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## Digital Humanities in Biblical Studies and Theology

### Editorial

Claire Clivaz and Garrick V. Allen\*

# The Digital Humanities in Biblical Studies and Theology

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This special issue of *Open Theology* dedicated to digital humanities (DH) belongs to, and in many ways represents, a new step in the digital development of biblical studies and theology – the start of a general diffusion of digital research, digital tools, and digital culture in theology. This new step has come to the fore through the recent publication of books like *Networked Theology* (Campbell and Garner 2016) and *Creating Church Online* (Hutchings 2017), and also by the creation of the first research centre focused on Christian digital theology in 2014, the CODEC centre in Durham, UK, presented in the first article of this issue.<sup>1</sup> This introduction to this special edition briefly traces some of the significant steps that have influenced the development of the digital humanities as it relates to the critical study of the Bible and theology, and contextualises the articles in this fascicle within this larger conversation.

It is well known that the first computing theological tool – the first ever computing tool built for the humanities – was the *Index Thomisticus*, created by the Jesuit Roberto Busa.<sup>2</sup> Soon thereafter, the Reverend John W. Ellison produced the first computing tool for biblical studies, an index of the English translation of the *Revised Standard Version*.<sup>3</sup> This traditional *Anfangspunkt* in the history of DH has often promoted Roberto Busa to the position of “father of the discipline,” a status supported, for example, by Domenico Fiormonte: “Busa’s undertaking founded the discipline of the Humanities Computing (although years later it was renamed Digital Humanities), but above all it laid the groundwork for a profound epistemological and cultural transformation.”<sup>4</sup> This preeminent role attributed to Busa is still underlined by the near-ecstatic enthusiasm he himself has demonstrated for DH, going so far as to compare DH to the “finger of God” in 2004.<sup>5</sup>

But, as Steven Jones has pointed out, the emphasis of Busa’s role was also motivated by post-war political and economic agendas;<sup>6</sup> several other names could stake a claim to have been present at the birth of DH, as Julianne Nyhan and Andrew Flinn have illustrated.<sup>7</sup> Milad Doueihi suggested in 2014 that an evaluation of the history of DH should start with the analysis of Alan Turing’s seminal 1950 article “Computing Machinery and Intelligence.”<sup>8</sup> Following this proposition, Claire Clivaz has recently examined Turing’s article in conversation with the writings of Ada Lovelace and Louis Frédéric Menabrea, underlining the prominent role of that the concepts of mind and/or the spirit played for all three of these authors.<sup>9</sup>

In light of the important epistemological turn represented by DH, theologians, along with scholars

<sup>1</sup> See <https://www.dur.ac.uk/codec/> [all websites accessed 24 September 2019] and Smith, “Old Wine, New Wineskins,” 407–434.

<sup>2</sup> <http://www.corpusthomicum.org/it/index.age>.

<sup>3</sup> Jones, *Roberto Busa*, 100–101.

<sup>4</sup> Fiormonte, “The Digital Humanities,” 30.

<sup>5</sup> Busa, “Foreword” <http://www.digitalhumanities.org/companion/>.

<sup>6</sup> Jones, *Roberto Busa*, 97.

<sup>7</sup> Nyhan and Flinn, *Computation and the Humanities*.

<sup>8</sup> Doueihi, “Quête et enquête,” 8–9; Turing, “Computing Machinery.”

<sup>9</sup> Clivaz, *Écritures digitales*, 61–81, 86–89.

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from all other humanistic disciplines, have begun to reflect upon the future of the discipline under these circumstances. But critical self-reflection on the relationship between DH and theology has been slow to emerge: Jeffrey Siker's *Liquid Scripture*, the first monograph devoted to the Bible in digital culture, was published only in 2017, sixty years after the biblical index built by Ellison. Siker's work has been followed in quick succession by Claire Clivaz's *Écritures digitales. Digital writing, digital Scriptures* (2019) and Peter Phillips' *The Bible, Social Media and Digital Culture* (2019). This substantial six-decade gap reflects the deep transformation of the status of the biblical text provoked by the advent of digital culture,<sup>10</sup> as well as the multimodal expression of the Bible and theological discourse in the digital culture.<sup>11</sup> To explore this transformation, the articles in this issue present the state of research within the diverse fields of theology, principally biblical studies, early Christian history, systematic theology, and practical theology.

Most of the effort expended to explore theology broadly conceived in the context of the DH have focused on biblical studies, starting with the first version of an electronic Bible in the 1960s,<sup>12</sup> followed by computing tools like the *Bible informatique de l'Abbaye de Maredsous* and the *Biblia Patristica* – founded in Strasbourg in 1965, now the *BibIndex* in Lyon – or *La Bible en ses traditions* by the Biblical School of Jerusalem.<sup>13</sup> An edition of the New Testament, the *Editio Critica Maior* (ECM), initially conceptualised by Kurt Aland in the 1970s, has been instrumental in developing modes of digital editing.<sup>14</sup> Not only are recent and forthcoming ECM editions born digital, but they are supported by a bevy of digital tools developed by the Institut für Neutestamentliche Textforschung and its methodological partners, like the Coherence-Based Genealogical Method (CBGM).<sup>15</sup> Further gestures to the next steps of digital textual criticism and manuscript study are presented in the articles of this issue, focusing on Hebrew, Greek, and Arabic biblical manuscripts. Digital tools have also been employed in biblical studies beyond the critical edition, like on stylometric studies on the Pauline and deuterio-Pauline letters beginning in the 1980s.<sup>16</sup> According to Juan Garcés and Jan Heilmann, since the early 1990s, biblical studies have relied on and advanced alongside DH to a greater extent than any other discipline in the humanities.<sup>17</sup> Generic tools like *Bibleworks*, *Accordance*, and *Logos* are now widely used (although *Bibleworks* has ceased operations),<sup>18</sup> as are biblical applications like *Youversion* or *Globible*, tools that have been recently analysed by Tim Hutchings.<sup>19</sup> But beyond biblical studies proper, theology has been slower to test and discover the ramifications of digital culture for the discipline. We are convinced that that studies situated in this special issue represent a genuine new step in this direction, examining the developing relationships inputs between DH and a range of different theological fields.

In the first article in the fascicle, Peter Phillips and his co-authors directly address this relationship between DH and theology (“Defining Digital Theology: Digital Humanities, Digital Religion and the Particular Work of the CODEC Research Centre and Network”). The CODEC Research Centre in Durham has focused primarily on issues of practical theology and the ramifications of negotiating the nexus of Church, culture, and theology, undertaking studies on biblical literacy and a project on digital millennials and the Bible. But it has also produced a substantial array of research, ranging from analysing the Bible as a mediated text, to theological anthropology and the self, to the relationship between the Bible and computing. But more substantially, the article situates CODEC's work within larger discussions on the shape of DH more generally and taxonomizes the “waves” of digital theological research, culminating in “a prophetic re-appraisal of digitality in the light of theological ethics” (p. 39). The authors ultimately argue

<sup>10</sup> Clivaz, *Écritures digitales*, 173–181, 218–221.

<sup>11</sup> Phillips, “The Power of Visual Culture.”

<sup>12</sup> Solomon, ed., *Accessing Antiquity*, 136.

<sup>13</sup> *Bible pastorale de Maredsous*, <http://www.knowhowsphere.net/Main.aspx?BASEID=MARP>; *BibIndex*, <http://www.bibindex.info/>; *La Bible en ses traditions*, <https://scroll.bibletraditions.org/>.

<sup>14</sup> Aland, “Novi Testamenti Graeci.”

<sup>15</sup> See Gurry, *Critical Examination* and Mink, “Contamination.”

<sup>16</sup> Garcés and Heilmann, “Digital Humanities,” 32.

<sup>17</sup> Garcés and Heilmann, “Digital Humanities,” 30: “One should note that digitization and digital research of the data relevant for biblical studies have developed since the beginning of the 1990s, earlier and in a more extensive way than in other similar Humanities disciplines, if we do a multivalent comparison.”

<sup>18</sup> Fischer and Wagner, “Editorial,” 3.

<sup>19</sup> Hutchings, “Design.”

for a “big tent” brand of digital theology that is multi-faceted, engaged with DH, and self-critical of the consequences of the digital turn.

The next article by Matthew Ryan Robinson (“Embedded, not Plugged-In: Digital Humanities and Fair Participation in Systematic Theological Research”) continues to explore the consequences of DH for theology. Robinson notes that systematic theologians have found aspects of digital culture worthy of theological critique and reflection, but the discipline has not yet fully engaged the possibilities of digital tools for theological research. At the heart of the article is a critique of power structures engendered in the production, use, and dissemination of powerful digital tools. Robinson calls for systematic theology to develop “a just engagement with the digital” (p. 67) and for a “reboot” that views digital tools as a means of facilitating theological communication. This approach would develop “participation opportunities” for those who lack access to theological discourse or the technologies that enable it, taking eColonialism seriously as a theological problem. The first two articles in the fascicle provide valuable (and at times conflicting) views of the state of the field.

A practical-theological approach to understanding lived religion in a digital medium is continued by Thomas Schlag (“Truth Communication in Times of Digital Abundance: A Practical Theological Perspective”), who explores the consequence of “searching” as a human practice. Arguing that searching is an innate aspect of human life, he reflects specifically upon the ways in which searches on the internet, where the user is unmanageably overrun with multimodal content and where search results are prescribed by past habits and commercial interests, reflect human desire for understanding and community. The nexus of the construction of search algorithms, individual patterns of online searching, commercial online interests, and digital religious practices requires significant more critical attention from theologians.

The remaining articles turn from theology proper to questions relating to textual criticism, manuscript studies, and the production of critical editions. The first article in this vein examines digital tools that assist in the production of the eclectic Hebrew Bible: A New Critical Edition (HBCE) within the auspices of the Critical Editions for Digital Analysis and Research (CEDAR) project at the University of Chicago by Sarah Yardney and her co-authors (“New Digital Tools for a New Critical Edition of the Hebrew Bible”). The CEDAR project represents a significant advance in critical editing because its innovative encoding procedures allow for the existence of multiple overlapping textual hierarchies to exist within a single database. Texts encoded in CEDAR are not static: each verse, line, word, and character are stored as individual XML documents. This approach to text editing has the potential to expand the utility of the classic print edition without losing the distinctive benefits of a printed book.

The next article, by Garrick V. Allen, explores some prominent digital tools for researching Greek New Testament manuscripts, focusing on the New Testament Virtual Manuscripts Room (NTVMR), the Center for the Study of New Testament Manuscripts digital library (CSNTM), and the Pinakes database (“Digital Tools for Working with New Testament Manuscripts”). Allen weighs the strengths and weaknesses of each tool for engaging particular research questions in an effort to understand how prominent digital tools have altered research habits and perceptions of the manuscripts themselves. Digital manuscripts are not immaterial, but become autonomous research objects in and of themselves, especially when marked up and encumbered with different forms of metadata.

Claire Clivaz further advances the discussion on DH and New Testament manuscripts by critically introducing her MARK16 project (“The Impact of Digital Research: Thinking about the MARK16 Project”). The article first argues that VREs are an impacting new form of research for the Humanities in general, then presents some important New Testament virtual research environments (VRE). Focusing on the manuscript witnesses to the end of the Gospel of Mark, Clivaz’ project builds a new VRE devoted to scholarly analysis of the transmission and reception of this complex text. The MARK16 VRE anticipates the greater movement toward digital workspaces and includes multimodal access to material like transcriptions of manuscripts, relevant available secondary sources, commentary on scholarly decisions (e-Talks), and a space for the development of scholarly hypotheses, all arranged in chronological order. Examining Mark 16 in the VRE allows for a diversity of critical voices to be heard.

The next article by Dan Batovici demonstrates the utility of digital tools for discovering new information on old manuscripts (“Digital Palimpsests: Mark in Trinity College Cambridge MS. O.9.27”). Focusing on a

single manuscript in Cambridge, Batovici proffers a new method of uncovering the undertext of a palimpsest when multispectral imaging is not available. Using this approach, which relies on the manipulation of RGB colour space in Adobe Photoshop software, he successfully uncovers additional text of Mark 1 and 2 now copied over by Hesiod's *Opera et Dies*. Batovici concludes that the washed-off undertext of the manuscript was initially a lectionary.

Sara Schulthess turns her attention to the state of research on the Arabic Bible from a DH perspective. Schulthess argues that the cross-cultural capital represented by the digital humanities can begin to redress the lack of critical interest in the Arabic biblical tradition, helping to build formal and informal networks among researchers in this relatively small field. DH also makes the *realia* of the Arabic biblical tradition readily available in the form of digital images and allows for the development of digital tools like the *Tarsian*, *HumaRec*, and *PAVONe* projects, among other resources.

Another article by Saskia Dirkse and her co-authors examines the ways that digital tools might be used to visualise the codicological and bibliographic structure of Greek New Testament manuscripts (“Structural Visualization of Manuscripts (StruViMan): Principles, Methods, Prospects”). Building from the ParaTexBib project led by Martin Wallraff and Patrick Andrist, the StruViMan project creates a digital tool that pictures the “stratigraphy” of any manuscript based on the syntactical approach to codicology. The visualisation tool allows users to access a dense array of information, illuminating the contents and diachronic production layers of various manuscripts.

Moving away from manuscripts, a study by Vincent van Altena and his co-authors seek to construct a new method for measuring the likelihood of textual changes in transmission using digital tools (“Spatial Analysis of New Testament Textual Emendations Utilizing Confusion Distances”). In an effort to quantify the paleographic probability of grapheme interchange, particularly as it relates to conjectural emendations, the authors ascribe numerical values to the possible grapheme confusions in the Greek tradition, which then serve as the data points for an algorithm modelled on the Levenstein edit distance. Multi-dimensional scaling is then utilized to spatialise and visualise the results. This approach constitutes a new quantifiable tool for evaluating certain types of textual variation, supplementing classic forms of philological textual analysis.

The final contribution in this fascicle is an overview of the work of the Center for the Study of New Testament Manuscripts (CSNTM), who are primarily engaged in the high quality digitisation of Greek New Testament manuscripts and associated early printed material. The article describes their goals, methods, and some challenges that they have faced in gaining access to multiple heterogeneous collections and in making their images available for scholarly and public consumption.

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