



GLOBAL DEBATES IN THE DIGITAL HUMAN ITIES

**Domenico Fiormonte,
Sukanta Chaudhuri, and
Paola Ricaurte, Editors**

GLOBAL DEBATES IN THE DIGITAL HUMANITIES

Domenico Fiormonte, Sukanta Chaudhuri,
and Paola Ricaurte
EDITORS

DEBATES IN THE DIGITAL HUMANITIES



University of Minnesota Press
Minneapolis
London

Copyright 2022 by the Regents of the University of Minnesota

All rights reserved. No part of this publication may be reproduced, stored in a retrieval system, or transmitted, in any form or by any means, electronic, mechanical, photocopying, recording, or otherwise, without the prior written permission of the publisher.

Published by the University of Minnesota Press

111 Third Avenue South, Suite 290

Minneapolis, MN 55401-2520

<http://www.upress.umn.edu>

ISBN 978-1-5179-1325-0 (hc)

ISBN 978-1-5179-1326-7 (pb)

A Cataloging-in-Publication record for this book is available from the Library of Congress.

Printed in the United States of America on acid-free paper

The University of Minnesota is an equal-opportunity educator and employer.

31 30 29 28 27 26 25 24 23 22

10 9 8 7 6 5 4 3 2 1

Contents

ACKNOWLEDGMENTS	vii
INTRODUCTION <i>Domenico Fiormonte, Paola Ricaurte, and Sukanta Chaudhuri</i>	ix
PART I	
Global Histories of Digital Humanities	
1 Epistemically Produced Invisibility <i>Sayan Bhattacharyya</i>	3
2 Alternative Histories of Digital Humanities: Tracing the Archival Turn <i>Puthiya Purayil Sneha</i>	15
3 Can the Subaltern “Do” DH? A Reflection on the Challenges and Opportunities for the Digital Humanities <i>Ernesto Priego</i>	28
4 Peering Beyond the Pink Tent: Queer of Color Critique across the Digital Indian Ocean <i>Rahul K. Gairola</i>	36
5 The History and Context of the Digital Humanities in Russia <i>Inna Kizhner, Melissa Terras, Boris Orekhov, Lev Manovich, Igor Kim, Maxim Rummyantsev, and Anastasia Bonch-Osmolovskaya</i>	55
6 Debating and Developing Digital Humanities in China: New or Old? <i>Jing Chen and Lik Hang Tsui</i>	71
7 How We Became Digital: The Recent History of Digital Humanities in Poland <i>Maciej Maryl</i>	87
8 Digital Social Sciences and Digital Humanities of the South: Materials for a Critical Discussion <i>Nuria Rodríguez-Ortega</i>	101
PART II	
Exploring and Practicing Global Digital Humanities	
9 Mining Verbal Data from Early Bengali Newspapers and Magazines: Contemplating the Possibilities <i>Purbasha Auddy</i>	117
10 Digital Brush Talk: Challenges and Potential Connections in East Asian Digital Research <i>Aliz Horvath</i>	127

11	“It Functions, and That’s (Almost) All”: Tagging the Talmud <i>Itay Marienberg-Milikowsky</i>	141
12	What’s Trending in the Chinese Google Books Corpus? A Google Ngram Analysis of the Chinese Language Area (1950–2008) <i>Carlton Clark, Lei Zhang, and Steffen Roth</i>	151
13	<i>In Tlilli in Tlapalli / In Xochitl in Cuicatl</i> : The Representation of Other Mexican Literatures through Digital Media <i>Ernesto Miranda Trigueros</i>	170
14	No “Making,” Not Now: Decolonizing Digital Humanities in South Asia <i>Dibyadyuti Roy and Nirmala Menon</i>	186
15	Digital Humanities and Memory Wars in Contemporary Russia <i>Sofia Gavrilova</i>	202
16	Borderlands Archives Cartography: Bridging Personal, Political, and Geographical Borderlands <i>Maira E. Álvarez and Sylvia Fernández Quintanilla</i>	214
17	Developing New Literacy Skills and Digital Scholarship Infrastructures in the Global South: A Case Study <i>María José Afanador-Llach and Andres Lombana-Bermudez</i>	225
18	Manuscripts Written by Women in New Spain and the Challenge of Digitization: An Experiment in Academic Autoethnography <i>Diana Barreto Ávila</i>	239

PART III

Beyond Digital Humanities

19	Digital Humanities and Visible and Invisible Infrastructures <i>Gimena del Rio Riande</i>	247
20	Site-Specific Cultural Infrastructure: Promoting Access and Conquering the Digital Divide <i>Juan Steyn and Andre Goodrich</i>	259
21	On Gambiarras: Technical Improvisations à la Brazil <i>Carolina Dalla Chiesa and Leonardo Foletto</i>	271
22	Messy Empowerment: Mapping Digital Encounters in the Margins <i>Anita Gurumurthy and Deepti Bharthur</i>	283
23	On Language, Gender, and Digital Technologies <i>Tim Unwin</i>	298
24	Africa’s Digitalization: From the Ecological Dilemma to the Decolonization of the Imaginary <i>Cédric Leterme</i>	305

CONTRIBUTORS

313

Debating and Developing Digital Humanities in China

New or Old?

JING CHEN AND LIK HANG TSUI

Are the digital humanities singular or plural? Kathleen Fitzpatrick asked this question in an earlier volume in this series (Fitzpatrick, “Humanities, Done Digitally,” 12). We would like to raise a similar question but place it in a global context, especially one that considers the diversity of approaches to humanities worldwide.

To be sure, in a global context, no single unified definition of digital humanities (DH) is possible, even if one should desire it. Within this plurality of concepts and practices, the scholarly context in which DH was defined, debated, and developed in the Greater China region is starkly different from where the digital humanities originated. This implies that DH is not a universal paradigm that can be borrowed and applied to China without difficulty.

Even within the Greater China region, the English term is rendered into Chinese in multiple ways. Based on different renderings of “digital,” “digital humanities” is usually translated as “*shu zi ren wen* 数字人文” in mainland China, “*shu wei ren wen* 数位人文” in Taiwan, and “*shu ma renwen* 数码人文” in Hong Kong. Our chapter unravels the complex emergence of digital humanities as a scholarly field in China from a historical standpoint, with special focus on the academic context and cultural politics of the conditions of emergence and the contestations it aroused. As opposed to those who would treat digital research as a complete scholarly novelty in this part of the world, we will adopt a longer view, in order to better analyze the debates involved in these academic developments.

In crafting this study, we draw from our experience and reflections, based on running major digital projects in Chinese studies, building DH communities by founding and editing a popular academic website, and moderating online discussion groups on the widely used Chinese social media app WeChat. The ideas that form this discussion are based on our previous reflections written in both English and Chinese; but for the purposes of this volume on global debates, we have completely rewritten and expanded those ideas.¹ We will focus our chapter on mainland

China, but also cover relevant developments in Taiwan and Hong Kong, and occasionally the development of digital humanities in sinology—that is, Chinese studies conducted outside China. The developments in these three societies and in sinological circles constantly flow toward and impact each other.

Doing Digital Humanities in China before Naming It

The research paradigm that DH represents is hardly novel to Chinese academia. Chinese scholars from various disciplines have been conducting digital research and developing digital archives for more than four decades, even if they did not brand their work as “digital humanities”: there was no established term for this work in China before the term “digital humanities” was imported and introduced.² This is what we call the “prehistory” phase of Chinese DH. From the 1970s to the 2000s in particular, Chinese humanities experts were producing corpus-linguistic, statistical, and geographic information system (GIS) analyses in historical, literary, and geographical studies. The building of major humanities databases also dates from this time. During this period, Chinese scholars felt a growing need to define a new field as they tackled the challenges in constructing digital data for humanities research.

The classical and modern Chinese language presents unique technical challenges in digitizing, organizing, and mining its texts—for instance, in OCR processing of the thousands of Chinese characters and word segmentation (since there are no spaces to mark word boundaries in Chinese texts).³ These are significant challenges that any humanist dealing with Chinese materials would immediately need to face if they want to introduce digital elements in their research. Accumulation of Chinese humanities data was therefore slow from the 1970s to the 2000s. Focusing on the technical challenges that arose from these special features, Chinese scholars have not been very receptive to international initiatives in text digitization, including practices such as the Text Encoding Initiative (TEI).

Linguistic experts prepared to deal with these challenges were among the earliest to adopt digital technologies to study cultural topics in China. They emerged in Chinese academia much earlier than the digital humanists. In 1976, a research group on automated language processing at Wuhan University made experimental use of computers to calculate the frequency of words in Lao She’s novel *Camel Xiangzi* [Luo tuo xiang zi 骆驼祥子]. From 1979 to 1983, four important projects to create modern or contemporary Chinese corpora were established in mainland China: Chinese Modern Literature (5.27 million characters) at Wuhan University in 1979; Modern Chinese (20 million characters) at Beihang University in 1983; Chinese Middle School Textbooks (1.07 million characters) at Beijing Normal University in 1983; and Statistics on the Frequency of Modern Chinese (1.82 million characters) at Beijing Language and Culture University in 1983.

In 1991, the State Language and Letters Committee of China launched a national corpus project to promote research on the linguistics of modern Chinese

grammar, syntax, semantics, and pragmatics. Then in 2003, with the support of another national research program implemented by the Ministry of Science and Technology of the People's Republic of China (PRC), the Chinese Linguistic Data Consortium (CLDC) was established in Beijing, with the aim of establishing a union linguistic database for the Chinese language (<http://www.chineseldc.org/htdocsEn/cldcTest.html>).⁴ Major electronic dictionaries were also developed by the Research Centre for Humanities Computing at the Chinese University of Hong Kong in the mid- and late 1990s (<https://humanum.arts.cuhk.edu.hk/local.html>).

Although computational linguistics is sometimes categorized as a branch of digital humanities, and linguistics as a discipline has internationally been “somewhat more welcoming to computation” (Berry and Fagerjord, *Digital Humanities*, 29), the digital efforts of Chinese linguists are often overlooked by other humanities scholars who want to harness the power of digital technologies. Computational linguistics in China is still seen as separate from digital humanities, although computational linguists have been in much closer dialogue with digital humanists since 2010 (see below).

GIS, especially in historical applications, (H)GIS, is another field that engaged deeply with the concerns of digital humanities before the term itself was introduced to China. Taiwan's national research institute Academia Sinica developed the “Chinese Civilization in Time and Space” (CCTS, <http://ccts.sinica.edu.tw/>) and “Taiwan History and Culture in Time and Space” (THCTS, <http://thcts.sinica.edu.tw/>) projects. Both programs were based on historical maps, and made a deep impact on historical studies on China and Taiwan. In mainland China, Fudan University and Harvard University launched the China Historical Geographic Information System (CHGIS, <https://sites.fas.harvard.edu/~chgis/>) in 2001. This database of populated places and historical administrative units in Chinese history from 221 B.C.E. to 1911 C.E. became a foundational GIS platform for researching China's past.

During this “prehistory” of digital humanities for Chinese academia, especially in the 1980s and 1990s, there were also large-scale digitization projects on Chinese books, especially the historical compendia most basic to the study of Chinese culture: the Twenty-five Standard Histories and the *Siku quanshu* 四库全书 (Complete Library of the Four Branches). The former are official histories compiled by the imperial dynasties and the latter is a collection of 3,471 books assembled by the Qing court in the 1770s. Databases that digitize both massive collections allow historians to locate and extract sources conveniently. They have therefore played a role akin to that of Google Books for ancient Chinese corpora, amounting to billions of Chinese characters.⁵

The Scripta Sinica project developed by Taiwan's Academia Sinica, and including the Twenty-five Standard Histories, began in 1984 and has been operating and expanding ever since (<http://hanchi.ihp.sinica.edu.tw/ihp/hanji.htm>). The digitized *Siku quanshu* was released in 1999 by Digital Heritage Publishing Limited, a Hong Kong company that worked on this major project in collaboration with scholars.

Before the accelerated development of other digitization projects and the unleashing of the power of digital tools that we find so common nowadays, these two corpora of digitized classical Chinese texts had been the mainstay of scholars studying pre-modern China (De Weerd, “Isn’t the *Siku quanshu* Enough?”). In addition to this, a database building on earlier traditions of indexing Chinese classics is the Chinese Ancient Texts (CHANT) Database project (<http://www.cuhk.edu.hk/ics/rccat/en/database.html>), established in 1998 at the Chinese University of Hong Kong.

These important projects have substantially shaped how Chinese scholars use humanities data. Even if they do not use any other digital media in their research work, almost all Chinese humanities scholars have some exposure to these databases. This has also shaped the predominant view of digital research, especially among scholars of older generations: the idea that digital tools are chiefly important for the collection of research materials, much less so for other procedures in the research cycle. In a way, this notion has been an obstacle to developing digital humanities in China.

In Taiwan from 1998 to 2012, state-sponsored programs on digital museums, archives, and libraries as well as e-learning have resulted in converting massive amounts of cultural artifacts into digital objects.⁶ In mainland China, similar large-scale digitization projects were conducted by state-owned institutions, with the exception of a small number of commercial companies. From the National Library of China in Beijing to provincial, municipal, and (state-funded) university levels, almost every major library is working to digitize its collection of rare books, old newspapers, journals, images, and cultural artifacts. The primary purposes of such initiatives are conservation, inheritance, and research aid. However, until the mid-2010s not much attention was paid to the task of integrating the digitized content and tools into the libraries’ knowledge services.⁷ Because these data and digital projects have been constructed by libraries, archives, and companies, and usually promoted by librarians and scholars in the fields of library science and information studies rather than humanities researchers, there exists a relatively big gap between the providers and the users of electronic resources. The data accumulated by these libraries, as also by museums and archives, is unfortunately often ignored and underutilized by university researchers, as commentators have recently remarked (Zeng Lei, Wang Xiaoguang and Fan Wei, [Smart data from libraries, archives, and museums]).⁸

The digital humanities initiatives that emerged in the 1990s and 2000s and are still active are often collaborative and international by design. One such important project is the Database for the Study of Modern Chinese Thought and Literature (1830–1930), initially launched at the Chinese University of Hong Kong in 1997 and later relocated to the National Chengchi University in Taiwan in 2010. Its project team, directed by Jin Guantao and Liu Qingfeng, has explored an approach to mapping the history of ideas in modern China with statistical analysis, and established a model for digital humanities research on modern Chinese texts. Some Chinese institutions have also collaborated with overseas institutions to develop

digital projects such as the China Biographical Database (CBDB, <https://projects.iq.harvard.edu/cbdb>), developed jointly by Harvard University, Academia Sinica, and Peking University since 2005. The long-term goal of this international project, launched by historians, is to systematically include all significant biographical material from China's historical record and make the contents available for academic use.

Based on these developments and the orientation of the representative projects, we see that the paradigm shift in digital humanities in China and its theoretical concerns, to be examined below, was built on substantial preparation from the “prehistory” phase, especially the data collected from that time. From the 1970s to the 2000s, Chinese scholars began to transcend the mere use of digital tools to make their work more efficient, and to experiment with new approaches in digital research. Considering that many elements of DH already existed in Chinese academia, this should not be taken as a completely novel paradigm for the humanities in China.

Tackling the Need for a Digital Humanities in China

There is no consensus on the date when digital humanities began in China, but the year 2009 was definitely a milestone. Pioneering scholars including Jieh Hsiang (National Taiwan University), Wang Xiaoguang (Wuhan University), and Jin Guantao (who worked initially in Beijing, then moved to Hong Kong and Taipei), with their teams, introduced the concept to China in the late 2000s and early 2010s. In the year when William Pannacker identified digital humanities as “the first ‘next big thing’ in a long time” at the 2009 Modern Language Association Convention (Pannacker, “The MLA and the Digital Humanities”), an influential article about it was published in mainland China. Influenced by Anglophone approaches, the author of the article, Wang Xiaoguang of the School of Information Management at Wuhan University, introduced digital humanities to the Chinese audience at a forum hosted by the PRC Ministry of Education. In the paper he presented, Wang explained the definition and history of digital humanities in its Western context, traced its development in several Western countries, and outlined the leading topics in this booming field. He also remarked that some of the digital projects conducted in China at that time were very close to his stated definition of digital humanities.⁹ Also in 2009, National Taiwan University held a conference on Digital Archives and Digital Humanities (DADH), its first conference with DH as the main theme. (This has now become an annual event.) In the call for papers, the organizers in Taiwan emphasized the importance of digital archiving as a general and crucial strategy, and claimed that the use of digital technology in the humanities would promote the development of “digital humanities.”

It was not a coincidence that both Taiwanese and mainland Chinese scholars had noted the digital humanities paradigm.¹⁰ In our view, however, the underlying concerns behind these two events in 2009 were different. In Taiwan, the motive

was more internally driven by humanities scholars, and was also based on the outcomes of the aforementioned national digital projects in Taiwan that had begun in 1998. In a recent piece, Jieh Hsiang, one of the main organizers of the conference and a key figure in Taiwan's digital humanities scene, has reflected on his own work in digitizing historical documents since 1995, saying that as he built more digital archives, he grew more anxious about the production of historical knowledge: even though massive digital collections are emerging, research output based on it is still very sparse. He noticed that mainstream scholars have not been very keen on making use of those collections in their research. In his view, the emerging international field of digital humanities was where he and other scholars had to look for inspiration to make use of the collections.¹¹

Most mainstream Chinese humanities scholars have been skeptical of the academic practices entailed by the DH paradigm, or even rejected them. One common (mis)understanding about digital humanities among Chinese scholars is about how research questions can directly yield different and pathbreaking answers by employing digital tools and methods. According to our observations in the field, a good number of historians assume that digital research is solely about using quantitative methods (i.e., cliometrics or quantitative history) and is not of real interest to those conducting research with other so-called traditional methods. For these researchers, the use of digital tools is primarily to acquire sources more easily: for instance, full-text searches of historical sources can allow them to locate passages relevant to a certain research topic. The further utilization of data that is generally recognized as digital humanities research is still seriously lacking.

However, with the developments in Chinese DH outlined above, some mainstream humanities experts in the country have begun to publish scholarly articles reflecting the digital humanities paradigm. The bulk of these articles have appeared since 2017 (Tsui, "Charting the Emergence of the Digital Humanities").¹² A good number of these attempts overestimate what researchers should expect computational tools to do for humanities research, and therefore tend to argue that those expectations have not been fulfilled yet. For these commentators, the DH paradigm thus appears quite disappointing. As observers of this trend, rather than active participants in it, they are usually wary of the paradigm: it is not uncommon for them to radically dichotomize what they see as STEM modes of inquiry and humanistic studies. In our view, this reflects that humanities scholarship in China is mostly insensitive to the implications of technological developments. Until very recently, such conceptions and practices have prevented mainstream Chinese scholars from moving beyond digitization and information retrieval to knowledge discovery and methodological renewal at a deeper level. As a result, projects in China have devoted a lot of energy and resources toward digitization, especially searchable text databases. The value and potential of qualitative inquiry in digital humanities, especially in media studies or visualization-related studies, is rarely noticed and usually not considered to be what the digital humanities is really about.¹³

In the field of Chinese history, historical geographers, quantitative historians (mostly historical demographers and economic historians), and researchers in prosopography and social networks seem to have gained most from advances in DH (Liang, [Quantitative databases]). With its focus on administrative geography and environmental history, historical geography is an important branch of historical research in China.¹⁴ (H)GIS is already at the core of the researchers' skill set in that subfield, but usually not for historians in other subfields. As for quantitative history, it is a decades-old discipline in China, but it has gained much more attention after initiatives led by economists reshaped the field. Its practitioners have organized large annual symposia and summer schools since 2013 and have also founded a periodical (*Liang hua li shi yan jiu* 量化历史研究), as well as a WeChat public account for outreach.¹⁵

Other international research groups have devoted their energies to building large social datasets on the economy and demographics of early modern and contemporary China. Among them is the Lee-Campbell research group, primarily based at the Hong Kong University of Science and Technology (<https://www.shss.ust.hk/lee-campbell-group/>). As for prosopography and biographical datasets with social network data, the China Biographical Database project has played an instrumental role in advocating the scholarly value of building and analyzing prosopographical data, especially given the rich biographical records of Chinese history. Their efforts have inspired colleagues to construct biographical databases for Taiwan and Singapore as well, the Taiwan Biographical Database (TBDB, <http://tbdb.ntnu.edu.tw/>) and Singapore Biographical Database (SBDB, <https://sbdb.nus.edu.sg/>), respectively. One could say that "digital humanities," along with some other concepts conventionally placed under the DH canopy in China such as "quantitative history," have become academic buzzwords since the mid-2010s.

Even though the concerns (and even anxieties) of scholars in mainland China and Taiwan are different, the key concerns and motivations for their pursuits in digital humanities are actually quite similar. They both face pressure from the rapid development of digital/information technologies, as well as from the marginalization of conventional humanities studies in their institutions. In the past several years, such challenges have been crucial to the agenda of digital humanities in Chinese academia.

Within Gaps and amid Doubts: Developing Digital Humanities in China

With these developments on the horizon in the mid-2010s, junior professors and students in China are increasingly exposed to digital humanities. Several major Chinese universities have set up centers for study and training in digital humanities, or at least its promotion. The first Center for Digital Humanities in China was established at Wuhan University in 2011 (<http://dh.whu.edu.cn>), mostly by experts in information science, including Wang Xiaoguang. In Taiwan, National Taiwan

University's Research Center of Digital Humanities was one of the main driving forces behind the founding of the Taiwanese Association for Digital Humanities in 2016 and its bilingual official journal, *Journal of Digital Archives and Digital Humanities* (Shu wei dian cang yu shu wei ren wen 数位典藏与数位人文), in 2018.¹⁶ The *Journal of Digital Humanities* (Shu zi ren wen 数字人文) was founded at Tsinghua University in late 2019 and *Digital Humanities Research* (Shu zi ren wen yan jiu 数字人文研究) at Renmin University of China in 2020. Research centers for digital humanities opened in succession in the mid- and late 2010s at the National Chengchi University, the Open University of Hong Kong, Nanjing University, Renmin University of China, Tsinghua University, Peking University, Shanghai University, Shanghai Normal University, and Nanjing Agricultural University, and have begun to host events and projects. A digital humanities hub is also under way at the University of Hong Kong, and relevant research clusters have also been set up at the City University of Hong Kong.

The first digital humanities courses were taught at the History Department of Nanjing University, and then at the Institute of Humanities and Social Sciences at Peking University. In 2016 and 2017 alone, more than twenty conferences, workshops, and seminars were held in the Greater China region. Peking University, for instance, organized its first DH forum through its library in May 2016, attracting about 200 participants. They have continued to organize such conferences, increasingly in online and hybrid formats because of the Covid-19 pandemic. Given the initial context in which DH was developed and introduced to China, university libraries are becoming important focal points for developing digital scholarship and promoting change in the field. Researchers from various humanistic disciplines are growing increasingly aware that DH provides a useful platform for discussing developments involving computational tools in their fields, and have organized events through their faculties and institutes to promote such discussions.

Several journals, such as *Library Tribune* (Tu shu guan lun tan 图书馆论坛), *Shandong Social Science* (Shan dong she hui ke xue 山东社会科学), *Cultural Studies* (Wen hua yan jiu 文化研究), and the *Journal of Macao Polytechnic Institute* (Ao men li gong xue bao 澳门理工学报), have published special issues on digital humanities, which have contributed to the journals' visibility. Discipline-based journals, including the *Journal of Chinese History*, have also launched special issues about digital topics in their specific fields such as digital history. According to the China Academic Journal Network Publishing Database, the top academic database for Chinese academic publications on the China National Knowledge Infrastructure (CNKI), about 344 papers with the keyword "digital humanities" (shu wei ren wen) were published between 2010 and 2018. These papers were written by authors from forty institutions, with backgrounds in library science (221), literature (twenty-two), history (sixteen), journalism and communication (fifteen), computer science (nine), scientific management (nine), education (nine), culture

(eight), linguistics (five), Marxism (two), politics (two), and so on.¹⁷ Although many disciplines are gathered under this broad canopy, library science experts still outnumber all other humanists by a very large margin, again reflecting the contextual configurations that we have examined above.

Budding digital humanists in China have also organized series of workshops, lectures, and seminars for theoretical discussions, introducing projects, sharing data, and training in digital methods. Peking, Nanjing, Renmin, Tianjin, Zhejiang and Sun Yat-sen Universities, Shanghai Library, and other institutions have all organized events on DH-related themes, attracting more than a thousand participants in total. Interestingly, many of these participants have agreed that projects in China have devoted a lot of energy (perhaps too much) toward digitization, especially of texts to be incorporated in searchable text databases. A steadily increasing proportion of state-funded humanities research projects are of this nature. Proprietary databases are already plenty in number and dominating the field: most scholarly data is owned by commercial companies and made available to scholars through databases operating on an institutional subscription model. Unfortunately, DH scholars in China seldom reflect openly on the issues arising from the acquisition and generation of data in this manner, even though carrying out such tasks in the Chinese language is fraught with intrinsic challenges.

As Facebook and Twitter are important for DH communities in the West, WeChat, the most popular social media platform in China, plays a significant role in shaping the DH field and its communities. Since about the early 2010s, Chinese scholars have been increasingly active in discussions on WeChat. WeChat has numerous public accounts (*gong zhong hao* 公众号, akin to blogs with interactive functions) devoted to sharing electronic resources for research and relevant academic events, often attracting a large online following among younger academics and students.¹⁸ Additionally, some virtual groups on WeChat function as discussion groups for lively exchanges about digital humanities. Similar public pages and closed discussion groups focusing on digital scholarship also exist on Facebook for scholars specializing in Chinese studies, especially those with access to Facebook in Taiwan, Hong Kong, and overseas.¹⁹ On WeChat, there are more than 940 subscribers from mainland China, Taiwan, Hong Kong, and overseas in the three discussion groups on digital humanities (named Digital Humanities Groups 1, 2, and 3) to discuss, communicate, and debate about digital humanities since 2016. There are also at least five public accounts that regularly publish news, articles, and reviews about digital humanities, as well as introductions to databases or electronic resources. One of the earliest, 01Lab (零壹Lab), has published more than 300 essays, news reports, and reviews, and has attracted 8,550 subscribers since October 2016.²⁰ These discussion groups and online outlets play a very important role in building a community of Chinese digital humanists, in encouraging and sustaining their active participation, and in providing an efficient means of communication among those scattered across the region and from diverse disciplines.

There have also been recent international efforts to construct an infrastructure to link various digital resources and systems for Chinese history. Establishing a cyberinfrastructure will help connect the various projects and institutions, including the software applications and data collections that they are developing, as well as knowledge of their personnel, standards, and methods (Wang, Tsui, and Bol, “Cyberinfrastructure for Historical China Studies”). The Shanghai Library Open Data Platform (<http://data.library.sh.cn/>), for instance, encourages users and collaborators to adopt interconnected data models with linked data when working on topics like personal names, dates and chronology, and bibliographical information. Wasting resources on digitizing the same rare books, for instance, can be easily avoided if there is adequate coordination between those heading the digital collections. While Chinese researchers have already been participating in digital projects for a substantial length of time, the sharing of research data has yet to become common practice. The picture might change through projects developed in the region or developed for Chinese studies that allow users to upload their data to online platforms, as well as to analyze and visualize them, such as Zhejiang University’s Academic Map Publishing Platform and others.²¹

Again, to fill in the gaps in capacity building for digital humanities, the CBDB project, among others, has organized various training events at academic institutions in China to promote the use of its free data as well as digital tools for research. Not every researcher in Chinese humanities is interested in becoming data-savvy, but every one of them can benefit from more training in DH and reflection on recent developments of the field. How the current curriculum for training humanities graduate students should adapt to technological advances and changing paradigms in the digital humanities will no doubt become an important issue for academic institutions in the Greater China region (Tsui, Chen, and Zhu, “Finding Flexibility to Teach”).

Challenges and Prospects

In the light of our account above, what can digital humanities bring to academia in the Greater China region, and how have scholars actually developed and debated the digital humanities since its “prehistory” phase in China? What do they face when they engage in the task? We will end by summing up our main observations on the challenges and prospects for research in DH in the Greater China region.

First, the transformation of research from the institute-driven to the research-oriented model happened when the DH paradigm flourished in China. In the “prehistory” phase, most projects were financially and strategically supported by institutes or governments. In the early 2000s, the cost of developing databases grew so high that it became difficult for individual scholars to develop or maintain digital projects, and to tackle the peculiar demands of Chinese data, without substantial financial support. The hardware and software required were unaffordable or

inaccessible for most individual scholars back then. To ensure stability and sustainability, these projects needed to find a host for their outcomes (both data and software) to avoid data loss. Hence it was unavoidable that projects should primarily be driven by institutes rather than individual researchers. The situation gradually changed when equipment became much more common and affordable, and when many projects, having completed their digitization stage, naturally gravitated toward mining that digital content.

Second, although the gaps within and between humanistic disciplines are gradually blurring, Chinese scholars still face cultural challenges in developing and supporting digital humanities in mainland Chinese institutions. Disciplinary boundaries used to pose a serious obstacle in the early stages. Scholars often encounter the need to cross disciplinary boundaries; but if they lack data analysis skills, they must collaborate with other experts to conduct cross-disciplinary projects, especially where they involve a lot of data processing and advanced digital technology. However, it is not easy to do such work within the institutional frameworks of many Chinese institutions. Scholars find it hard to break disciplinary boundaries when they are themselves deeply nested in disciplinary fields and institutional units.

Another major obstacle is the failure of research institutions to recognize the value of cross-disciplinary research outcomes. Hence scholars have no choice but to prioritize research that is recognized by evaluative systems, which are usually unfriendly to new forms of research in the digital humanities. This is especially the case for individual scholars who are not part of influential research groups, headed by scholars with important administrative roles.

Third, although some DH centers have emerged in the Greater China region, it does not mean that digital humanities has been officially recognized as an independent academic discipline within the Chinese academic system.²² In China, disciplines are highly institutionalized and centrally governed, and academic boundaries are rigid. The system of incentives can discourage researchers from engaging in DH research, which often disrupts the traditional norms of academic publishing. As a result, young digital humanists in China tend to collaborate with like-minded peers outside rather than within their own disciplines. As Melissa Terras (“Disciplined”) has indicated, to make the digital humanities into a discipline requires not only an identifiable community and academic activities, but also a defining of the subject matter and the whole evaluative and support system. This is very difficult to achieve in China, owing to the tardiness in adapting to changes in disciplinary fields under the highly centralized academic system. The higher education system in mainland China is heavily structured in terms of disciplines as defined and funded by the government: the distribution of resources including jobs, grants, and teaching programs all orbit around the existing disciplines. The essence of the digital humanities, especially cross-disciplinary or interdisciplinary collaboration, puts scholars and their departments in an awkward situation: How is the input of each participant in a digital project to be given credit, so that they can advance their careers?

Fourth, research support for digital projects at universities is still seriously lacking. The current humanities curricula in China do not provide the basic skill set that is useful for innovative work in the digital humanities. Hence many Chinese researchers in the humanities are inadequately prepared when it comes to using other types of databases or digital tools to analyze their research material. They also find it difficult to seek help in the task, since there is usually no personnel providing this kind of research support in humanities fields. Weak support for digital literacy among humanities scholars in China also accounts for the dearth of expertise in the digital humanities (Vierthaler, “Digital Humanities and East Asian Studies”). Centers within universities with the capacity to provide digital training and research support for humanities scholars are rare, although major Chinese libraries and some academic departments have begun to recognize the need.

Fifth, constructing a cyberinfrastructure has only recently become a concern for Chinese scholars, after witnessing the construction of projects with overlapping content for many years. Huge amounts of time, money, and effort have been wasted on repeating the same or highly similar endeavors. In general, we now see a lot of databases emerging from China, but we cannot be certain that they command enough resources to remain active, and that their data is utilized effectively in research by scholars with the required skill set. Exploring the “prehistory” of digital humanities in China, as we have done in this chapter and in our other writings, allows us to identify such problems. To deal with this, on March 14–16, 2018, Harvard University hosted the “International Conference on the Cyberinfrastructure for Historical China Studies” (<https://ctext.org/digital-humanities/shanghai2018>) to discuss how to share data and link together various resources for China studies. In the three-day agenda, more than thirty project teams shared their thoughts, data standards, best practices, and critical thoughts on the issues, problems, and challenges faced by DH practitioners. This conference is not a one-off event, but is to be followed by actual collaborative initiatives and the linking of various systems and infrastructures. It is hoped that fields other than Chinese history will also pay attention to this issue.

Last but not least, digital humanities in the Greater China region still face many challenges in internationalization. Many digital projects in the Chinese humanities are highly data-specific and require good knowledge of the language or even knowledge of Classical Chinese, which involves many years of training. Many long-standing DH projects in China or in Chinese studies have practically no visibility outside their immediate field, since the scholarly and technological challenges that they address are highly specific and are not easily translatable into other languages or cultural contexts. It is also often difficult to find audiences for them in digital humanities events outside China, such as the Alliance of Digital Humanities Organizations (ADHO) conferences. Initiatives have begun for projects using non-Latin script to join forces and establish dialogue: this will hopefully help to globalize and diversify the debate and development of digital humanities.²³ Chinese scholars are

also eager to meet institutional demands to publish in English in international outlets. We hope this study will be only an initial effort to put digital humanities in China, and the debates that surround it, on the global map.

Notes

1. Our previous writings on this topic include: Chen Jing, [History and debates]; Lik Hang Tsui, “Digital Humanities as an Emerging Field”; Lik Hang Tsui and Jing Chen, [Why do we need the digital humanities?]; Chen Jing, [Crisis and breakthroughs of digital humanities]; Chen Jing [Current situation for and significance of research]; Lik Hang Tsui and Wang Tao, [Digital humanities]; Lik Hang Tsui, “Charting the Emergence”; Lik Hang Tsui [Digital explorations of Chinese texts].

2. One exception would be the Research Centre for Humanities Computing at the Chinese University of Hong Kong, set up in 1994 (see below).

3. On some of the specific challenges and current solutions, see Chen Xiaohu et al. *Xian-Qin wenxian xinxi chuli* [Processing pre-Qin textual information]; Lik Hang Tsui and Hongsu Wang, “Semi-Automating the Transformation.”

4. Since the 1990s, many more corpus projects have been launched at various research institutions in mainland China, Taiwan, and Hong Kong.

5. The *Siku quanshu* contains about 2.3 million pages and about 800 million characters, according to Wilkinson, *Chinese History*, 1071.

6. Taiwan e-Learning and Digital Archives Program: <http://teldap.tw/en/>; also see: <http://wiki.teldap.tw/>.

7. Although projects such as the China Academic Digital Associative Library (CADAL) have tried to extend the role of libraries to that of a knowledge provider, most of its energies still focus on digitalization and preservation.

8. For instance, Zeng Lei, Wang Xiaoguang, and Fan Wei, [Smart data from libraries, archives, and museums]. Indeed, some humanities scholars had taken the initiative to engage in digital research before the 2000s, such as conducting stylistic research on the seminal eighteenth-century novel *The Story of the Stone*. Such projects employed cutting-edge research methods of the time, but unfortunately did not gain enough currency to be taken into account by mainstream humanities scholars in China.

9. Wang Xiaoguang, [Emergence, development, and current trends]. Most of the readers who got exposure to digital humanities through this paper did not read it from the conference proceedings, but from the version on Wang’s blog, which he shared on December 3, 2009: <http://blog.sciencenet.cn/blog-67855-275758.html>. As of September 2021, the paper already had 24,400 hits. Like all that is discussed in this study, this example reflects the ways in which academic knowledge is disseminated in the digital era.

10. It should be noted that Wang had noticed the emergence of digital humanities in Taiwan academia and had attended the DADH conference in 2010.

11. Jieh Hsiang, [Congratulatory remarks]. Since the 2009 conference, Jieh Hsiang and his collaborators have published extensively on digital humanities, including in the

Series on Digital Humanities (数位人文研究丛书; 2011–) edited by him. See especially Jieh Hsiang and Feng-en Tu, [Introduction].

12. Lik Hang Tsui, “Charting the Emergence.”

13. Apart from projects dealing with historical texts, there are also image-based interdisciplinary projects such as the Chinese Commercial Advertisement Archive (<http://ccaa.nju.edu.cn/html/index.html>). This archive is led by a team of historians, cultural and media studies scholars, statisticians, urban designers, and information scientists based in US and Chinese institutions.

14. See for instance, Tao-Chang Chiang, “Historical Geography in China.”

15. For instance, the International Symposium on Quantitative History, July 17–18, 2021: <http://quantitativehistory.com/>. The ID of the WeChat public account is “QuantitativeHistory.”

16. This association is now a constituent organization of the Alliance of Digital Humanities Organizations (ADHO).

17. Based on a search on data from February 18, 2019, <https://oversea.cnki.net/index/>.

18. These include *01Lab* (零壹Lab), a WeChat public account founded and coedited by the authors of this article in collaboration with Fu Meixi and Wu Weiyi. Its WeChat ID is “lingyilab.” It was awarded the Digital Humanities Award 2019: 1st Runner-up for “Best DH Blog Post or Series of Posts.”

19. For instance, the Digital Sinology Group and the “Digital Humanities Virtual Lab” page on Facebook: <https://www.facebook.com/DHVirtualLab/>.

20. Data from WeChat app updated on September 4, 2019.

21. Academic Map Publishing Platform: <http://amap.zju.edu.cn/>. Also Chinese Ancient Books Union Catalogue and Evidence-based Platform: <https://gj.library.sh.cn/index>; Chinese Buddhist Electronic Text Association (CBETA) Online: <http://cbeta.org/>; Chinese Text Project: <https://ctext.org>; DocuSky: <https://docusky.org.tw/>; MARKUS: <https://dh.chinese-empires.eu/markus/>.

22. This problem of academic recognition is, of course, present in many other countries.

23. For instance, Mahony, “Cultural Diversity and the Digital Humanities.”

Bibliography

Berry, David M., and Anders Fagerjord. *Digital Humanities: Knowledge and Critique in a Digital Age*. Cambridge: Polity, 2017.

Chen Jing 陈静. “数字人文知识生产转型过程中的困境与突围” [The crisis and breakthroughs of digital humanities in the transformation of knowledge production]. 文化研究 [Cultural studies] 33 (2018): 171–85.

Chen Jing 陈静. “当下中国‘数字人文’研究状况及意义” [The current situation for and significance of research on digital humanities in today’s China]. 山东社会科学 [Shandong social science] 7 (2018): 59–63.

- Chen Jing 陈静. “历史与争论——英美“数字人文”发展综述” [History and debates: Digital humanities in the United Kingdom and United States]. 文化研究 [Cultural studies] 16 (2013): 206–21.
- Chen Xiaohe 陈小荷, Feng Minxuan 冯敏萱, Xu Runhua, et al. *Xian-Qin wenxian xinxi chuli* 先秦文献信息处理 [Processing pre-Qin textual information]. Beijing: World Book Publishing, 2013.
- Chiang, Tao-Chang. “Historical Geography in China.” *Progress in Human Geography* 29, no. 2 (2005): 148–64.
- De Weerd, Hilde. “Isn’t the *Siku quanshu* Enough? Reflections on the Impact of New Digital Tools for Classical Chinese.” 2014. <http://chinese-empires.eu/blog/isnt-the-siku-quanshu-enough-reflections-on-the-impact-of-new-digital-tools-for-classical-chinese/>.
- Fitzpatrick, Kathleen. “The Humanities, Done Digitally.” In *Debates in the Digital Humanities*, edited by Matthew K. Gold, 12–15. Minneapolis: University of Minnesota Press, 2012.
- Jieh Hsiang 项洁. “一个台湾数位人文学者的贺词” [Congratulatory remarks from a digital humanities scholar from Taiwan]. *01Lab*, October 10, 2016.
- Jieh Hsiang 项洁, and Feng-en Tu 涂丰恩. “导论——什么是数位人文” [Introduction: What is digital humanities]. In 从保存到创造：开启数位人文研究 [From preservation to knowledge creation: The way to digital humanities], edited by Jieh Hsiang, 9–28. Taipei: National Taiwan University Press, 2011.
- Liang, Chen 梁晨. “量化数据库：‘数字人文’推动历史研究之关键” [Quantitative databases: The key for digital humanities to promote historical research]. 江海学刊 [Jianghai academic journal] 2 (2017): 162–64.
- Mahony, Simon. “Cultural Diversity and the Digital Humanities.” *Fudan Journal of the Humanities and Social Sciences* 11, no. 3 (2019): 371–88.
- Pannapacker, William. “The MLA and the Digital Humanities,” 2009. <https://www.hastac.org/blogs/nancyholliman/2009/12/30/mla-and-digital-humanities>.
- Terras, Melissa. “Disciplined: Using Educational Studies to Analyse ‘Humanities Computing.’” In *Defining Digital Humanities: A Reader*, edited by Melissa Terras, Julianne Nyhan, and Edward Vanhoutte, 67–96. Farnham: Ashgate, 2013. [This collection has been translated into Chinese.]
- Tsui, Lik Hang. “Charting the Emergence of the Digital Humanities in China.” In *Chinese Culture in the 21st Century and its Global Dimensions: Comparative and Interdisciplinary Perspectives*, edited by Kelly Chan Kar Yue and Garfield Lau Chi Sum, 203–16. Singapore: Springer, 2020.
- Tsui, Lik Hang. 徐力恒. “华文学界的数位人文探索：一种「史前史」的观察角度” [Digital explorations of Chinese texts before the digital humanities: A view of the prehistory]. 中国文哲研究通讯 [Newsletter of the institute of Chinese literature and philosophy] 30, no. 2 (2020): 107–127.
- Tsui, Lik Hang. “The Digital Humanities as an Emerging Field in China.” University of Nottingham Asia Research Institute, June 13, 2016. <http://theasiadialogue.com/2016/06/13/the-digital-humanities-as-an-emerging-field-in-china/>.

- Tsui, Lik Hang, and Hongsu Wang. "Semi-Automating the Transformation of Chinese Historical Records into Structured Biographical Data." In *Digital Humanities and Scholarly Research Trends in the Asia-Pacific*, edited by Shun-han Rebekah Wong, Haipeng Li, and Min Chou, 228–46. Hershey, PA: IGI Global, 2019.
- Tsui, Lik Hang, and Jing Chen. 徐力恒 & 陈静. "我们为什么需要数字人文" [Why do we need the digital humanities?]. *社会科学报* [Social sciences weekly] 1572 (August 24, 2017): 5.
- Tsui, Lik Hang, Jing Chen, and Benjun Zhu. "Finding Flexibility to Teach the 'Next Big Thing': Digital Humanities Pedagogy in China." Paper presented at the conference "Digital Humanities 2019," Utrecht University, July 8–12, 2019.
- Tsui, Lik Hang, and Wang Tao. 王涛. "数位人文：跨界与舆论争鸣" [Digital humanities: Boundary crossing and debates]. In *当代历史学新趋势：理论、方法与实践* [Contemporary trends in historical research: Theory, methods, and practices], edited by Jiang Zhushan 蒋竹山, 539–65. Taipei: Linking, 2019.
- Vierthaler, Paul. "Digital Humanities and East Asian Studies in 2020." *History Compass* 2020. <https://doi.org/10.1111/hic3.12628>.
- Wang, Hongsu, Lik Hang Tsui, and Peter K. Bol. "服务于中国历史研究的网路基础设施：对相关探索的建议和展望" [A cyberinfrastructure for historical China studies]." *数位典藏与数位人文* [Journal of digital archives and digital humanities] 6 (2020): 1–35.
- Wang Xiaoguang 王晓光. "数字人文"的产生、发展与前沿" [The emergence, development, and current trends in digital humanities]. In *方法创新与哲学社会科学的发展* [Methodological innovations and the development of philosophical and social sciences], 207–21. Wuhan: Wuhan University Press, 2010.
- Wilkinson, Endymion. *Chinese History: A New Manual*. 5th ed. Cambridge, MA: Endymion Wilkinson, 2018.
- Zeng Lei 曾蕾, Wang Xiaoguang 王晓光, and Fan Wei 范炜. "图档博领域的智慧数据及其在数字人文研究中的角色" [Smart data from libraries, archives, and museums and its role in digital humanities research]. *中国图书馆学报* [Journal of library science in China] 44, no. 1 (2018): 17–34.