Introduction: Digital Humanities, Cognitive Historiography, and the Study of Religion

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Though relatively young, the field of cognitive historiography has already drawn together scholars from across the academy to engage in interdisciplinary research at the intersection of the sciences and the humanities. The first publications under this disciplinary banner began to emerge in the early 2010s (e.g. Martin and Sørensen 2011; Eidinow and Martin 2014), though the roots of the discipline can be traced back a decade or so before that (e.g. Whitehouse and Martin 2004) and even find precedents in the late 19th century (cf. Martin 2011). Because many of the pioneers of this field are themselves scholars of religion, it is only natural that Religious Studies/History of Religions has emerged as one of the most fertile topics of inquiry. The present issue of the *Journal of Cognitive Historiography* continues in this vein while also highlighting a variety of database research initiatives and the potential of computational models for studying history. In step with cognitive historiography's inherent interdisciplinarity, the digital humanities focus of this issue opens fresh analytical and methodological vistas for the study of history and of religion.

The precise boundaries of what constitutes cognitive historiography are still being defined. In some ways, the articles in this volume push those boundaries to broaden the analytical and methodological parameters of the discipline. To date, the vast majority of scholarship that could be categorized as "cognitive historiography" has tended to remain firmly on the historiographical side of that nominal equation. While such studies permeate

a wide variety of humanities disciplines, they are generally conducted with an eye towards the strictures of traditional humanistic research, and thus they are termed "cognitive" in as much as they draw upon the findings or insights of some area of the cognitive sciences. Both editors of the present volume firmly support such research endeavours, having themselves published works that fit this characterization (Tappenden 2016; Slingerland 2013b). But the so-called cognitive turn in the humanities opens other and new avenues of research possibilities. Such avenues draw upon the cognitive sciences not merely to illuminate the qualitative aspects of textual interpretation, but also to enable novel quantitative and computational approaches to the historical record. This style of cognitive historiography broadens the scholar's focal length. Through the digitization and standardization of historical evidence, the historian's focus becomes less particular and more general; less provincial and more global. The focus shifts from so-called "near readings" of a text to "distant readings" of multiple texts, a transition that also occasions the adopting and implementing of statistical methods of analysis. Because very few historians are trained in mathematical modelling, this branch of cognitive historiography necessitates close collaborations between humanists and scientists. In a way, such truly interdisciplinary work brings cognitive historiography into its own.

The collected articles in this special topics issue explore a number of ways in which the historical record can be quantified, and as such they further illuminate avenues of cognitive historiography that are more data-driven. Each of the five contributions spans a range of approaches and historical periods. Some assess the utility of quantitative approaches to history more generally (Sullivan *et al.*; Tappenden; Nielbo *et al.*; Lane and Gantley), while others target specific historical periods and religious traditions (Wittek; Czachesz). What unites these articles is a common triad of themes: digital and computational tools/methods, the study of religion, and the study of history.

By exploring quantitative and computational methodologies, these articles seek to address a current shortcoming in the field of cognitive historiography. In his critical commentary on the first issue of *JCH*, Dimitris Xygalatas (*JCH 1.2 [2014]*: 193–200) concluded that the current state of the discipline is both "encouraging and unsatisfactory": encouraging in that a cross-disciplinary appetite exists, particularly among historians, for the integration of cognitive science and history, but dissatisfying in that the publications to date (which are admittedly still small) integrate the cognitive with the historiographical to varying degrees of success and depth. That is to say, what exactly is *cognitive* about cognitive historiography is still being worked out. Xygalatas (2014: 195–97) goes on to offer three key

guiding practices that he sees as central for the development of the dis-cipline: interdisciplinarity, collaboration, and experimentation. While the first of these is increasingly making its mark within historical disciplines, the latter two continue to be underrepresented. The collected articles in this volume seek to address these concerns. On the one hand, the majority of our articles are either written by interdisciplinary research teams (see the articles by Sullivan *et al*.; Nielbo *et al*.; Lane and Gantley) or report on humanities-based research projects that are designed by cross-disciplinary collaboration (articles by Tappenden; Wittek). Similarly, all the articles in this issue focus on the systematic quantification of historical records so as to facilitate statistical analyses and the testing of larger hypotheses developed in the cognitive and evolutionary sciences (see especially the contributions by Sullivan *et al*.; Tappenden; Nielbo *et al.;* Lane and Gantley; and Czach-esz). In these ways, this issue of *JCH* pushes the exploratory boundaries of cognitive historiography, and helps to carve out the discipline's identity.

Some of the contributions in this issue reflect research problems that were born in the humanities, so to speak, and as such they address issues of textual analysis and historical inquiry. We might call these articles bottom-up approaches to cognitive historiography, since they start with a textual and/or historical problem and seek an appropriate methodological solution. Other articles represent a more top-down approach. In these instances, sta-tistical methods and analyses that were developed outside of the humani-ties are imported into historical and cultural studies in a two-fold effort: (1) to help harness the overwhelming breadth of historical materials, thus bringing such materials to bear on complex questions of cultural evolution, and (2) to differently illuminate such historical materials so as to open new research questions. Such top-down approaches tend to be quite data-driven and, by definition, are much more theoretical in their orientation. In this issue of *JCH*, representative articles from both approaches are presented so as to survey the potential breadth of perspectives and analyses.

This difference between bottom-up and top-down aside, all of the articles in this issue are interested in the integration of empirical methods drawn from mathematics and computational fields with traditional humanistic analyses. On the one hand, some address concrete problems in historical research; here the emphasis falls upon applying digital humanities tools to existing scholarly debates. On the other hand, other articles seek to intro-duce a particular method/approach itself, and thus datasets are marshalled not with a specific historical problem in mind but rather in an effort to highlight the method at hand. Finding the right mix between qualitative and quantitative approaches likely depends on the definition and nature of the scholarly problem that one seeks to address. Many will want to lean

more towards the side of qualitative analyses, incorporating the quantitative in an effort to bolster conclusions or to shift the burden of proof towards one solution over another. Others will likely place the emphasis on the quantitative, letting statistical analyses drive the findings, particularly when massive amounts of historical data and datasets are involved.

Methodologically speaking, there is not a one-size-fits-all equilibrium that can be applied uncritically to all problems in historical research. The most robust outcomes will be those that harness a more dynamic, mixed-methods approach that integrates quantitative analyses with thick cultural and historical qualitative descriptions (e.g. Slingerland 2013a). At least one of the projects described in this issue presents a new sort of research platform that attempts to draw equally upon the strengths of the qualitative and quantitative: the Database of Religious History (DRH; see Sullivan *et al.*; Tappenden). Soliciting entries from experts steeped in the qualitative analysis of the religious historical record, the DRH asks them to complete questionnaires about religious groups, places, texts or rituals. In this way, it both relies upon qualitative expertise and represents a repository for it, in the form of questionnaire comment boxes, links to digital images and texts, and bibliographical resources. At the same time, by asking experts to make discrete judgements (typically by clicking boxes representing "Yes", "No" or "Field Doesn't Know"), it converts qualitative expertise into quantitative data, providing instant assessments of the state of opinion in a field and allowing powerful analytic and visualization techniques. This represents an extension and refinement of the use of ethnographic databases, such as the Standard Cross Cultural Sample, eHRAF, or the Ethnographic Atlas, in the cognitive science of religion, e.g. Johnson (2005) or Sosis *et al.,* (2007), and promises to change the manner in which historians and scientists are able to study the past and cross-cultural present. Similar database projects aimed at other aspects of the cultural historical record, such as Pulotu: Database of Pacific Religions (https://pulotu.econ.mpg.de/; Watts *et al.,* 2015; Watts *et al.,* 2016), similarly have the potential to open up human history to new avenues of analysis.

We hope this issue will give a strong sense of how cognitive historiography invites us to broaden our toolset for the study of history. It invites us to expand our analytical horizons and to conduct research that moves beyond traditional historical description to include also predictive models that test explanatory theories of cultural evolution. These methods are, of course, no substitute for traditional, in-depth qualitative mastery of historical languages, texts, and archaeological materials. Indeed, they cannot even be utilized, or their results understood, without such expertise. It is our conviction, however, that new, promising digital humanities tools

and computational methods, coupled with knowledge of the human mind drawn from the cognitive science, can help to revolutionize the academic study of human history.

Endnotes

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