of scientific articles. We are going to run through some added services and we would like to know which one of them you would find interesting. Just to be clear, these services will not necessarily be offered by JALC , we only want to find out if you would be interested in these kind of services.

10. **What kind of added services would you like to find with an enhanced publication? What would you like to be able to do with an e-publication if the possibilities where there?**

NI = Not Important
MI = Moderately Important
I = Important
VI = Very Important

	NI	MI	I	VI
1. The possibility to explain the research procedures in an appendix				
2. The possibility to search the text				
3. The possibility to add color to your publication				
4. The possibility to add an image database (with more				

photo's and artifact drawings/pictures)				
5. The possibility to add Panorama Pictures				
6. The possibility to add tables/graphs/supplements				
7. The possibility to add movies				
8. The possibility to zoom in, click on details or change the resolution on images and maps (SVG)				
9. The possibility to add a database to your publication				
10. The possibility to perform database queries				
11. The possibility to add data visualization tools (3d presentations and models, virtual reality environment)				
12. The possibilities for hyper linking, back and forward linking, links to other resources				
13. The possibility of GIS maps: interactive spatial environments (maps and database combined)				
14. The possibility to add post publication data, post publication comments				
15. Other				

11. Is there a difference between what you would like to see as a reader and what you would be willing to deliver as extra's yourself as an author?

12. As a writer, do you think these new developments and services will change the way you design and conduct your research and/or write and structure your publications? If so, in what way?

13. Who should in your opinion be responsible for the workflow, the information infrastructure that could assist you from the set up of an enhanced publication (metadata, semantic relations, format standardization) until its final publication; the researcher, the project group the researcher participates in, the publisher, the funding agencies, ICT infrastructure organizations (like SURF), the university, the library or a combination of the above?

14. Would you like to work with a flexible workflow which is highly adaptable to your own research, but may require more work from you side, or would you prefer it to recast your information into models that conform to a standardized technology and business model?

Quality issues

In this part of the interview we want to assess if the researchers feel enhanced publications will influence the quality of their and others publications. We also want to establish what quality means for the interviewee.

15. **Do you think the addition of primary data to an publication (as in an enhanced publication) might be useful? Could this improve the quality of archeological research in the future? Why or why not?**

16. **Do you think data or datasets that are added to a publication should be included in the peer review process?**

17. **Do you feel enhanced publications have to be judged using the same quality standards as print publications? Why or why not?**

Incentives and rewards

18. **What do you think can be the benefits of enhanced publications?**

Check the table underneath if the interview candidate mentions one of these benefits. If the interviewee is reluctant in his or her answer, you can suggest some of the underneath issues.

1. Adding of all kind of extra materials that do not 'fit' in a print publication	
2. Sharing, re-use and comparison of scientific results, reduce duplication and insure against data loss.	
3. Data transparency, more transparent article. It makes the research methodology more explicit. Gives the opportunity to explore the research methodology.	
4. Wider dissemination and accessibility of my work to my peers	
5. It enhances scholarly communication; from discrete, static, peer-reviewed print-like publications to more web based publication networks.	
6. The increased visibility will lead to a higher citation impact.	
7. It offers different paths through and different ways to read an article: more flexible and adaptable to the reader.	
8. Other	

19. What do you think can be the main drawbacks of enhanced publications?

Check the table underneath if the interview candidate mentions one of these drawbacks. If the interviewee is reluctant in his or her answer, you can suggest some of the underneath issues.

1. Enhancing a publication will take extra work and time	☐
2. No direct reward or benefits for the extra work and time. No credit for those who share their data.	☐
3. The creation of an enhanced publication will mean an entirely different research setup/method	
4. Problems with preservation of the data together with the publication	☐
5. Different formats can cause problems for the workflow and with the preservation: who will describe the data and datasets (metadata, semantic links etc.)	
6. Unclear what you can or cannot do with the data and the added materials, can you reuse, them, are they copyright protected, can you share them etc.	
7. I do not want to open up all the data and show every step of the research process. I have invested hard in requiring this data. Competition element.	
8. multiple versions or updating and dynamic publications are detrimental to the scientific standard of a fixed publication.	☐
9. It only takes you longer to read the narrative, the added materials distract you	☐
10. Unclear how to navigate through the publication.	
11. How to establish the architecture of a network of enhanced publications. The infrastructure needs to be adaptable, flexible and supportive	
12. Other	☐

Discussion point. Please read this excerpt out loud from the policy section of the journal Internet Archeology:

We would like to read out this part of the policy section of the e-journal Internet Archeology which will function as a discussion point

> ***Updating Papers***
> ***Print publication is very final and a mistake lives on forever no matter how soon after printing the author (or someone else) spots it. Internet Archaeology is often asked by authors whether or not they can alter their papers once they're published in the journal. Images of Orwell's Ministry of Truth, constantly rewriting the past, are conjured up. Our reaction has been to avoid rewriting text once an issue has been closed. However, one thing we can do with a Web publication is publish a new edition of a paper. New data or new thoughts can be published and linked to the first paper without discontinuing the availability of the earlier version. Several authors are keen to update and expand their papers and we look forward to the technical challenge of making the new paper seamless with the old, yet allowing its publication history to be retrieved.***

JALC will not offer the possibility to change or edit data after publication. It will not be possible to update the data, without submitting a new article. None the less we are interested to hear what you think about the above and the shift from static publications to more liquid or fluid publication formats.

20. **Would you as an author like to be able to update your enhanced publication after publication? Why or why not?**

21. **Would you as a reader welcome different versions and updates of enhanced publications? Why or why not?**

22. **Would you as an author welcome additional post publication services, as for instance readers' comments, forward linking, ranking and download statistics, links to other resources etc.?**

23. **Would you as a reader welcome additional post publication services, as for instance other readers' comments, forward linking, ranking and download statistics, links to other resources etc.?**

Licensing, attribution and ownership of enhanced publications

This part of the interview focuses on the feelings the interview candidate has concerning the ownership, or rights to attribution, and the reuse and sharing of data, datasets and enhanced publications as a whole.

24. **Do you feel the data you add to an enhanced publication should be copyright protected? Who do you feel should have the copyright on the (analyzed) data(sets) and added materials in an enhanced publication ?**

25. **Should the different parts of an enhanced publication be licensed separately? Do you think this leads to problems concerning use and reuse of parts of for instance underlying data by others, originally not involved in research and writing?**

Final

Do you have any other tips, recommendations, additions or questions concerning enhanced publications you would like to share with us?

List of interview candidates

1.	Stijn Arnoldussen	-	Universiteit Groningen/RACM
2.	Quentin Bourgeois	-	Universiteit Leiden
3.	Marijn van Gils	-	VIOE
4.	Tiziano Goossens	-	Archol
5.	Hans Kamermans	-	Universiteit Leiden
6.	Laura Kooistra	-	BIAX
7.	Cuno Koopstra	-	ARC
8.	Marjolein van der Linden	-	BIAX
9.	Martijn van Leusen	-	Universiteit Groningen
10.	Philip van Peer	-	Universiteit Leuven
11.	Veerle Rots	-	Universiteit Leuven
12.	Adrie Tol	-	Archol
13.	Marten Verbruggen	-	RAAP
14.	Alexander Verpoorte	-	Universiteit Leiden