Tim Hutchings and Claire Clivaz
Introduction

1 Introduction: What is Digital Humanities?

The relationship between Christianity and computers goes back to the very dawn of punched cards and magnetic tape. Christians and scholars of Christianity quickly recognised that computers offered a powerful new way to analyze the vast libraries of interconnected texts that make up the Bible and the libraries of Christian philosophy and theology. Christians also seized on the emerging forms of computer-mediated communication, just as they had embraced previous media revolutions like the telegraph, radio and television. New forms of communication promised new ways to coordinate, build networks, share ideas, and promote Christian messages to new audiences.[1]

The field of research, collaboration, teaching and communication now known as Digital Humanities (DH) emerged in the early 00s out of the older tradition of humanities computing, which focused particularly on the use of computational tools to analyze texts. DH promised a broader, more radically transformational approach, designed both to challenge the traditional humanities and to embed humanities thinking in the new digital industries.[2] DH encourages humanities scholars to learn from computational sciences in order to digitize the multimodal sources used in humanities research, to use digital tools to study those sources, and to share their data in open ways according to shared standards. Using these digital tools, methods and networks, DH searches for new insights into old humanities questions, new questions for the humanities to ask, and new opportunities to bring humanities perspectives to bear on the analysis of digital culture. DH challenges humanities scholars to rethink the forms in which academic knowledge is produced and published, to embrace interdisciplinary collaboration, and to communicate their ideas in new, digital ways to reach new audiences.

This volume is an introduction to the place now occupied by the study of Christianity within DH. The editors, Tim Hutchings and Claire Clivaz, have both worked in DH research centers, but in quite different disciplinary areas.

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1 Tim Hutchings, *Creating Church Online* (London/New York: Routledge, 2017); Claire Clivaz, *Ecritures digitales. Digital writing, digital Scriptures* (DBS 4, Leiden: Brill, 2019).
2 Patrik Svensson and David Theo Goldberg, "Introduction", in *Between the Humanities and the Digital*, ed. P. Svensson and D. T. Goldberg (Cambridge: MIT Press, 2015), 5.

Dr. Clivaz is a biblical scholar with expertise in New Testament studies, while Dr. Hutchings is a sociologist of digital religion and religious media ethics. As our range of interests indicates, DH today is a broad landscape, united less by a single cohort of methods, sources or tools than by a shared fascination with the ways in which the digital is transforming the horizons of humanities scholarship.

Christianity and the Digital Humanities seeks to capture something of that breadth, including contributions by textual scholars, linguists, historians, theologians and teachers of religion. Essays in this volume explain the history of DH work in the study of Christianity, introduce some of the key tools and approaches now being used, and evaluate the impact of DH on different areas of Christian studies. Digital work outside the academy will also be explored, in recognition of the long and vibrant tradition of Christian digital innovation. Christian institutions and organizations have spent decades pioneering their own digital approaches to textual analysis, publishing and communication, and these endeavors often reach much larger audiences than academic DH projects.[3]

We hope that this volume will prove valuable for students and scholars looking for their first introduction to what DH might mean for research and teaching in their disciplines, but the case studies described here should also challenge DH scholars interested in the latest advances in their fields of research.

2 Christianity and the Digital Humanities

Creating a volume focused on Christianity and the Digital Humanities (DH) assumes that we can consider them together, as related subjects. A more fundamental question is whether one can speak of a digital way to do Christian studies, whether theological, historical or social-scientific. Can we talk about Christian Digital Humanities, or digital Christian studies? From a formal point of view, the question is the same for all fields in the humanities: is the digital revolution affecting a discipline to the point of transforming it drastically?

The impact of this digital revolution is often perceived as so important that it requires new or specific words to describe it. For example, Steven Jones has chosen the term "eversion" to illustrate the present state of the digital turn,[4]

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3 Tim Hutchings, "Digital Humanities and the Study of Religion", in *Between the Humanities and the Digital*, ed. P. Svensson and D. T. Goldberg (Cambridge: MIT Press, 2015), 283.
4 Steven E. Jones, "The Emergence of the Digital Humanities (the Network Is Everting)", in *Debates in the Digital Humanities* 2, ed. Matthew K. Gold and Lauren Klein (Minneapolis: University Minnesota Press, 2016), http://dhdebates.gc.cuny.edu/debates/text/52.

whereas the French thinker Bernard Stiegler focuses on "disruption".[5] But as Clivaz proposed in 2019, we could also now argue that the revolution has progressed so far that it has become unnecessary to distinguish the digital as a subset or type of humanities. Instead, we could

> speak about the digitized humanities, or simply about humanities again, instead of digital humanities [...T]he expression 'digital computer', which was in common usage during the fifties [...] has been now replaced by the single latter word 'computer'[6]. When humanities finally become almost entirely digitized, perhaps it is safe to bet that we will once again speak simply about humanities.[7]

Even if this statement proves in part to be a bet, such a step will take time to be accomplished. Meanwhile, institutional marks of digital Christian theology, digital biblical studies or digital religious studies have begun to emerge. Scholars in these fields have founded dedicated journals,[8] special issues,[9] book series,[10] academic networks[11] and conference streams.[12] The Jesuit order founded the Centre for the Study of Communication and Culture in London (UK) in 1977, and the CSCC

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5 Bernard Stiegler, *Dans la disruption. Comment ne pas devenir fou?* (Paris: Les liens qui libèrent, 2016).

6 Bernard O. Williams, *Computing with Electricity, 1935 – 1945* (PhD diss., Lawrence: University of Kansas, 1984), 310; Robert Dennhardt, *The Term Digital Computer (Stibitz 1942) and the Flip-Flop (Turner 1920)* (München, Grin Verlag, 2016).

7 Clivaz, *Digital Writing, Digital Scriptures*, 85 – 6.

8 *Heidelberg Journal of Religions on the Internet,* https://heiup.uni-heidelberg.de/journals/index.php/religions/index; *Religion, Media and Digital Culture,* https://brill.com/rmdc; *Gamevironments*, https://www.gamevironments.uni-bremen.de/.

9 Claire Clivaz and Garrick Allen, "Digital Humanities in Biblical Studies and Theology", *Open Theology* 5 (2019).

10 *Digital Biblical Studies* (Leiden: Brill); *Routledge Studies in Religion and Digital Culture* (Abingdon: Routledge).

11 Network for New Media, Religion and Digital Culture Studies (https://digitalreligion.tamu.edu/); not accessible in July 21; Global Network for Digital Theology (https://www.dur.ac.uk/digitaltheology/gndt/).

12 For example, an annual digital humanities session has been hosted by the Society for Biblical Literature since 2012 (Claire Clivaz and Sarah Bowen Savant, "Introduction: The Dissemination of the Digital Humanities within Research on Biblical, Early Jewish and Early Christian Studies", in *Ancient Manuscripts in Digital Culture*, ed. David Hamidovic, Claire Clivaz and Sarah Bowen Savant (Leiden: Brill, 2019), 1.) The American Academy of Religion hosted a five-year seminar on Video Gaming and Religion from 2015 – 2019 (https://papers2015.aarweb.org/content/video-gaming-and-religion-seminar). Regular conferences of digital theology include the European Christian Internet Conference, hosted annually since 1996 (https://ecic.mobi/), and TheoCom, hosted annually by the Centre for the Study of Communication and Culture at Santa Clara University (US) since 2012 (http://cscc.scu.edu/theocom19/about.html).

continues to publish the quarterly journal *Communication Research Trends*.[13] The Eep Talstra Centre for Bible and Computer at Vrije University (Amsterdam, NL) was founded as Wergroep Informatica VU in 1977 to promote computer-aided methods of biblical studies, and now offers a Master degree in Biblical Studies and Digital Humanities.[14] Much more recently, the CODEC research initiative in the UK became a Research Centre of Durham University in 2014, launched a degree of Master of Arts in Digital Theology in 2017 (now based at Spurgeon's College in London),[15] and was renamed the Centre for Digital Theology in 2018. In 2019, the Centre for Digital Theology founded the first worldwide network of digital theologians, the Global Network for Digital Theology.[16] From the religious studies side, a center like MAVCOR,[17] the Center for the Study of Material & Visual Cultures of Religion at Yale University, is deeply shaped by digital culture, even if its name does not mention DH as such. MAVCOR perhaps anticipates the step at which the Humanities, digitized, could simply go back to their shorter name.

Most of this institutional evolution is surprisingly recent, if we consider the fact that Christianity has been present since the very first DH projects. It is well known that the first ever computing tool built for the humanities was the *Index Thomisticus*, created in 1949 by the Jesuit Father Roberto Busa,[18] and this story will be analyzed in more detail by Claire Clivaz in Chapter 1 of this volume. This traditional starting point in the history of DH has often promoted Roberto Busa to the position of "father of the discipline", a preeminent role underlined by the enthusiasm he himself demonstrated for DH, going so far as to compare DH to the "finger of God".[19] Soon thereafter, the Reverend John W. Ellison used computers to produce a concordance of the English translation of the *Revised Standard Version* of the Bible, published in 1957.[20]

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13 *Communication Research Trends*, http://cscc.scu.edu/CSCC/history.html.

14 *MA in Digital Theology*, Spurgeon's College, https://www.spurgeons.ac.uk/ma-in-digital-the ology/; *MA in Biblical Studies and DH*, Vrije Amsterdam University, http://www.godgeleerdheid. vu.nl/nl/Images/BiblicalStudies_tcm238-829352.pdf.

15 *Centre for Digital Theology*, Durham University, https://www.dur.ac.uk/digitaltheology/.

16 Pete Phillips, Kyle Schiefelbein-Guerrero and Jonas Kurlberg, "Defining Digital Theology: Digital Humanities, Digital Religion and the Particular Work of the CODEC Research Centre and Network", *Open Theology* 5 (2019): 29–43.

17 *MAVCOR*, https://mavcor.yale.edu/.

18 https://www.corpusthomisticum.org/it/index.age.

19 Roberto Busa, "Foreword: Perspectives on the Digital Humanities", in *A Companion to Digital Humanities*, ed. Susan Schreibman, Ray Siemens and John Unsworth (Hoboken, NJ: Wiley Black-well, 2004), http://www.digitalhumanities.org/companion/.

20 Steven E. Jones, *Roberto Busa, S.J., and the Emergence of Humanities Computing: The Priest and the Punched Cards*, (New York: Routledge, 2016), 100–1.

The close relationship between biblical studies and digital humanities has continued over subsequent decades. In the early 1990s, it has been argued, biblical studies relied on and advanced alongside DH to a greater extent than any other discipline in the humanities.[21] But academic publications demonstrating critical self-reflection on the relationship between DH and the Bible have been slow to emerge. Jeffrey Siker's *Liquid Scripture,* the first monograph devoted to the Bible in digital culture, was published only in 2017,[22] sixty years after the concordance built by Ellison. Siker's work has been followed in quick succession by Claire Clivaz's *Ecritures digitales: Digital Writing, Digital Scriptures* (2019) and Peter Phillips' *The Bible, Social Media and Digital Culture* (2019).[23]

This substantial six decade gap reflects the deep transformation of the status of the biblical text provoked by the advent of digital culture,[24] as well as the multimodal expression of the Bible and theological discourse in digital culture.[25] Software packages and tools like *Bibleworks*, *Accordance*, and *Logos* are now widely used in seminaries and churches. The free biblical app *YouVersion*,[26] created by a church in the United States, now hosts 1200 versions of the Bible in 900 languages and has been installed on almost 450 million devices worldwide.

Digital tools are now widely used to access and study the Bible by Christian ministers, churches and practitioners around the world. Products like *YouVersion*, developed outside the academy, show careful consideration of the impact of digital media on Christian thought and practice.[27] In other words, scholars of contemporary Christianity are studying a religion that is already rapidly digitizing.[28] This digital revolution within Christianity has been inspired at least in part by the same excitement that drives the academic Digital Humanities: a recognition that digital media can transform the study of texts, languages and cor-

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21 Juan Garcés and Jan Heilmann, "Digital Humanities und Exegese. Erträge, Potentiale, Grenzen und hochschuldidaktische Perspektiven", *Forum Exegese und Hochschuldidaktik: Verstehen von Anfang an, Digital Humanities* 2 (2017), 30.

22 Jeffrey Siker, *Liquid Scripture: The Bible in a Digital World* (Minneapolis: Fortress Press, 2017).

23 Claire Clivaz, *Ecritures digitales. Digital writing, digital Scriptures*, DBS 4 (Brill, Leiden, 2019) ; Peter M. Phillips, *The Bible, Social Media and Digital Culture* (Routledge, New York, 2019).

24 Clivaz, *Ecritures digitales. Digital writing, digital Scriptures*, 173 – 81, 218 – 21.

25 Peter M. Phillips, "The Power of Visual Culture and The Fragility of the Text", in *Ancient Manuscripts in Digital Culture*, ed. David Hamidović, Claire Clivaz and Sarah Bowen Savant, DBS 3 (Brill, Leiden, 2019): 10 – 21.

26 *YouVersion*, https://www.bible.com.

27 Tim Hutchings, "Design and the Digital Bible", *Journal of Contemporary Religion* 32 (2) (2017): 205 – 19.

28 Tim Hutchings, "Christianity and Digital Media", in *The Changing World Religion Map*, ed. Stanley Brunn (Berlin: Springer, 2015): 3811 – 30.

pora, support new ways of analyzing and visualizing data, and enable the communication of ideas to new audiences.

In recognition of this reciprocal relationship between the academic digital humanities and the Christian digital revolution, this volume argues that the religious studies approaches to digital Christianity should also be considered within the DH conversation. The study of digital religion emerged in the 1990s[29] and is now located primarily within the larger field of media, religion and culture, bringing together the methods and theories of media studies, cultural studies and the study of religion, often in conversation with media philosophy and theology. Digital religion starts from the foundational position of media, religion and culture, the principle that religion and media cannot be separated.[30] Contemporary religion is enacted through the digital, transforming and being transformed by digital culture. Heidi Campbell's edited volume *Digital Religion*[31] offers a summary of many of the key issues explored by scholars over the previous two decades, including ritual, identity, community, authority, authenticity, and the definition of "religion". Campbell's work has also been foundational for the relationship between digital religious studies and digital theology, inviting dialogue and partnership between these disciplines, notably in her 2016 co-authored volume with Stephen Garner.[32]

In summary, Christian theology, religious studies and biblical studies have a long, rich and productive history of interaction with the academic digital humanities. There is no unique Christian way to do DH, but the numerous signs of academic institutionalization of DH, the rich libraries of academic DH publications and the extraordinary global Christian interest in digital theology and digital Bible study all demonstrate the value of an introductory book to Christianity and the digital humanities. The next section of this chapter identifies some features and trends in Christian DH today.

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29 Heidi A. Campbell and Brian Altenhofen, "Methodological Challenges, Innovations and Growing Pains in Digital Religion Research", in *Digital Methodologies in the Sociology of Religion*, ed. Sariva Cheruvallil-Contractor and Suha Shakkour (Bloomsbury Publishing, 2015): 1–12.
30 Jeremy Stolow, "Religion and/as Media", *Theory, Culture and Society* 22(4) (2005): 119–45.
31 Heidi A. Campbell (ed.), *Digital Religion. Understanding Religious Practice in New Media Worlds* (Abingdon: Routledge, 2013).
32 Heidi A. Campbell and Stephen Garner, *Networked Theology. Negotiating Faith in Digital Culture* (London: Baker Academy, 2016).

3 Orientations and directions in Christianity and the Digital Humanities

As Carrie Schroeder has emphasized, quoting Bianco, "'digital and computational work' produces new worlds, 'both felt and real but multimodally layered worlds'.[33] Worlds of empowerment, engagement, interactivity."[34] This statement can be tested every day in the production and analysis of digital culture. Nothing about this is unique to Christianity, or even to religious studies. Religious studies are embedded, reshaped, transformed by the digital culture, as all the other humanities fields are – indeed, as all cultural areas are. Considering the ubiquity of digital transformation reinforces the idea that we will probably in the future speak simply about "humanities".

A recent debate has emerged in DH over the choice between "digitized" and "digitalized" humanities. Brennen and Kreiss distinguish digitization, the simple process of converting information into digital forms, from digitalization, defined as the social impact of digital communication.[35] Whereas DHers are just beginning to take account of this choice,[36] the word digitalization has been widely used for many years in business and marketing milieus to express "the adoption or increase in use of digital or computer technology by an organization, industry, country, etc",[37] one of the major "trends changing society and business."[38] Some

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33 Jamie "Skye" Bianco, "This Digital Humanities Which Is Not One", *Debates in the Digital Humanities*, ed. Matthew K. Gold (Minneapolis: University of Minnesota Press, 2012): 96–112, here 100 ; http://dhdebates.gc.cuny.edu/debates/text/9.

34 Caroline T. Schroeder, "The Digital Humanities as Cultural Capital: Implications for Biblical and Religious Studies", *Journal of Religion, Media, and Digital Culture* 5(1) (2016): 21–49, here 43. http://doi.org/10.1163/21659214–90000069.

35 J. Scott Brennen and Daniel Kreiss, "Digitalization", *International Encyclopedia of Communication Theory and Philosophy* (23.10.2016): 1–11, https://onlinelibrary.wiley.com/doi/abs/10.1002/9781118766804.wbiect111.

36 Claire Clivaz, "Digitized and Digitalized Humanities: Words and Identity", in *Atti del IX Convegno Annuale dell'Associazione per l'Informatica Umanistica e la Cultura Digitale. La svolta inevitabile: sfide e prospettive per l'informatica umanistica*, ed. Cristina Marras, Marco Passarotti, Greta Franzini and Eleonora Litta, (Bologna: AIUCD, 2020) 67–73; https://umanisticadigitale.unibo.it; Simon Tanner, *Delivering Impact with Digital Resources: Planning Strategy in the Attention Economy* (London: Facet Publishing, 2020).

37 Entry "digitalization n.2" in the *Oxford English Dictionary* online: https://www.oed.com/view/Entry/242061.

38 Päivi Parvianien, Jukka Kääriäinen, Maarit Tihinen, and Susanna Teppola, "Tackling the digitalization challenge: how to benefit from digitalization in practice", *International Journal of In-*

humanist voices argue that DH should preserve a critical distance from this large-scale phenomenon of digitalization. Domenico Fiormonte argues that the world of research and education has been colonized by the digital: "Digitalization has become not only a vogue or an imperative, but a normality. In this sort of 'gold rush', the digital humanities perhaps have been losing their original openness and revolutionary potential."[39] Maja van der Velden argues that the standardization inherent in digitalization enacts the erasure of diversity: "the technology that produces digital connectivity also produces the non-existence of people and their stories, the fabric of the social nature of knowledge."[40] Her post-colonial analysis of an independent journalism network and an Aboriginal database demonstrates that technology can be designed sensitively to support different ways of knowing, instead of making them invisible.

DH approaches to religion, including Christianity, are still at the threshold of such awareness, like other humanities fields. Numerous projects are deeply reshaping points of view and methodologies in religious studies, but often without making explicit the impact of "digitalization" upon them. The project "Uncle Tom's Bibles: Bibles as Visual and Material Objects from Antebellum Abolitionism to Jim Crow Cinema",[41] led at the *MAVCOR* center, illustrates this phenomenon. The project describes its purpose and methodology as follows: it "examines biblical materiality in *Uncle Tom's Cabin*, its various illustrated editions, and its theatrical and cinematic afterlives. It argues that the various bibles addressed profound issues of the co-construction of race and religion from the middle of the nineteenth century to the first decades of the twentieth."[42] This project offers enlightening new perspectives on this historical period. But if it is based on a deep awareness of the influency of the materiality of the book, it apparently leaves aside the impact of the next materiality, digital culture, on the project itself, including possible distortion coming from the "digitalization effect".

formation Systems and Project Management 5 (2017/1): 63–76; here 63; http://doi.org/10.12821/ijispm050104.

39 Domenico Fiormonte, "Toward a Cultural Critique of Digital Humanities", in *Debates in the Digital Humanities* 2, ed. Matthew K. Gold and Lauren F. Klein, https://dhdebates.gc.cuny.edu/read/untitled/section/5cac8409-e521-4349-ab03-f341a5359a34#ch35.

40 Maja van der Velden, "Invisibility and the Ethics of the Digitalization: Designing so as Not to Hurt Others" in *Information Technology Ethics: Cultural Perspectives*, ed. Sonja Hongladarom and Charles Ess (Hershey, PA: Idea Group Reference Ed., 2007), 82.

41 Edward J. Blum, "Uncle Tom's Bibles: Bibles as Visual and Material Objects from Antebellum Abolitionism to Jim Crow Cinema", *MAVCOR Journal* 3 (2019/2), *Special Issue: Material and Visual Cultures of Religion in the American South*, https://mavcor.yale.edu/mavcor-journal/uncle-tom-s-bibles-bibles-visual-and-material-objects-antebellum-abolitionism-jim.

42 *Ibid.*, §7.

In this sense, it illustrates features common today to numerous projects in religious studies: materiality, visualization and orality are raised to the top of the studied parameters in the multimodal digital culture. Scholars are consequently more conscious about what print culture has shaped or constrained in previous analysis, whereas they are often still ignoring the distinct but comparable effect of digital culture on their own research. Embedded in institutions in which digitalization is advancing every day, it will require a conscious effort for all scholars in theology and religious studies to develop a critical, scholarly awareness of digitalization, including its ethical aspects. From this perspective, one of the biggest challenges in the digital transformation of theology and religious studies is their relationship to textuality, like all humanities fields, and to religious texts in particular. As underlined by Sarah Mombert, the digital edition or collection has in itself a "decanonizing effect", beyond religious connotations:

> From the viewpoint of non-canonical texts (e.g., documents that until now had been deemed not worthy of reeditions with a critical apparatus and were kept out of the traditional circuit of learned books) [...] digital technology represents not only the opportunity of being salvaged from the ravage of time but also the end of a marginal editorial status.[43]

This ability to make available to the world texts and contents that were once hidden in the stomachs of libraries blurs the categories so well established in Modernity, for example between canonical and apocryphal texts in the Jewish and Christian traditions.[44] Such a blurring of categories, announced already in 2001 by Roger Chartier,[45] can be verified every day in scientific work. For example, as part of the SNSF-funded MARK16 project,[46] led by Claire Clivaz, with Mina Monier, Elisa Nury and Jonathan Barda (DH+ & Core-IT, SIB), has encoded material from a Patristic catena in the minuscule 304: non biblical material has been hold for the first time in the INTF New Testament Virtual Room of Manuscripts[47], partner of MARK16. This is New Testament textual criticism beyond the New Testa-

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43 Sarah Mombert, "From Books to Collections: Critical Editions of Heterogeneous Documents", in *Digital Critical Editions* (*Topics in the Digital Humanities*), D. Apollon – C. Bélisle – P. Régnier (eds.) (Illinois: University of Illinois Press, 2014) Kindle edition: l. 5128.
44 See Claire Clivaz, "Categories of Ancient Christian Texts and Writing Materials: 'Taking Once Again a Fresh StartingPpoint'", in *Ancient Worlds in Digital Culture*, DBS 1, ed. Claire Clivaz, Paul Dilley and David Hamidović, with Apolline Thromas (Leiden: Brill, 2016): 35–58.
45 Roger Chartier, *Les métamorphoses du livre: Les rendez-vous de l'édition. Le livre et le numérique* (Paris: Bibliothèque du Centre Pompidou, 2001): 12–4.
46 MARK16 Project, http://p3.snf.ch/project-179755; VRE website: https://mark16.sib.swiss.
47 NTVRM, https://ntvmr.uni-muenster.de/manuscript-workspace?docID=30304&pageID=4900. On MARK16: https://mr-mark16.sib.swiss/show?id=R0EzMDQ=.

ment's canonical boundaries, because the digital research platform allows scholars to explore the content of this 12th century manuscript.[48] On a larger scale, Peter Gurry and Tommy Wasserman have cleverly demonstrated that the computing culture is leading scholars to give up on what were once the major schools of text theory in New Testament Textual Criticism.[49]

This reshaping of the textuality of the corpus that stands at the heart of Christianity is accompanied in the DH culture by the finest developments of the Text Encoding Initiative.[50] At the computing level, considering the fact that the Command-line Interface (CLI) will remain always more specific and efficient than the Graphical User Interface (GUI),[51] scholars will continue to wrestle with letters and textuality at all levels of digital research in religious studies, from the matter of the religious texts themselves to their digital encoding. That's the paradox of the multimodal digital culture: to push images and orality to the front of the stage, while shaping them entirely within digitally encoded letters and numbers.

4 Introducing the volume

As this survey has demonstrated, digital humanities scholarship can be found across the whole spectrum of the study of Christianity and Christian sources. To introduce this diversity, the volume is divided into four sections, each collecting a group of case studies around one theme: texts and manuscripts; languages and linguistics; Christian history; and Christian theology and pedagogy.

The first section, titled Canon, Corpus and Manuscript, brings together four essays on the contribution of DH methods to the analysis of Christian texts, from the Bible to the medieval period. In Chapter 1, titled "The Bible in the digital age", **Claire Clivaz** evaluates the digital turn in biblical studies. Both within and beyond the academy, she argues, the Bible is moving beyond the printed page into a new multimodal, networked culture of community engagement. Clivaz calls for biblical exegetes and theologians to pay attention to this transfor-

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48 Mina Monier, "GA 304, Theophylact's Commentary and the Ending of Mark", *Filología Neotestamentaria* 52 (2019): 94–106.

49 Tommy Wasserman and Peter J. Gurry, *A New Approach to Textual Criticism: An Introduction to the Coherence-Based Genealogical Method* (*Resources for Biblical Study* 80) (Atlanta: SBL Press, 2017), 16.

50 See for example the *Manual for Encoding Letters and Postcards in TEI-XML and DTABf demonstrates*, https://encoding-correspondence.bbaw.de/v1/index.html.

51 See Clivaz, *Ecritures digitales. Digital writing, digital Scriptures*, 144–6, 165–6.

mation, contributing alongside humanists and philosophers to current debates over the future of teaching, scholarship and publishing in the unbound humanities.

In Chapter 2, "Re-conceiving the Christian scholastic corpus with the *Scholastic Commentaries and Texts Archive*", **Michael Stenskjær Christensen, Jeffrey C. Witt and Ueli Zahnd** present the scholastic method of theological work as "a huge network of thought". Scholastic reliance on textual interdependencies, explored through the creation of commentaries and compendia, means that scholasticism is only poorly represented in traditional scholarly print editions published under traditional forms of copyright. What is needed instead, they argue, is a new DH approach based on linked open data prepared according to open standards, to foster a new understanding of scholastic texts not as documents but as "first and foremost a network of connected data."

In Chapter 3, "Canonical structure and the referencing of digital resources for the study of ancient and medieval Christianity", **Roman Bleier** explores this theme of textual interdependence further by introducing the long history of citation systems. The system of dividing biblical books into chapters and verses with agreed titles emerged only in the medieval period, and was gradually applied to a diverse range of texts, growing into the system we use today – including the division of this book into chapters with titles and page numbers. Digital publishing raises new challenges, because online texts can vanish, move from one website to another, or their contents can be updated. Bleier argues that "in online publications a clear strategy is needed to generate sustainable identifiers and anchors", and outlines the options available to the producers of digital scholarly editions.

Chapter 4, "Digitizing the ancient versions of the Apostolic Fathers" by **Dan Batovici and Joseph Verheyden**, discusses a proposed project to study a corpus of early Christian texts originally written in Greek. While the Greek texts have received scholarly attention, the many ancient translations of these texts into other languages have been largely overlooked. Once again, we see here an example of the power of DH methods for enabling scholars to understand networks of textual interdependencies, including the opportunity to trace how texts are copied and interpreted across different centuries, languages and parts of the world. This proposed project will list and describe all the extant manuscripts, transcribe them, tag words, parts of speech and paratextual features to enable searches in any language, use these corpora to study the ancient languages themselves, and finally link data across languages to enable users to easily access an image of the original manuscript page.

The second section of this volume, titled Words and Meanings, presents three chapters focused on the study of language. In Chapter 5, "Languages,

texts, and inscribed objects of early Christianity", **Jeanne-Nicole Mellon Saint-Laurent** reminds us that students of this period need to study "the languages in which the early Christians told their stories." A wide range of texts and objects have now been digitized, and this chapter promises to help students appreciate the range of resources at their disposal. Alongside an extensive list of projects and databases, explaining the strengths of each, Mellon Saint-Laurent also introduces some of the key terminology and concepts of DH, reinforcing once again the centrality of working collaboratively, publishing open data, and understanding the networks of relationships between texts and objects.

In Chapter 6, "Between statistics and hermeneutics", **Mathias Coeckelbergs** focuses our attention on the study of Hebrew. Coeckelbergs observes that the digitalization of linguistics has in some ways shifted the focus of the discipline, leading researchers to prioritize the study of countable entities over interpretation. To challenge this one-sided shift, Coeckelbergs introduces the medieval and modern history of the study of *hapax legomena*, words that appear only once in a corpus. Analysis of these rare words, he argues, requires both quantitative study of patterns and interpretative analysis of their significance and meaning. Computational analysis is now essential to understanding Hebrew texts, but only as part of the hermeneutical process.

In Chapter 7, "Lexicography, the *Louw–Nida Lexicon*, and computational co-occurrence analysis", **Matthew Munson** compares what can be learned from computational methods of studying New Testament words with the semantic information contained in the more traditional lexicon. A computer can build a profile of a particular word by analyzing what other words appear alongside it in a particular corpus. This kind of profile allows scholars to compare how that word is used in different texts, exploring the contextual meaning of the word rather than its inherent, lexical meaning.

The third section of the volume, "Digital Christian History", shares four case studies in the historical use of DH methods. In Chapter 8, "From Inquisition to inquiry", **Delfi Nieto-Isabel and Carlos López-Arenillas** remind us that the DH interest in networks and relationships is nothing new. The Inquisition investigated heresy through a form of social network analysis, determining who was connected to each suspected heretic. Inquisitorial archives detail thousands of individuals and their interrelations, and the computational methods of DH are ideal for tackling such a vast and complex source of data. Quantitative analysis of this data can be used to explore historical dissident religion, but this requires both careful appreciation of the representativeness of the limited surviving sources, and an understanding of the process through which the information was originally gathered.

Chapter 9, "Visualizing religious networks, movements, and communities", also uses archival sources to explore historical religious networks. **Katherine Faull** works with an American archive containing tens of thousands of memoirs representing 300 years of autobiographical Christian testimony, all designed to be read at funerals. Digitizing this archive allows scholars to gain access to this valuable historical resource, sharing previously untold life stories. Digital tools can be used to map the relationships between the people mentioned within the texts, as well as their authors. Visualizing these networks opens new possibilities for understanding gender, family and ethnicity in this Christian Pietist community.

Chapter 10, "The theology of relational practice", uses digital tools to explore a different kind of relationship: that between speaker and audience. **John Wall** studies public worship in the 17th century by recreating the experience of listening to a sermon in the churchyard of St Paul's Cathedral, London. Visitors to the project website can listen to an actor perform a sermon and hear how it might have sounded from different parts of the churchyard, including different background noises. This project uses visual and acoustic modelling to study how historical worship might have been organized and staged, while recentering the experience of hearing public worship in scholarly understanding of historical Christianity.

Chapter 11, "Liturgical history in a digital world", continues this exploration of historical worship. **Louis Chevalier** examines "the profound impact" of the digital revolution on liturgical history. Liturgy is a complex phenomenon with many components, and scholars study its development over time and trace connections between different liturgies. As in many other fields of DH, scholars have embarked on the production of new catalogues and databases of primary sources, and Chevalier explains exactly what is needed to ensure that a digital edition supports new kinds of search, analysis and comparison. Digital tools also allow for multimodal study, with the opportunity to include audio as well as textual resources, allowing scholars "to study liturgy in all its dimensions."

The fourth and final section of the volume, "Theology and Pedagogy", consists of three chapters showing how digital technology is transforming Christianity in the church and the classroom. In Chapter 12, "Digital pedagogy and spiritual formation", **Tim Hutchings and Karen O'Donnell** analyze the use of digital media in the teaching of Christian theology. If DH is about using technology to seek understanding, they argue, then teaching and pedagogy should be at its heart. This is certainly the case outside the secular universities. The educational potential of digital media is well understood among Christian churches, seminaries and ministries, where new digital projects are just the latest in many centuries of media initiatives. However, Christians have also expressed concern that

digital learning might undermine the centrality of embodiment, context, collaboration, and physical co-presence in spiritual formation. Hutchings and O'Donnell explore how two very different Christian initiatives have addressed these criticisms: the Common Awards programme for training students to become clergy in the Church of England, and the children's videogame *Guardians of Ancora*.

Chapter 13, "Nested Histories", shifts focus back to the university classroom. **Gary Slater** shares a DH resource he developed to help students learn about the relationships between texts, ideas and actors in early Christian history. Students work together to develop models of worldviews, lists of definitions, and mind maps on which concepts are arranged in order from more local and concrete to more abstract and all-encompassing. These maps are then transposed onto a nested set of concentric circles, in which more concrete principles can be arranged to fit within more general principles. Once this outline has been created, students work to fill each circle with definitions, examples, images and videos. For Slater, this approach to teaching invites students to play an active role in uncovering their own assumptions and constructing new relationships between historical concepts.

Our final chapter turns to the use of digital communications in Christian churches. In Chapter 14, "Public theology behind the Great Firewall of China", **Alex Chow** explores digital Christianity in a context of both numerical growth and government suppression. The two Protestant churches he describes have tried to develop a new public theological discourse, using blogs and social media to share a Christian perspective on human rights and civil society even while government censors try to locate and shut down their online profiles. Digital magazines are easy to copy and distribute, but also easy to detect and delete. Understanding this complex situation requires an appreciation of the history of Chinese public discourse, print culture, and Christianity in China, and Chow shows that the digital revolution is just the latest twist in many centuries of mutual suspicion.

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