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Methods of Web Philology: Computer Metadata and Web Archiving in the Primary Source Documents of Contemporary Esotericism

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ABSTRACT

This article explores the issues surrounding the critical analysis of first generation electronic objects within the context of the study of contemporary esoteric discourse. This is achieved through a detailed case study of Benjamin Rowe's work, *A Short Course in Scrying*, which is solely exemplified by digital witnesses. This article demonstrates that the critical analysis of these witnesses is only possible by adapting the general methods of textual scholarship to the specific techniques of digital forensics—particularly the analysis of computer metadata and web archives. The resulting method, here termed web philology, is applicable to the critical analysis by the scholar of religion of any primary source documents originating on the web as electronic objects.

Keywords

methodology, web philology, textual scholarship, digital forensics,
contemporary esotericism

Introduction

Since the mid-1990s, the Internet has emerged as one of the most important material infrastructures within which contemporary esoteric discourses have developed (Dawson and Hennebry 2004: 168). Beginning with the advent of Usenet groups and email lists in the late-1980s, the field of religious discourse in general witnessed a steady migration to online environments, with this migratory process coming into full-flower in the following decade (Campbell

2013, 232). In what was perhaps “the most revolutionary development of information technology since the printing press,” the fields of esoteric and new religious discourse in the 1990s adapted to these new technologies with rapid speed, fundamentally transforming both their recruitment efforts as well as the development and promulgation of written materials (Asprem 2012, 144). Although there have been some attempts within various esoteric currents to migrate practices onto the Internet, the path taken by the discursive relocation has largely been informational (Cowan 2005, 35–36). The Internet being largely a textual medium, this discursive migration has resulted in a corresponding transformation of the primary source documents of contemporary esotericism from being printed books, journals, and magazines to being first generation electronic objects (Petersen 2013, 134–135; Cowan 2015, 533). As coined by Matthew G. Kirschenbaum, a first generation electronic object can be defined as “one that enjoys no material existence outside of the electronic environment of a computational file system” and whose “primary ontological horizon is exclusively digital” (Kirschenbaum 2002, 20; for an earlier formulation, see also Kirschenbaum 2001). For a first generation electronic object, its being is essentially and necessarily digital but only potentially and accidentally material. In this sense, a first generation electronic object can be at once contrasted against both the aforementioned paper media as well as digitized objects. For, although both first generation digital and digitized objects may appear to the researcher as the same file-types (e.g. PDF files), the difference between the two is such that digitized objects depend on an ontologically prior material object, where first generation objects do not. And while some contemporary esoteric works do appear on the Internet as digitized objects after an initial print run, the primary way in which esoteric discourses have migrated there is in the form of first generation digital objects. Regardless of whether the works in question appear on the web as first generation electronic objects or digitized objects, the fact that the digital migration has resulted in a large portion of the documents of contemporary esoteric currents being composed and promulgated digitally necessitates that scholars involved with the analysis of such works must develop new methods to account for this technological migration.

As is the case with any primary source documents for which one work is exemplified by multiple witnesses, the scholar engaged in the analysis of those produced by contemporary esoteric currents will find that in some cases their research requires the utilization of the specific methods grouped under the umbrella of textual scholarship (Greetham 1994, 1–2). Denoted also as *textual studies* (Williams and Abbott 2009, 1–5) and philology (Thomas-

sen 2011, 347–349), textual scholarship is a sequence of methods whose overarching goal is to establish a reliable text whose content can then be analyzed by scholars. While it is certainly not the case that every scholar engaged in primary source analysis will do textual criticism, it is generally the case that such work depends on such critical work having been done. And while the bibliographies of antique, medieval, and early modern esoteric currents are replete with critical editions of key works, such work has yet to be done for the late modern and contemporary corpora. This being the case, while it would be neither necessary nor desirable for all scholars approaching the field of contemporary esoteric discourse to engage in the practice of textual scholarship with respect to their primary sources, the fact remains that the work is necessary and must be done at some point. For, as we have seen enacted countless times throughout academic history, content analysis done in the absence of prior textual critical work can often result in wildly incorrect analyses. One of the most colorful illustrations of this type of failure is the multigenerational erroneous attribution of the *Corpus Hermeticum* as being historically prior to Plato, which had for centuries resulted in interpretations of both the Hermetic and Platonic corpora rooted in a faulty dependent relationship (Hanegraaff 2012, 74–76). It was only through textual critical analysis culminating in the work of Isaac Casaubon (1559–1614) in 1614, that the correct first to second century AD date of the Hermetic corpus was discovered—a discovery which necessarily invalidated much of the prior content analysis which had been done prior to the textual critical work. Such dramatic failures underscore the importance textual scholarship being performed in respect to the corpora of contemporary esoteric currents, lest content analyses fall victim to faulty primary editions.

As set down by Peter L. Shillingsburg (1996, 41–51), the key entities dealt with by the textual scholar are: (1) the witness to the work, which is a single specific document under examination (e.g. a particular material copy of William Shakespeare's *The Tempest*); (2) the version of the work, which is the ideal type of which the witnesses is a specific instance (e.g. the specific copy of *The Tempest* under examination is typical of the Signet edition published in 1998); (3) the *work* itself, which is the ideal type of which the version is a specific instance (e.g. the play, *The Tempest*, itself as intended by Shakespeare irrespective of specific print editions); and the *text* of the version or work, which is the specific sequence of letters, spaces, and punctuation marks which constitute the version or work as such (e.g. the specific pattern of words common to all witnesses instantiating the 1998 Signed edition of *The Tempest*). In practice, this process proceeds as a five-step sequence by: (1) locat-

ing the extant witnesses of the work in question (enumerative bibliography), (2) analyzing the witnesses as material artifacts (analytical bibliography), (3) describing and classifying the analyzed witnesses (descriptive bibliography), (4) reconstructing either the intended text of the author or a specific version of the text in question (textual criticism) by analyzing the genealogical relationships between the witnesses, and (5) producing an edition of the reconstructed text as supported by a critical apparatus detailing variant readings from dissenting witnesses (scholarly editing) (Greetham 1994, 4–11; Williams and Abbott 2009, 5–14). When scholars of religion attempt to examine the primary source documents of contemporary esotericism, however, we are immediately faced with the question of how the traditional methods of textual scholarship can be adapted to deal with first generation electronic objects.¹ In the specific context of internet-born objects, this challenge is to determine how we might construct a method of web philology.

Despite the technical differences involved, the differences being compared between dissenting traditional (e.g. manuscripts, codices, books) witnesses to a single work and their digital counterparts are analogous in nature. As Leslie Howsam notes, there is a smooth continuum of technological innovation with respect to textual vehicles stretching from the antiquity where the “the manuscript codex replaces the unwieldy scroll,” to modernity’s replacement of mass-market paperbacks with electronic objects (2013, 12). What this technological continuum and continuing analogous nature of the documents being investigated by the scholar means is that, despite the vast differences in technology which separate the papyrus scroll from the PDF file, “some of the basic approaches of classical textual philology are [...] of relevance to what could be called a web philology” (Brügger 2013, 35). In this way, in developing a method of web philology, what we find is that many of the methodological innovations have distinct parallels in pre-digital methods of classical philology. These will be explored in greater detail in the subsequent sections dealing with metadata and web archiving, as it is in these two areas where the analogic nature of the new methodology with the old is most apparent. It suffices to say at this juncture that what is being proposed is not a new method,

1. It is important to note that this question is distinct from three other topics which have received a good deal of recent scholarly attention: (1) the use of computers in textual scholarship in addressing non-electronic documents (see Shillingsburg 1996; McGann 1998; Borgman 2007; Chassanoff 2013), (2) the curation of digital objects in a library setting (see Beagrie 2006; Higgins 2011; Knight 2012), and (3) the production of electronic critical editions of non-electronic documents (see Burnard, O’Keeffe, and Unsworth 2006; Robinson 2009; Marotti 2010; McGann 2010; Vanhoutte 2010; Gabler 2013; Apollon, Blisle, and Rgnier 2014).

but rather a new development of a very old method—updated as needed to deal with new genera of documents.

There has been some general work done towards addressing this question by Kirschenbaum (2001; 2002; 2012), Niels Brügger (2008, 161–164; 2013, 35–37), Paul Eggert (2005, 427–428), Adriaan van der Weel (2005, 97–99, 104), Graham Barwell (2005, 418), Joseph T. Tennis (2011, 122), Michael Buckland (2011, 36), and Howsam (2013, 12, 16), with the general consensus emerging that this can be achieved by somehow adapting the specific methods of digital forensics—particularly the analysis of computer metadata and web archives—to the general principles of textual scholarship. However, among these, only Kirschenbaum and Brügger have done so in a way which begins to address the types of technical problems which emerge from the analysis of the types of electronic objects most prevalent in the corpora likely to be investigated by scholars of contemporary esotericism. And still, in neither Kirschenbaum nor Brügger do we see a fully developed method capable of resulting in a critical edition of these types of works. This being the case, my purpose with this paper is to expand on their work, developing the confluence of textual scholarship and digital forensics to the degree that it would be possible for a scholar of religion to deal critically with the works of contemporary esotericism. My case study for framing this question is derived the specific problem I have encountered in evaluating the primary source documents which comprise the corpus of Benjamin Rowe (1951–2002), an exponent of an esoteric current referred to as *Enochiana*, or *Enochian magic*.² Among all of the late-twentieth century esoteric currents, Enochiana has been one of the most greatly impacted by the transformation wrought by the Internet on religious discourse, with “the new routes of communication provided by the Net [having] facilitated the growth of a worldwide network of Enochian magicians, through various e-mail lists and discussion forums” (Asprem 2012, 144). As such, the methodological case study which forms the backbone of this article is an analysis of Rowe’s work, *A Short Course in Scrying*, which is itself a paradigmatic example of the new textual forms which emerged from the migration of esoteric discourses to the Internet. This specific work proved to be both important and useful within the context of the development of a method of web philology owing to the facts that: (1)

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2. Enochiana is current of esoteric discourses rooted in a series of visions claimed to have been received by John Dee (1529–1608/9) and Edward Kelley (1555–1597) from various angels during a period extending from 1582 to 1589. Through a series of discursive transfers, Enochiana has endured from the English Renaissance into modernity (Pasi and Rabaté 1999, 94–123; Asprem 2012, 11–84).

the work is exclusively witnessed by first generation electronic objects; (2) the author is deceased, and is thus unable to clarify any textual questions surrounding the work; (3) the work was published pseudonymously; and (4) the work was published in several different versions, which present differences both in terms of text and digital formatting. All of these factors combine to make *A Short Course in Scrying* a paradigmatic example of the types of works for which a method of web philology is required. This case study will, however, be prefaced by a section introducing two of the key concepts used therein, metadata and web archives.

Metadata and web archives

Metadata

In summarizing the history of textual morphology, Howsam tells us that while there is a more or less direct line of continuity leading from handwritten scrolls to manuscript codices to books printed with moveable type to steam-powered printing technology to mass-market paperbacks, “*digital technology changes everything—the format of books, their production and marketing, and the reading experience* [emphasis original]” (2013, 12). Thus, while there is at once a continuum between traditional textual media to first generation digital objects as well as a vast technological chasm which separates the latter from the former, our task in bridging the gap between the methods of textual scholarship and digital forensics must begin by finding ways of practicing descriptive and analytical bibliography which are compatible with the new digital media. In traditional media, the metatextual elements which enable textual scholars to engage in this practice are the material aspects of the object (e.g. binding, paper, ink) which allow it, similarly to any other artifact, to be dated and historically contextualized (Williams and Abbot 2009, 15). In considering the bibliographic treatment of first generation electronic objects, we see these material aspects of manuscripts and books replaced by varying types of metadata of the objects in question (Kirschenbaum, Ovenden, and Redwine 2010, 28). Therefore, to adapt the methods of descriptive and analytical bibliography to the challenges of first generation electronic objects, the textual scholar must possess the same degree of knowledge of computer metadata as his counterpart working with late antique primary source documents has of papyrology and codicology.

Although the standard definition of metadata is “data about data” (Gill 2008, 20; Pittman and Shaver 2010, 232; Sammons 2012, 72; Salama, Varadharajan, and Mitchens 2013, 10), Gill provides a more helpful definition

of “a structured description of the essential attributes of an information object [emphasis original]” (2008, 22). These metadata are manifold for all file types, and can be grouped into two broad categories: (1) *application* metadata which are internal to the file, and (2) file system metadata which are *external* to the file (Gilliland 2008, 10; Pittman and Shaver 2010, 232; Sammons 2012: 72). Internal application metadata are intrinsically parts of the file in question, and are generated during the creation and any subsequent modifications of the object. What specific internal metadata are present in a given object will vary greatly depending on the specific file type, but examples of application metadata common to all objects would include the file name, type, and size (Gilliland 2008, 10). In contrast, external file system metadata are extrinsic to the file, being generated by users apart from the creator and existing in the file system within which the object is held. These metadata, being dependent on the file system rather than the file itself, and would include such things as file URIs, website URLs, etc. (Gilliland 2008, 10). In the case study presented below, the metadata which will be used to analyze the witnesses to Rowe’s work be both internal and external. Specifically, we will be examining the metadata present in (1) messages posted to email lists, (2) PDF documents hosted on websites, and (3) archived HTML documents.

In general, what can be gained from an examination of an electronic object’s metadata is analogous to that which can be gleaned from a similar investigation into the material constituents of a book (Raghavan and Raghavan 2013, 902). However, just as the bibliographer must be suspicious of material constituents and title page information of the book under examination, so must the web philologist suspect the metadata of his electronic objects—for in each case the potential for forgery and inaccuracy exists. For example, certain headers which comprise the bulk of email metadata (e.g. sender, date, etc.) can be forged (Jones 2005, 34); the <meta> tags, which often contain the metadata of HTML files are fully editable by the author, and are thus dependent on their integrity (Gill 2008, 33); and the date and timestamps which identify the creation dates of many different document types (e.g. PDFs, DOCXs, etc.) can be falsified by the creator altering the date and time on their system’s clock (Sammons 2012, 72). This being the case, while there is much that the digital textual scholar can gain from the examination of metadata, he must be sure to exert due caution by maintaining a critical attitude towards the metadata—seeking to confirm each metadatum individually by examining it within the total context of all of the other metadata of the files as well as any cues presented internally within the text itself (Kirschenbaum, Ovenden, and Redwine 2010, 34; Kirschenbaum 2012, 157–158).

Web archives

When dealing with first generation electronic objects native to the Internet, analysis of metadata alone does not sufficiently account for the problems of replication and copying, just as the bibliographic analysis of a single witness' material composition does not alone effectively enable the textual scholar to trace genealogies of scribal copies of manuscript codices (Howsam 2013, 7). Indeed, just as we can see that there is a direct line of continuity leading from the material textuality of scrolls to electronic objects, so is there a similar line of continuity leading from the scribal copying of antiquity to contemporary methods of data archival through the copying of files. While it is true that metadata act as important aids in "determining the relationships between *apparently* identical copies of one digital text [emphasis mine]," issues of the provenance of these archival copies—touching on not only the date and time that the copy was made, but also method of copying, and the reliability of the copyist—come strongly into play (Barwell 2005, 418). These issues are all essentially analogous to those faced by bibliographers dealing with witnesses to a work which are manuscript copies (Greetham 1994, 46–58). The questions specific to web archiving which the textual scholar will need to address are (1) the type of archive in which the witness exists, (2) the layer of analysis being undertaken, as well as (3) the problem of mutability in digital archiving itself.

The first issue of web archival typology is simply the determination of the type of archive from which the witness in question originates. The reliability of a witness can depend greatly on what type of archive the scholar is dealing with, as some take great care to copy the electronic object in question as exactly as possible, while others take a more loose approach which can result in textual distortion. The two broad categories of web archival activity are defined by Brügger as: (1) "micro-archiving...carried out on a small scale by 'amateurs' on the basis of an immediate, here-and-now need to preserve an object of study," and (2) "macro-archiving...carried out on a large scale by institutions with professional technical expertise at their disposal, in order to archive, for instance, cultural heritage in general" (2013, 25). Instances of the micro-archive would include such collections of file copies as indexed folders of files downloaded by an individual onto their personal computer or an individually operated website devoted to preserving handpicked selections of material. Within the context of contemporary esotericism, this would include such notable examples as Baphonet, which archives the web documents of "the Thelemic Community at large, but in particular, the Ordo

Templi Orientis,” (Iannotti 1999) or The Hermetic Library, which engages in “archiving...the living Western Esoteric Tradition, Hermeticism, and Aleister Crowley’s Thelema” (Bell 2014). The paramount example of the macro-archive is The Internet Archive’s archiving tool, the Wayback Machine, which has the more general “purpose of preserving historical collections that exist in digital format” and captures near exact copies of “all the web material that the web crawler encounters” during its specified runs” (Brügger 2013, 30).

The second issue of web archiving that must be addressed by the textual scholar is that of which layer of the electronic object he is analyzing. In terms of web documents, the question of layers of analysis is whether the “text” that the scholar is attempting to reconstruct is the directly perceptible textual elements visible when viewing the object through a web browser, or the underlying source code of the web page (Brügger 2008, 164; Brügger 2013, 36). This is an important determining factor to consider, because it is not only possible, but entirely plausible, that two different archived versions of an electronic object could be textually identical but differ in terms of the source code (e.g. HTML or XML). This is an important distinction to make because the code itself is a textual element of the electronic object, being comprised of the exact same set of letters, punctuation marks, and spaces which textually define works. Additionally, the code defines certain all nearly all aspects of the formatting of the electronic object’s text, both in terms of what formatting features are available for a given file type, as well as what specific options within that range have been selected for the given document. This being the case, before collating the existing witnesses of a work, the scholar must decide if differences in the source code matter to his analysis, or if the concern is strictly with the textual elements.

This question of layers of analysis leads directly into the third issue of mutability and novelty within digital archiving. As the act of web archiving itself “is a *re-construction* based on the bits and pieces that stem from either the Web or the producer of the website [emphasis original],” the scholar is immediately faced with the problem that any archived web document is in actuality “a *unique version* of it and not simply a copy [emphasis original]” of the original (Brügger 2008, 157–158). And since no copy, however carefully reconstructed is identical to the original electronic object as it existed live on the Internet, the researcher must deal with the fact that any archived version of a web document is analogous to a scribal copy of a scroll or codex, and must be critically examined as such—not as a simulacrum of the original itself. This is compounded by the fact that the cultures involved in the production of born digital content as well as the products themselves are both

characterized by a strong degree of transmutability. First generation electronic objects “are liquid: easily reproduced, easily distributed, and subject to endless modification, extension and recombination” (Hughes and Lang 2006, 2). This transmutability of digital culture products has, in turn, shaped their birthing cultures—endowing them with an ethos which blurs the strict boundaries between creators and consumers by encouraging the modification and co-creation of content by taking advantage of digital media’s inherent liquidity (Fitzgerald and O’Brien 2005, 1–2; Murray 2010, 30). The fact of the structural liquidity of first generation electronic objects taken alongside the deeply entrenched positive attitudes towards consumer content modification within digital ‘remix’ cultures all the more emphasizes the need for a method of web philology.

Case study

In order to illustrate the ways in which the analysis of computer metadata and web archives can enable the scholar of religion to deal critically with the first generation electronic objects which comprise so much of the primary source material of contemporary esotericism, I will use Benjamin Rowe’s work, *A Short Course in Scrying*, as a case study. The work is evidenced by several witnesses, all of which disagree with one another textually, necessitating that the scholar of religion wishing to treat it engage via the general method of textual scholarship. However, all of the witnesses are first generation digital objects, which in turn necessitate the adaption of the specific digital forensic tools discussed in the previous section in order to analyze the text critically. What follows is a critical examination of each witness in turn and a discussion of the specific challenges faced in collating and analyzing such witnesses.

Witness A1

The first witness, hereafter denoted as A1, is a series of eight messages posted to the Enochian-I email list (Rowe 1997e; Rowe 1997f; Rowe 1997g; Rowe 1997h; Rowe 1997i; Rowe 1997j; Rowe 1997k; Rowe 1997l). As with an email under investigation, some of the most important information about this witness’s provenance and origin can be determined by examining the email header metadata in each of the messages which comprise this witness of the work (Jones 2005, 34–35; Losey 2008, 158). As the specific email system being used determines what types of data are present in the email’s header, our first task is to determine what metadata are available in this particular witness (Maras 2014, 282). The emails in question contains the following metadata which is directly of use to the textual scholar:

Email Title	Learning to scry, part 1.	Learning to scry, part 2a	Learning to scry, part 2b	Learning to scry, part 3a
Sender Name	Josh Norton ³	Josh Norton	Josh Norton	Josh Norton
Sender Email	browe@ctd. com	browe@ctd. com	browe@ctd. com	browe@ctd. com
Date and Time	Tue Jan 28 16:02:56 EST 1997	Tue Feb 4 14:55:12 EST 1997	Sat Feb 8 16:54:45 EST 1997	Thu Mar 27 14:32:39 EST 1997

Table 1. Email Metadata, Part 1.

Email Title	Learning to scry, part 3b	Learning to scry, part 4	Learning to scry, part 5a	Learning to scry, part 5b
Sender Name	Josh Norton	Josh Norton	Josh Norton	Josh Norton
Sender Email	browe@ctd. com	browe@ctd. com	browe@ctd. com	browe@ctd. com
Date and Time	Sat Mar 29 14:44:33 EST 1997	Fri Apr 4 13:38:10 EST 1997	Fri Apr 18 17:01:12 EDT 1997	Fri Apr 18 17:01:15 EDT 1997

Table 2. Email Metadata, Part 2.

These metadata taken together allow us to somewhat reliably date witness A1 as having been written between 28 January and 18 April 1997, and at the very least to definitively broadly date it to 1997. For, while it is possible for the timestamps contained in standard email metadata to be inaccurate due to faulty clock settings on the sender's system, the chronologically preceding and following emails to the list can be used to verify the date and time of the messages in question—if we were to suspect Rowe of having altered the metadata. Taking the first email in the sequence as an example (Rowe 1997e), its time stamp of 28 January 1997 16:02:56 EST, we can see that this is *roughly* corroborated by the framing emails, with the immediately preceding email having a timestamp metadatum of 00:26:10 EST, 25 January 1997 (Holden 1997), and the following 13:45:25 EST, 30 January 1997 (Galuchon 1997). Therefore, while the precise timestamp given in A1 is not proven by examining Holden and Galuchon's framing emails, the fact that Rowe's email

3. Josh Norton was the pen name which Benjamin Rowe used on email lists, BBSs, and echoes during most of the 1990s.

falls within the broad parameters of their respective timestamps lends credence to the email metadata’s authenticity. At the very least, short of a conspiratorial effort undertaken by all list members, Rowe’s email can be reliably dated as between 25 and 30 January 1997. Furthermore, the same holds true for the following seven emails in question, with each timestamp being roughly corroborated by the framing emails from other list members. While it is true that this type of potential misdating, either intentional or accidental, is not necessarily common, the ease with which it can be—particularly when the witness in question is a single document, rather than an email within a list—necessitates that the web philologist thoroughly investigate the documents, as reliable dating is essential in establishing any genealogy of the witnesses being compared.

Witness B1

The second witness, hereafter denoted as B1, is a PDF file named *scrying.pdf*, which is currently hosted on The Hermetic Library’s archival mirror of Rowe’s website, Norton’s Imperium (Rowe 1998a). As an inherently complex file format, PDF files contain a wide variety of metadata and can potentially harbor other hidden data as well (NSA 2008, 2–4). PDF metadata are less obviously visible than email metadata, as they are not immediately present in a header (NSA 2008, 6). For the purposes of textual scholarship, the most important metadata are contained in the “Description” tab of the “Properties” window, and include the following fields (Rowe 1998a):

File Name	scrying.pdf
Title	A Short Course in Scrying
Author	Benjamin Rowe
Subject	scrying, astral projection
Keywords	enochian scrying astral projection
Creation Date	9/7/1998 9:09:07 PM
Modification Date	9/7/1998 9:13:36 PM
Creation Application	Microsoft Word 8.0
PDF Producer	Acrobat Distiller 3.01 for Windows
PDF Version	1.2 (Acrobat 3.x)
File Location	C:\Users\Chris\Desktop\
File Size	120.66KB (123,558 Bytes)
Page Size	8.50 x 11.00 in
Number of Pages	38

Table 3. PDF Metadata.

In the case of witness B1, even though the particular copy I am examining was downloaded to my personal computer on 16 November 2014, PDF metadata are such that the original date that the file was created, and the last date of file modification are preserved with every downloaded or uploaded copy of the file. However, as discussed previously, similar to email metadata, PDF timestamps can be incorrect as they depend on the creator's computer time and date settings. Therefore, in this case, we must attempt to corroborate the PDF timestamp with whatever other internal and external cues exist. This can be done in two ways. First, the date provided internally within the title page of the text reads: "copyright 1997, 1998" (Rowe 1998a). As there is no further explanation for the two dates, I take this to mean that Rowe is indicating an initial composition date of 1997 and a revision date of 1998—which would account for the 1997 composition we have previously seen confirmed via the emails, and the revision date of 1998 manifest in the slightly different textual elements presented in the PDF. Second, the creation date can be potentially corroborated by utilizing digital archives to confirm when the document first appeared on Rowe's website. Rowe's original website, Norton's Imperium—not the live mirror hosted by The Hermetic Library—went offline shortly after his death. The fact that this web archiving occurred after Rowe's death should give the textual scholar pause, because this brings into question the issue of whether or not changes seen between this archived witness and earlier witnesses keyed by Rowe himself were indeed intended by *Rowe* or were initiated by the archivists. In this case, such questions can be resolved by comparing multiple archival copies. Archived snapshots of the website exist within The Internet Archive for a wide variety of dates. For this particular document, the earliest available archival copy, hereafter referred to as witness B2, dates from 2 December 1998 (Rowe 1998b). While this is obviously later than the date of 7 September 1998 claimed by the metadata, this datum *does* serve to confirm the broad composition date of late 1998. It is also worth noting here witnesses B1 and B2 are functionally identical—there being no discernable differences in either the texts or the metadata.⁴

4. The fact of witness B1 and B2's identity should not undermine the value of their comparison. For, although the results of the textual inquiry were that the two witnesses were identical, it is entirely plausible that this might not have been the case. In a situation like this, where B1 is a file copy just recently downloaded from the live web, the scholar should naturally question whether or not any changes have been made to the file since it was first posted to the web—hence the necessity of comparing the live web copy of the file (B1) against the earliest archived copy (B2).

Witness C1

The third witness, hereafter denoted as C1, is an HTML document named *ashort.html*, which, on the live web, also currently appears on The Hermetic Library's mirror of Norton's *Imperium* (Rowe 1997a). While it is possible that HTML metadata may contain information regarding the composition date of a document, this is both an uncommon occurrence and is not one that would be as reliable in dating the witness as PDF or email metadata (Gill 2008, 29; Salama, Varadharajan, and Mitchens 2013, 10). In the case of C1, the metadata contained within the `<head>` section of the HTML code do not contain any specific information regarding the date. As with B1 (and B2) there is an internal date which reads: "copyright 1997" (Rowe 1997a). This being the case, our next step to try and corroborate the internal copyright date would be to check for archival copies of C1 which demonstrate its existence on the live web during that year. However, as is often the case with web archives, this particular site has only been captured by The Internet Archive relatively recently, and the earliest available archival copy (hereafter denoted as C2) only dates as far back as 18 January 2013 (Rowe 1997b). There is another layer of complexity at play here which serves at once to complicate and clarify the situation.

The entire website, The Hermetic Library, is itself an amateur archive—with one section being devoted to the preservation of Rowe's site, Norton's *Imperium*. However, as we saw with our examination of B1, Rowe's original website was archived professionally by The Internet Archive, which means that this HTML document's composition date can potentially be determined by examining these archival copies. As there are a large number of archival captures of this particular document available from The Internet Archive, I have intentionally limited my analysis to two specific copies: (1) the earliest archived copy available and (2) the last copy archived before the website was taken down. The earliest date for which an archival copy of the HTML document is available is 2 December 1998 (hereafter denoted as C3)—which, while a far cry from the internal date of 1997, is much further back than the 2013 date of C2 (Rowe 1997c). The latest date where there is an available archived copy (denoted as C4) is 7 April 2003 (Rowe 1997d). This being the case, we are left in a similar situation as with B1 (and B2) insofar as we are unable to externally corroborate the internally given copyright date. With the B family of witnesses, the PDF metadata provided a relatively firm piece of corroborative evidence; however, the C family possesses no such metadata. Therefore, it comes down to how much we trust the author. If we view Rowe

as a trustworthy source concerning the composition, then a date of 1997 is reasonable for the HTML document. If we were, however, to adopt a position of extreme skepticism, then 1998 would be the earliest firm date. As it stands—particularly taking into account the emails dated to 1997 and the witness C3's internal date of 1997 and externally verified date of 1998—I am comfortable assigning a date of 1997 to the original HTML file, the closest archived version of which would be C3.⁵

Collation and analysis of the witnesses

The various witnesses having now been assembled, described, and dated, the next step in our task is to collate the witnesses and identify (1) what differences there are and (2) what these differences mean in terms of re-constructing the text—be that text finally intended by the author, or a particular version which is not itself evidenced directly by a witness. As the point of this present investigation is not to examine the witnesses to Rowe's work for the purpose of clarifying and establishing the work's text,⁶ it is beyond the scope of this paper to provide a complete documentation of the collation of all the witnesses. It will, however—as our present purpose is to utilize Rowe's text to illustrate methods of web philology rather than conclusions—serve our purpose to examine some of the technical issues which arise in collating these types of first generation electronic objects, as some of these issues are unique to the medium. There are two specific issues which appear when analyzing the differences between the witnesses which are technically novel to the new media: (1) file type capabilities and (2) layers of analysis.

File type capabilities

The first collation issue, that of file type capabilities is essentially the fact that different file types are capable of displaying different types of text, and that the differences which appear between two witnesses which are different file types may not be indicative at all of the author's intent, but may rather reflect the limitations of that particular file type's display capabilities. Two examples

5. While the assignation of a firm date of composition did not prove to be of great import in this particular case—the difference between a date of 1997 and 1998 not greatly affecting witness family B's place in the textual genealogy—such details should always be established so that it can be determined whether or not the date does come to bear on the critical work. In this case, if the verified date were, perhaps, pushed back to 1996, then this would entirely call into question the now-established relationship of family B being a derivative of family A.

6. Such a purpose would (and will) be actualized by a critical edition of the work itself, rather than a methodology article.

will serve to illustrate this issue. First, take the following line of text as witnessed by A1, B1, and C1 sequentially:

- A1 "...consult Planetary Magick by Melitta Denning and Osborn Phillips"
- B1 "...consult *Planetary Magick* by Melitta Denning and Osborn Phillips"
- C1 "...consult *Planetary Magick* by Melitta Denning and Osborn Phillips"

Table 4. File Type Capabilities, Part 1.

The difference between the three witnesses is in the title of the book, as it is italicized in B1 and C1, but framed by a pair of underscore symbols in A1. Does this mean that Rowe’s intention *changed* after posting A1 to the Enochian-I email list? In this case, I believe not. Rather, what this appears to be a clear instance of is a limitation of the file type of the original which was unable to display what Rowe intended. A1 is a plaintext (TXT) document, which is incapable of displaying italicized fonts, while the HTML and PDF formats *are*. We can see from the underscore marks that Rowe is attempting to indicate that the words “Planetary Magick” constitute a type of text different from the surrounding words—in this case a book title—but the technical limitations of the TXT file type prohibited him from adhering to convention and italicizing the title.

Similarly, two paragraphs down, we see the following entry under the “Hebrew Letter” column of a chart, again witnessed sequentially by A1, B1, and C1 in turn:

- A1 “Tav”
- B1 “ת Tav”
- C1 “Tav”

Table 5. File Type Capabilities, Part 2.

In this example, the difference between the three is such that A1 and C1 both give only the transliteration of the Hebrew letter, while B1 gives the transliteration following the letter itself. This is, again I believe, most likely due to limitations of the TXT and HTML file types, as neither format is capable of displaying Hebrew characters on a Windows machine unless the user has previously installed either a Hebrew language pack or font (Castro 2003, 333–335). However, with the PDF format, fonts can be embedded within the file itself, allowing the author to display non-English characters no matter what language packs or fonts the reader of the document has currently installed on their machine (Padova 2007, 204, 328). The fact of these

technical limitations of TXT and HTML file types along with the Hebrew letter's presence in the PDF witness leads me to believe that its absence in the TXT and HTML witnesses is, again, not due to Rowe's intention, but to the limitations of the respective formats.

A final file type capability that bears examining briefly is the ability for the document creator to add layers of security to PDF documents to prevent the file being altered. While there are a great variety of ways that individual files can be encrypted by means of external applications, among the file types considered thus far, the PDF format is unique in that the internal structure of the file type allows the creator to determine the security restrictions which govern subsequent uses of the document (Mason 2001, 144–148; Carvey 2014, 195). To ascertain the security settings of a PDF witness, the analyst should review the Document Restrictions Summary section of the Security tab of the Document Properties window (Masters 2008, 135–139). One of the standard security settings here is for the Document Assembly option to be set to “Not Allowed,” which means that no user has the security permissions to alter pages by adding or removing text, inserting or removing pages, etc. Since the TXT and HTML documents we have concurrently been examining do not have these security features as native functions of the document type, what this means for the textual scholar analyzing first generation electronic objects is that both the text data and file metadata of a PDF document can be accepted *prima facie* with much greater ease than with any document created in a non-secure file type. Conversely, the data and metadata within TXT and HTML witnesses should always be viewed with a higher degree of skepticism than those of a PDF witness.

Layers of analysis

The second collation issue—that of the layer of analysis—was discussed above (p. 50ff.), and refers to the question of whether or not the collation being done is that of the immediately perceptible textual data or the underlying source code of the document. In other words, if our task is to collate several HTML documents—say C1, C2, C3, and C4—are we cross-checking the layer of textual elements which appear when the document is normally viewed through a web browser, or comparing the layer of HTML coding beneath that? To illustrate why this decision is of such importance, let us examine the title from the text as witnessed sequentially by C1, C2, C3, and C4, first as it appears in the textual layer and then in the immediately preceding two lines of the source code layer:

C1 (Text)	A Short Course in Scrying
C2 (Text)	A Short Course in Scrying
C3 (Text)	A Short Course in Scrying
C4 (Text)	A Short Course in Scrying
C1 (Code)	<center> <div class="container"> <h1>A Short Course in Scrying</h1>
C2 (Code)	<center> <div class="container"> <h1>A Short Course in Scrying</h1>
C3 (Code)	<h2> <!--mstheme--> "A Short Course in Scrying"
C4 (Code)	... </h2> <h2>A Short Course in Scrying</h2>

Table 6. Layers of Analysis.

As we now see, in this instance all four of the witnesses agree exactly when considering the layer of textual analysis; however, while C1 and C2 agree with considering the source code layer of analysis, C3 and C4 both disagree with one another and with C1 and C2. This being the case, does the textual scholar reconstructing a critical edition of *A Short Course in Scrying* treat this line as identical in all four witnesses, or are these differences to be noted in the critical apparatus? The answer to this question depends entirely on what it is the editor is attempting to learn and reveal about the text. If the editor in question is an internet historian who is charting changing trends in HTML or XML code, then the source code layer of analysis would be the logical choice. However, for scholars of religion whose intents are to reconstruct critical editions for themselves or other scholars to engage in content analysis of the work, then the textual layer of analysis would be the logical choice.

Conclusion

As we have seen through the case study of the issues involved with Rowe’s work, *A Short Course in Scrying*, the text’s critical analysis required the use of a new methodology which adapted the general methods of textual scholarship to the specific methods of digital forensics. This new method of web philology has shown itself to be the necessary technique for dealing critically with the types of first generation electronic objects which form large parts of the corpora of a great number of contemporary esoteric currents. And while the

case study presented herein dealt exclusively with TXT, PDF, and HTML files, the principles embodied in this study can be applied to any file types which a scholar of religion encounters while researching the web documents of contemporary religions. Likewise, although the specific focus of this article was on the primary source documents of contemporary esotericism, the methodological principles developed here would similarly apply to analyses of the documents of any religion. In conclusion, I hope to have presented the scholar of contemporary religion whose work requires the examination of first generation electronic objects with an understanding of the methodological principles and tools needed to treat such documents critically.

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