JJADH Special Issue "Buddhism and Technology"

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Introduction

The papers collected in this special issue, "Buddhism and Technology," were first presented at a conference that took place Sept. 20–22, 2019, at the University of British Columbia in Vancouver. The conference, titled "Buddhism & Technology: Historical Background and Contemporary Challenges," was organized by Jinhua Chen and Marcus Bingenheimer as part of the project From the Ground Up: Buddhism and East Asian Religions funded by the Social Sciences and Humanities Research Council of Canada. At the event, more than twenty-five scholars contributed papers on various aspects of the relationship between Buddhism and technology both past and present.

"Buddhism and technology" at first seems a strange pairing that some might dismiss as a fashionable, even frivolous, approach to the study of a 2,500-year-old religion. Nevertheless, there are various ways in which an inquiry that pairs religion with technology makes sense. After all, as social beings we find ourselves embedded in both, indeed inescapably so, for the denial of either—a strictly secular identity or an off-the-grid lifestyle—will always be conditioned by that which one aims to escape. More to the point, the idea of technē, as knowledge and skill applied toward a goal (telos), is deeply embedded in Indian ascetic traditions, where salvation is achieved by the practitioner's contemplative skills. Max Weber had already realized this when he said of Indian religions that they "are, in theory and in practice, the most world-denying forms of religious ethics which the earth has begot. In the same way their respective 'technology' ('Technik') is the most developed" (Weber 1920, 536). If one takes seriously the Buddhist project to end suffering by practicing insight and skillful means, the juxtaposition with modern technology, i.e.the application of scientific 'insight', does not look all that far-fetched.

This special issue collects six of the papers presented in Vancouver, which use approaches from the "methodological commons" (McCarty 2003) of the digital humanities.

They explore the topic from the viewpoint of online anthropology (Falcone), online religious studies (McGuire), philosophy of technology (Sarbacker), social network analysis (Bingenheimer), and digital corpus analysis (Nehrdich, Wang).

They fall roughly into two groups. Falcone, McGuire, and Sarbacker discuss examples of how Buddhism is mediated in new technologies such as virtual worlds, smartphone apps, and body augmentation. Bingenheimer, Nehrdich, and Wang use new datasets and apply nontraditional analytical tools to study Buddhist history and texts.

Jessica Falcone is one of a growing group of researchers who conduct anthropological fieldwork in online spaces.[1] Her "No-longer-places in Virtual Worlds: The Precarity and Impermanence of Digital Religious Places through a Buddhist Lens" is a follow-up study of her earlier work on Buddhist spaces in Second Life (Falcone 2015). Second Life is the most popular virtual world, where visitors interact via avatars and can partake in a virtual economy with its own currency. Returning to virtual Buddhist sites after an absence of several years, Falcone found many of them deserted. Some informants rationalize such instability by taking recourse to Buddhist teachings of impermanence.

Beverley Foulks McGuire, after previous research on the Buddhist blogosphere in English (McGuire 2015) and Chinese (2016), turns her attention to "Buddhist-inspired Self-tracking Apps." This type of app allows smartphone users to track their (self-reported) mental states in the interest of fostering awareness—undeniably part of Buddhist practice. McGuire shows why and how some apps can be considered to do this more successfully than others. In some apps she finds a tendency to entangle users in an "addictive feedback loop" to remain within the app, thus creating data and revenue for the provider.

The spectrum of mediation leads from the disembodied avatars in virtual worlds, via emotion-tracking apps on phones, to the more drastic domain of body augmentation. Stuart Sarbacker asks how the augmented human envisioned by enthusiasts of a trans- or posthuman future squares with the very much embodied practice of meditation and paths to liberation proposed by Buddhism. Sarbacker builds on his previous research in the use of drugs in Indian yogic traditions, an altogether more traditional method of enhancement (Sarbacker 2013). Although both technological augmentation and spiritual practice aim at an improved version of the human animal, they do diverge in their soteriological and ethical intent. Radical

[1] Besides Falcone, there is, in Buddhist Studies, Gregory Grieve, who also presented at the Vancouver conference. See, for example, Grieve 2017.

as modern technologies of enhancement embraced by biohackers might seem, Sarbacker concludes that the Buddhist aspiration is directed to an even more radical form of freedom, an enlightenment without the need for enhancement.

Whereas the first three papers in this special issue are concerned with how Buddhism is mediated in and challenged by new media and technologies, the second triad of papers is about the application of computational methods to digital Buddhist sources. Over the last twenty-five years the digitization of Buddhist cultural heritage, especially its textual heritage, has resulted in the production of large digital corpora. The accessibility and searchability of digital text has had a strong impact on the way we interact with our sources. But digital text promises more than search and access. By applying computational methods developed in the field of natural language processing to our texts, we are able to expand our analysis and find patterns and dynamics on different scales that are not accessible to traditional forms of reading.

Bingenheimer has assembled a sizable dataset for historical social network analysis (Bingenheimer, forthcoming 2021), which can be used to study Chinese Buddhist history over longer periods from a social network perspective. In this issue he illustrates how the dataset for the late fourth century highlights a "triangle" consisting of three actors: Dao'an, Huiyuan, and the Indian monk Kumārajīva. Bingenheimer argues that, from a network perspective, the predominance of these actors and their respective communities can be considered a sufficient reason for Chinese Buddhism to identify itself decisively as Mahāyāna Buddhism. Network analysis can moreover help to identify bridge actors, relatively obscure figures who connect more prominent actors or communities.

The papers of Yu-chun Wang 王昱鈞 and Sebastian Nehrdich both use cutting-edge research methods in natural language processing. Wang addresses a basic research question of great importance: how to best tokenize Chinese Buddhist texts. This is a hard question, on which for the last twenty years only incremental progress has been made. Most traditional computational natural language processing methods (e.g., bag-of-words and word embedding) have been developed for text in European languages where words are already defined by spaces. Text in other writing systems often must first be tokenized to demarcate words. This now works reasonably well for modern languages for which there are enough data to devise deep learning algorithms. Classical languages like Chinese, Sanskrit, and Tibetan are still a challenge, however. Wang, who has worked on classical Chinese before (Wang et al. 2014),

here compares an existing unsupervised algorithm with his own supervised models created from conditional random fields. The test results show that the newer models derived from conditional random fields yield a significantly better tokenization of the CBETA corpus.
Nehrdich focuses in his contribution on the identification of parallel or similar passages in Chinese Buddhist texts. Parallelism, pericope, and formulae are inherent features of the Buddhist textual universe. The research presented here is only part of a larger project by Nehrdich that includes an innovative online platform for identifying parallel passages in Buddhist corpora in Chinese, Sanskrit, Pāli, and Tibetan (buddhanexus.net). Nehrdich uses techniques that include hierarchical pooling and approximate nearest neighbor search to detect similar passages across the Chinese Buddhist canon. An interface where users can quickly identify near-parallel passages has the potential to add a new dimension to our reading practice, as it surpasses the traditional string search.

The range of articles in this issue show that "Buddhism and technology," far from being merely a trendy catchphrase, is indeed a fruitful interdisciplinary perspective on the ancient religion of Buddhism. We believe that in the twenty-first century the study of Buddhist practice online, inquiries into Buddhist teachings in the context of modern technology, and the use of computation to study Buddhist texts will increasingly yield new knowledge, new research topics, and new approaches.

We are grateful for the support of the Social Sciences and Humanities Research Council of Canada, the University of British Columbia, the Japanese Association for the Digital Humanities, and Thomas Dabbs, the editor of the *JJADH*. Vicky Baker arranged the logistics for the 2019 conference brilliantly as usual. We also want to thank Susan Lorand, whose helpful copyediting gave the issue a consistent format, in spite of it comprising articles from fields with different writing and citation conventions.

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