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#DHJewish – Jewish Studies in the digital age

This article discusses the intersection of Jewish Studies and Digital Humanities (DH). It investigates the specific characteristics of Jewish Studies, in terms of both subject matter and sources, and reflects on how digital approaches can be harnessed to address them. What common digital challenges do Jewish Studies scholars face, if these can indeed be defined, and in what ways can the field benefit from developments in the area of DH? Even though Jewish Studies is arguably an umbrella term (as is DH), this article suggests that the field of Jewish Studies has several characteristics that are broadly shared by all the (sub-)disciplines that it incorporates. Conceptualising the encounter between Jewish Studies and DH is thus first and foremost about translating these characteristics into specific digital challenges. As will be argued, the key task is information retrieval and analysis from dispersed, multilingual and multiscriptural sources.¹

¹ I would like to thank the anonymous reviewers, as well as Nina Zellerhoff and Anna Menny, for their critical feedback, and Sinem Adar for her thoughtful and incisive comments on various earlier versions of this article. The #dhjewish hashtag is commonly used on Twitter to reference work on the intersection of Jewish Studies and Digital Humanities: https://twitter.com/search?q=%23dhjewish&src=typd [5. November 2018].

**Introduction**

“How very fortunate we are to live in a time when electronic capabilities enable us to provide bibliographic references that will allow subsequent generations of scholars to find the materials they seek with no more than a few keystrokes.”

In October 1991, the Leo Baeck Institute organised a conference on “Problems and Issues in Jewish Archives and Historiography in the Five New States of Germany”. The meeting resulted in a plan to create a database of Jewish archival holdings in the states of the former German Democratic Republic (GDR) with the aim of enhancing access to these dispersed collections. As such, it was an excellent example of the application of new technologies to further Jewish historical research. At the same time, the project showcased how one of the defining characteristics of the Jewish documentary record, namely dispersal, could be tackled by new digital means.

This anecdote from the dawn of the age of the personal computer is, however, not intended to suggest that the application of computing in Jewish Studies was new in 1991. It is often forgotten that the use of computers in humanities research, whether digital or analogue, dates back at least 70 years, as do discussions about its potential, the current buzz surrounding the so-called “Digital Humanities” notwithstanding. As far back as 1948 the historian Murray Lawson was complaining about the lack of uptake of punch cards in historical research. Ten years later, on 26 March 1958, the Jesuit priest Roberto Busa and engineer Paul Tasman held a press conference at the IBM headquarters in New York to describe their work on the Dead Sea Scrolls using such punch card machines. The presentation made headlines all over the world. Busa, often seen as the founding father of Digital Humanities, subsequently also presented this research in July 1961 at the third World Congress of Jewish Studies in Jerusalem.

It is safe to say then that, as in the humanities in general, applications of computing in Jewish Studies go back at least 60 years. Nonetheless, the digitisation boom of the last ten to 15 years and the rapid advancement of digital tools to analyse data in myriad ways have opened up new avenues for humanities research, including Jewish Studies. In this short article, I will begin by historicising the digital turn in Jewish Studies and discussing

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2 Ibid.

3 As Lawson stated: “In general, however, historians have not been sufficiently conscious of the benefits to be derived from the technological revolution which has transformed contemporary society. Viewing their work “as almost entirely in the realm of language and thought and not in any sense as matters which can be facilitated by machines,” they have tended to putter along with techniques devised ‘in the days of square-rigged ships’.” See: Lawson, Murray: The machine age in historical research, in: The American Archivist 11 (1948), 2, pp. 141-149, DOI: https://doi.org/10.17723/aarc.11.2.k10vvvo736708370q [5. November 2018]. My thanks go to Max Kemman for directing me to this article.

4 For an elaborate analysis of this work see: Jones, Steven E.: Roberto Busa, S.J., and the Emergence of Humanities Computing: The Priest and the Punched Cards, London 2016, chapter 5.


6 Jones: Roberto Busa, 2016.
the intersection between Jewish Studies and DH, before focusing on the current digital challenges that Jewish Studies scholars face and the question of how the field can benefit from developments in DH. I will argue that information retrieval and analysis from dispersed, multilingual and multiscriptual sources is the key challenge to address. Leaving aside scholarly agendas, there is a very pragmatic reason to address this issue: in a world of limited financial resources, it is crucial for heritage institutions to establish priorities and set an agenda, and academics need to be part of that discussion.

Historicising the “digital” turn in Jewish Studies

Busa was a somewhat lonely pioneer in the late 1950s, given that it took another 30 years for other Dead Sea Scrolls scholars to start using digital approaches. Nonetheless, discussions about how the digital turn is changing the field of Jewish Studies date back to at least the mid-1980s, and have tended to take one of two forms: practical applications of new technologies in Jewish Studies on the one hand; and reflections on the question of how digital approaches can be harnessed to address the specific characteristics of Jewish Studies, on the other.

In the United States, where Jewish Studies departments have been around since the 1960s, librarians have discussed possible applications of new technologies for decades, as can be gleaned, for example, from the pages of the journal *Judaica Librarianship.* Topics such as the publication of electronic editions and new forms of access to documentary materials were also a major focus of Heidi Lerner’s Perspectives on Technology column in the Association of Jewish Studies’ (AJS) Perspectives magazine, published on a regular basis between 2003 and 2011. Lerner’s 2002 article *New Technologies and Old Methodologies: Jewish Studies Research in the Digital Age* was probably one of the first to comprehensively address this topic. In a sign of how digital scholarship is now also beginning to affect the evaluation of scholarly research, *Judaica Librarianship,* following the lead of the American Historical Association, recently announced a new column with reviews and information on Jewish Studies/Digital Humanities resources.

Moreover, in recent years several events have been organised to take stock of digital developments in Jewish Studies. In 2011, the Center for Jewish History ran a workshop entitled *From Access to Integration: Digital Technologies and the Study of Jewish History,* which sought to “explore in a systematic way new approaches to coordinating and integrating the digitization of Jewish historical sources around the world”. The workshop also aimed to connect Jewish Studies information specialists as a means of addressing the
“challenges faced by many institutions in employing emerging technologies for the study of Jewish history.”

In his keynote lecture during the workshop, entitled “Digitization and its Discontents for Jewish History”, historian Anthony Grafton outlined the various ways in which the digital turn is affecting academia and academic libraries, including the possibilities of digitally reuniting dispersed material. He also noted that much of Jewish scholarship happens outside academic circles, meaning that open access to online Jewish resources has become highly important. Unfortunately, the various blog posts devoted to the conference do not reveal what, if any, answers were formulated as to the new approaches and challenges mentioned above, or indeed provide much detail as to what these were in the first place. On Twitter, though, we find some traces of the debate as it took place. Librarian Deanna Marcum, for example, noted the international scope, long history and multilingualism as distinct features of Jewish Studies, while also stressing that all fields share certain fundamental needs for infrastructure, governance, funding, selection, etc.

In 2013, the Institute for the History of the German Jews (Institut für die Geschichte der deutschen Juden) in Hamburg organised the workshop Jüdische Geschichte digital (digital Jewish history). Taking stock of a wide variety of digital projects pertaining to German-Jewish history, the event led to the creation of the network Jüdische Geschichte digital within the digital history working group of the Historikerverband, the German Historical Association. The network is a platform for the exchange of knowledge and information about digital developments in the field of Jewish history, especially with regard to the dispersal of sources and their multilingual nature.

Meanwhile, both the annual AJS conference and the European Association of Jewish Studies (EAJS) conference, held every four years, feature panels and workshops on Jewish Studies and Digital Humanities. The 2012 AJS conference in Chicago featured a THATCamp Jewish Studies for the first time. In 2015, a conference entitled On the Same Page: Digital Approaches to Hebrew Manuscripts took place at King’s College London. A follow-up EAJS round table, Turning the Page: Jewish Print Cultures & Digital Humanities, at the University of Amsterdam in February 2017, dealt with “early modern print cultures and the specific questions associated with them, e.g. regarding Jewish multilingualism, geographical space, the linking of various disparate library and archive collections, and methods, scales and techniques of textual analysis.” The EAJS is

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19 See also: Shandler, Jeffrey: From the President, in: AJS Perspectives, Fall (2012), pp. 3-4.
currently in the process of establishing a Digital Forum to engage with digital scholarship more comprehensively. Meanwhile, From "Tablet" to "Tablet": A Digital Humanities workshop was held at the Institute for the History of the German Jews in Hamburg in September 2017. Finally, the upcoming EAJS conference in Kraków will feature a panel on Humanities in the mirror: writing Jewish history in a digital key, which, by focusing on big data, aims to “address the question whether DH corpora and methods will enable us to find a new common ground in the field of Jewish history” and reconsider its longue durée.

The intersection between Jewish Studies and Digital Humanities

As the above has made clear, there have been many efforts to understand how the digital turn has affected Jewish Studies in recent years, and it is crucial to sustain that momentum. Yet what does it mean to talk about Digital Humanities and Jewish Studies? And what about the intersection between the two? How do we conceptualise that intersection if we believe such an effort is necessary? After all, both Digital Humanities and Jewish Studies are umbrella terms, albeit of a different nature. The EAJS provides the following definition of Jewish Studies:

“Jewish Studies as an academic discipline covers the full range of Jewish history, literature, languages, and culture. Practitioners of the discipline are those involved in teaching, researching, publishing, or curating museum exhibitions. Jewish Studies includes a very wide range of subjects including, for example, Jews in the Graeco-Roman period, Jewish-Muslim relations, medieval Bible exegesis, Hebrew and Yiddish, modern Jewish thought and history, and the Holocaust.”

Whether or not we can actually speak of Jewish Studies as a discipline is, however, open to debate. As Martin Goodman has pointed out: “In essence, the subject is not really a specific discipline in its own right” and “may perhaps be best viewed as analogous to a field of area studies to which various disciplines are applied”. Given the enormous range of topics, approaches and disciplinary applications in “Jewish Studies”, one might wonder to what extent exploring its intersection with DH makes sense.

That question is further complicated by the fact that Digital Humanities is an equally problematic umbrella term. As in Jewish Studies, debates abound as to whether or not DH constitutes a discipline in its own right. In their 2009 Digital Humanities Manifesto 2.0, Jeffrey Schnapp and Todd Presner define DH as follows:

“[...] not a unified field but an array of convergent practices that explore a universe in which: a) print is no longer the exclusive or the normative medium in which knowledge is produced and/or disseminated; instead, print finds itself absorbed into new, multimedia configurations; and b) digital tools, techniques,
and media have altered the production and dissemination of knowledge in the arts, human and social sciences.\textsuperscript{26}

This definition, though fairly loose, has several advantages. First of all, its main focus on practices posits the digital as integral to all humanities disciplines. In doing so, it simultaneously moves the discussion away from the vexed question of whether DH can or should be considered as a specific discipline. Second, it acknowledges some common high-level methodological and epistemological challenges and changes in the humanities, regardless of the sub-discipline.

Although Schnapp and Presner still chose to talk about DH in 2009, in the meantime others have questioned the usefulness of the term altogether. Consider, for example, these recent comments from Ted Underwood in an interview for the \textit{Los Angeles Review of Books}:

“I explicitly don’t find the term ‘Digital Humanities’ useful. I understand why people use it. It gives us a way of unifying projects from game studies to archaeology through the simple fact that people use computers. In 2009 that made sense because a lot of changes were happening at once and we hadn’t sorted them out. [...]. But as these projects mature, it makes less sense to group them together. It’s clear now that they have different goals and different methods.”\textsuperscript{27}

As a literary scholar, Underwood rightly observes that his own digital work has very little, if anything, in common with that of, say, an art historian. As such, the DH label encompasses such a wide array of divergent approaches as to risk signifying nothing. Another problem is of a semantic nature: the very phrase “Digital Humanities” suggests separation from “the humanities”. This dichotomy is a construct, however. All humanists use computers, even if they do so to varying degrees in different phases of the research process, and they all combine “analogue” with “digital” practices.\textsuperscript{28} Indeed, hybridity is the new normal and a key characteristic of humanities research today.\textsuperscript{29} Moreover, the adjective “digital” emphasises the importance of (digital) \textit{methodology}. However, the value of any methodology, whether “digital” or “analogue”, lies in the extent to which it helps to generate new insights and questions, and thereby furthers scholarly debates. A digital methodology that replicates already existing scholarly interpretations adds little in this respect.

Skepticism about the casual use of the term DH is thus fully justified, yet it does not mean that we should simply throw the baby out with the bathwater. One can argue, for instance, that all humanities disciplines share certain basic epistemological and methodological approaches and practices that need to be attended to in the digital age. In

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\textsuperscript{26} Schnapp, Jeffrey/Presner, Todd: Digital Humanities Manifesto 2.0, available online at: http://www.humanitiesblast.com/manifesto/Manifesto_V2.pdf [5 March 2018].


\textsuperscript{28} To qualify this: we can distinguish four intersecting phases in the research process: information gathering, processing and analysis, followed by knowledge dissemination. It is often the processing and especially the analysis phase where many humanists shun “digital” approaches.

\textsuperscript{29} See also: Zaagsma, Gerben: On Digital History, in: BMGN – Low Countries Historical Review, 128 (2013), 4, pp. 3-29, DOI: https://doi.org/10.18352/bmgn-lchr.9344 [5 November 2018].
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In this respect, John Unsworth coined the notion of “scholarly primitives,” referring to those “activities [that] are basic to scholarship across eras and across media,” and asked how they can be addressed with digital tools.30 There is also a more mundane reason to look beyond the boundaries of our own disciplines, even if goals and methods are considerably different: it enhances our awareness of the possibilities that new technologies afford. No doubt literary scholars use computers in different ways from historians, but both might learn something from their respective uses of social network analysis (SNA) software or topic modelling. Such cross-fertilisation is much needed.

If it thus makes sense to think about basic shared functions in humanities research, it also makes sense in Jewish Studies to think about shared characteristics. These common characteristics relate to a number of specific aspects of Jewish history and culture such as its textual tradition, its diasporic nature (the forced migration of people, texts, ideas) and thus its transnational aspects. These characteristics are, in turn, reflected in both the state of Jewish heritage (dispersal of sources and objects) and its nature (multilingual, multiscriptual and often textual). They also result in a number of possible research questions (such as migration in its various forms, transnational aspects and intertextuality) that could be addressed.

All of this, in turn, yields specific technological challenges and possible digital approaches.31 Linking and aggregating dispersed resources is essential when it comes to the state of Jewish heritage. The challenges of OCR (Optical Character Recognition), named entity recognition, translation and multilingual search need to be addressed with regard to the nature of that heritage. In terms of more specific research approaches, network analysis methods may be used, for example, to investigate the flow of people or the transmission of texts and ideas in the course of Jewish history.

Of course, none of this is unique to what we call Jewish Studies, and, as already mentioned, much can be learned from digital methodologies and approaches as they are employed in other research areas. Indeed, a historian of Jewish migration can likely learn more from other migration historians than from a colleague working on Hebrew manuscripts. Nonetheless, reflecting upon the intersection of DH and Jewish Studies is important for two main reasons. First, Jewish Studies is a recognised field in many countries, albeit organised and institutionalised in different forms, with its own library information specialists and international frameworks which play an essential role in providing the impetus to confront the digital turn. As information specialists cater to the needs of their “constituencies”, so do organisations such as the AJS and EAJS. The second reason has to do with scholarly agendas. As Wallet and Zwiep have argued, for example, one advantage of the age of “big” data is that it might allow us to move from the micro

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30 Unsworth, John: Scholarly Primitives: What Methods do Humanities Researchers have in Common, and how might our Tools reflect this?, Symposium on Humanities Computing: Formal Methods, Experimental Practice, King’s College London, 13 May 2000, available online at: http://www.people.virginia.edu/~jmu2m/Kings.5-00/primitives.html [21 January 2018]. See also Willard McCarty’s notion of “methodological commons” in: McCarty, Willard : Humanities Computing, Basingstoke 2005, pp. 114–158 (and the accompanying visualisation here: http://images.slideplayer.com/15/476558/slides/slide_10.jpg). Note that for McCarty this phrase was a description of an unsatisfactory state of affairs in humanities computing. His aim was to “construct […] a wall around some intellectual turf in order to form itself into yet another discipline like the rest”.

31 With regard to the Jewish textual tradition it is important to note that this should not be reduced to religion. Think, for instance, about the importance of books, newspapers, translation and Jewish self-learning in Eastern Europe.
and meso level to the macro level. If our interest lies in the broader picture of the Jewish historical experience and the ways in which we can advance our understanding thereof, it behooves us to think through how the latter can be accomplished.

**Identifying challenges for Jewish Studies in the digital age**

The key challenge for Jewish Studies in the digital age is to work towards solutions for information retrieval and analysis from dispersed, multilingual and multiscriptual sources. To explain the current situation and highlight possible future possibilities, a specific example is useful: the Historical Jewish Press website contains newspapers in English, French, German, Hebrew, Hungarian, Judeo-Spanish, Judeo-Arabic, Polish, Russian and Yiddish.32 It is currently possible to search the website in all four relevant alphabets provided that the words are entered in the related scripts. A search for “דרייפוס” <OR> dreyfus” will thus yield results in English, French, German, etc. as well as Yiddish newspapers.33 This is already impressive, yet imagine if simply entering the word “Dreyfus” were to yield results from newspapers in all four alphabets that are currently in the database.

Now let us take this one step further: imagine if the books in the Digital Yiddish Library and the materials in the YIVO Institute for Jewish Research’s Vilna Collections Project were fully searchable by content, not only printed text but also handwriting.34 Imagine, too, that all text and all non-textual objects contained within them were metadated and marked up using (TEI) XML. Imagine also that all these resources were linked to the information in the European Holocaust Research Infrastructure (EHRI) and Yerusha databases, incorporating archival descriptions and their metadata.35 Then imagine a search engine that could simultaneously search all these materials. How could this be accomplished? It would mean linking and aggregating the metadata and data of all the resources mentioned.36 It would mean developing, or refining, advanced multilingual and multiscriptual character recognition (OCR) technologies, linking ontologies, vocabularies, and developing a multilingual named entity recognition system.37

What would the outcome be? It could mean that a scholar looking for information on the Dreyfus Affair would find newspaper articles in multiple languages, references in books, archival documents and/or pointers to important archival collections, etc., all through a single interface. All of this, of course, is related to the question of how to access

33 http://jpress.nli.org.il/Olive/APA/NLI/?action=tab&tab=search#panel=search&search=0 [22 January 2018].
37 Optical character recognition (OCR) describes the process and conversion of images containing text to machine-readable text. By applying OCR to scanned images of a newspaper, for example, the text becomes fully searchable (though OCR is seldom 100% accurate). Named entity recognition is a technique to automatically extract the names of people, locations, dates, events, etc. from textual sources.
and integrate digital resources. A further step, beyond heuristics and in terms of the further analysis of such resources, is the easy export of metadata and data in standardised formats. The integration of tools within digital resources is another possible avenue, and a challenge currently being addressed by the project International Collection of Digitized Hebrew Manuscripts – KTIV, which plans to introduce text and image processing and analysis tools in the future.38

There are other digital challenges, though, and many of these came to the fore during the abovementioned From Tablet to Tablet workshop in Hamburg. Several of the projects discussed there addressed two different audiences: on the one hand, a general “lay” public which now has access to digitised key texts/sources in Jewish Studies; on the other, an audience of academic researchers who want to use these texts/sources for their specific research purposes. The interests of these audiences do not necessarily overlap: non-academics might be perfectly happy with having access to digital sources whereas academics might want to be able to get their hands on the underlying datasets as well so as to perform more sophisticated analyses. The question here is how to cater for both user groups and their needs – and this is an issue that pertains to digital resources in general. An excellent example of a project that aims to do both is the KTIV project mentioned above. KTIV currently offers information about a wealth of Hebrew manuscripts located in libraries all over the world. Many, though not all, of these can be viewed from any location, although in some cases only local access on a library computer is possible.

A final point is what I will call, for the sake of analytical clarity, the communicative gap between DH practitioners (meaning those of us creating digital resources or tools) and academic researchers who want to use these resources and tools. This is not particular to our discussion on Jewish Studies but is nonetheless important. During many DH events we hear talks about data, tools and the challenges of creating infrastructures and digital resources, as well as researchers explaining how they have worked with these resources. For many practitioners it is important to discuss the challenges of building digital resources, the technical aspects of, for instance, Linked Open Data or sharing practical experiences. For many academics there are critical questions to ask about the genesis, design, heuristic and other aspects of digital resources, which could serve as a starting point for their research. The fundamental issue for academics is how the increasing availability of data and tools change, or have the potential to change, academic knowledge production.

The great challenge and imperative is to bring practitioners and researchers into productive conversation with each other and to integrate discussions about practical aspects and critical reflection when dealing with digital resources. This is primarily important for reasons of uptake; it is hardly a secret that many digital resources are underused by scholars. It also has to do with the broader issue of involving users in the creation of digital resources, from questions of database construction to data curation to interface design (in order to create an awareness of context, for example). Many projects (EHRI is a very good example) already address these issues, yet many humanists are unaware and skeptical about the potential of what they see as “going digital,” not least

38 KTIV is run by the National Library of Israel. See: http://web.nli.org.il/sites/NLIS/en/ManuScript/ [24 April 2018].
because of the persistent myth that DH is just about scale and technology, and not about discovering new methodologies and thus improving the quality of research.

Concluding remarks

Confronting the intersection of Jewish Studies and DH is critical if we are to open up new avenues of research and further our understanding of Jewish history and culture. I would like to conclude on a broader reflective note, however, in order to contextualise our digital endeavours. For important though it is, designing and creating new means of information retrieval and analysis is not enough; we also need to think more broadly about digitisation, particularly of archival materials. Allusions to “the infinite archive” or “the age of abundance” notwithstanding, a large majority of archival material is not digitised, nor is there any institutional intention to do so in the foreseeable future.39

This raises the question of which parts of (Jewish) heritage are digitised and which stories about the (Jewish) past can (and cannot) be told using them.40 Digitisation is about selection, which means that it is far from neutral. We should therefore consider the politics of digitisation, not only to ask what implications it has for research, but also for the (hi)stories we tell. From a preservation and access point of view, digitising an institution’s most used material might be a perfectly sound criterion, but from a scholar’s point of view it can be problematic because it runs the risk of simply reproducing well-known narratives about the past instead of allowing for the interrogation of new sources that might question them.41

If we recognise that many archives will not be digitised in the foreseeable future, if ever, there is a clear challenge: online cataloguing and linking of archival descriptions is as important as digitisation; this is precisely what projects like EHRI and Yerusha do and why they fulfil such a crucial function. For a comprehensive account of a given historical topic it is imperative to make use (or at least be aware) of the full range of material available to study that topic, whether this can be found online or offline. It is for this reason that the phrase “hidden archives,” which is sometimes used to describe those archives and/or their catalogues that are not accessible online, is so problematic: labelling traditional archives as “hidden” semantically assigns them a problematic status and renders them obscure. Educating students about what can be found online, and what remains offline, is therefore crucial. There is a dangerous paradox here: while we are still very much in a phase where digital skills need to become part and parcel of historical curricula and the historian’s mind- and skill set, the adjective “hidden” suggests that a time will come when we actually need to educate students about the existence of non-
digital resources lest they be forgotten (there are some signs that this phase is already upon us and students are increasingly turning to online resources).\footnote{See also my blog post “Digital history and the hidden archive”, 19 April 2015, available at: http://gerbenzaagsma.org/blog/19-04-2015/digital-history-and-hidden-archive (2 May 2018).}

A final question to ask is how to label the Jewish Studies/Digital Humanities intersection. Does it make sense to speak about “Jewish Digital Humanities”, as the application of digital approaches in Jewish Studies is sometimes, albeit confusingly, called? I would suggest not. Leaving aside the rather nonsensical suggestion of some specific Jewish subvariant of DH inherent in the phrase, there is a much bigger risk involved in such a semantic construction: it creates boundaries where none should exist. Every (sub-)discipline has its own characteristics, preferred methodologies and specific research questions for which certain digital approaches might be particularly suitable. Yet for all of us it is equally important to engage with, learn from and share experiences with colleagues in the humanities in general, whether “digital” or not. We should not be building another silo, but adopting a two-track approach. For someone studying Judaism and social media, engaging with current research on the intersection of DH and religion outside Jewish Studies is as important as talking to colleagues within Jewish Studies. The crucial point is not the label; it is to encourage the practice and uptake of digital approaches in our work, in order to bring about the full potential of the digital age for Jewish Studies.


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