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“Fly Buddha to Mars”: The co-production between religiosity and science & technology at Longquan Monastery, Beijing

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"Fly Buddha to Mars": The co-production between religiosity and science & technology at Longquan Monastery, Beijing

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ABSTRACT

This article attempts at a re-theorization towards the symbiosis and co-production of religion, modern science and technology, inspired by theoretical thinking within geographies of religion and science and technology studies (STS). Recent scholarship on the geographies of religion has made substantive advancements in discerning the convergence of religion and secular modernity. However, science and technology (S&T), as an essential condition and driving force of secular modernity, remain peripheral to this ongoing theoretical agenda, yet to be fully incorporated into the analytical framework about the co-constitution of religion and secular modernity, arguably because of the entrench divide between the rationalism of science and metaphysical thinking underlying religion. This paper addresses this issue by foregrounding the social and cultural constitution of science and in particular, its susceptibility to religious and spiritual sensibilities. Through an empirical case of Longquan Monastery, a Buddhist monastery in Beijing, China , this paper shows how the monastery brings S&T and Buddhism into close encounter in order to enrich both – in particular, we examine how Buddhism is appropriated to address the spiritual alienation caused by technological domination, how Buddhism acts as an alternative source of inspiration for technological creativity, and how Buddhist institutions reinvent themselves as rational and scientific to cater to a religious clientele socialized into modern scientific progress. Through the dialogue with STS, this research further contributes to addressing enduring concerns in the geographies of religion with religious spaces and practices as context-specific and spatially variable.

1. Introduction

"Mars represents a futuristic sensibility, an awareness or imagination of the future for everyone … Mars exploration is a direction for the development of human society. What role will Buddhism play in such an era?" – Master Xianxin[1]

On 26 May 2018, Master Xianxin, founder of the Longquan Monastery Information Technology Center, delivered a keynote address entitled "Fly Buddha to Mars" at the Hangzhou 2050 Conference,[2] in which he proclaimed that Buddhism would not be absent from the future of humanity, even in the Mars exploration age. This is an example of how Buddhist organizations in China purposefully plan and follow a path to modernity hand-in-hand with science and technology (S&T). Drawing upon the theoretical language of Jasanoff (2015), the present study argues that the "Fly Buddha to Mars" vision is a manifesto for "socio-technical imaginaries" encoded simultaneously by religion and spirituality, and in which the promises, visions and creativities proposed by faith actors for the future of religion are intertwined with technical processes, and undergirded by the interpenetration of knowledge, translation, materiality, and power. This argument parallels that of Holloway (2015: 180), who views the future of religion or spirituality as a temporality "that is folded and unfolded in, and through, practices and achievements in the geographical present". Debates on the nexus between religion and science and technology (S&T), however, often fail to engage explicitly with the fact that S&Ts are uncertain, nonlinear, open-ended socio-technical processes, in which a variety of actors (including those outside the S&T fields) articulate dynamically and contingently with one another, and in which scientific logics are entangled with geo-

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[1] https://read01.com/zP7Q8RL.html.

[2] The 2050 Conference was a non-profit event with the theme "Young people reunited by technology" that was co-sponsored by the Hangzhou Cloud Technology Innovation Foundation and volunteers.

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historical processes and cultural contexts. This means recognizing the potential of many ordinary elements to have generative effects in socio-technical networks. In contrast, the mainstream and orthodox - interpretation of S&T underlines their historical progressivism (Law, 2008) and assertively encodes a rigid boundary between the two domains, which denotes that religiosity is accrued only through opposition to S&T.

Recent studies of the geographies of religion have put substantial effort into identifying the hybridizations and interpenetrations that take place at the secular-religious interface (Williams et al., 2012; Atia, 2012; Dwyer et al., 2013; Tse, 2014), revealing both religiosity and secularism as hybrid constructs that fuse the sacred and the profane, the transcendent and the immanent (Qian and Kong, 2018). As an essential condition and driving force of secular modernity, S&T, however, exists at the periphery of this theoretical enterprise, yet to be fully integrated into the epistemological framework on the co-constitution of religion and secular modernity. In other words, S&T largely disappears over the horizon in the dialogue between religion and modernity. Addressing this issue, the present study probes the relationship between religion and S&T within the framework of co-production provided by Science and Technology Studies (STS)[3], which stands as a distinctive interdisciplinary field that traces the social production of scientific and technological knowledge and highlights an integrated understanding of the origins, dynamics, and consequences of science and technology (Hackett et al., 2008). Jasanoff (2004a) proposes such an epistemology as a means of scrutinizing the mutual effects of S&T and social order, advocating for thick descriptions of cultural configurations and power relations hidden in the black box of S&T activities. Through this lens, we aim to theorize the hybridization of religion and S&T, moving beyond an either/or dualism and emphasizing contingent and context-specific encounters.

Surprisingly, there have been few studies to date addressing the dialogue between S&T and the geographies of religion other than those investigating the use of technologies as communication media for overcoming physical spaces and places, and these fail to address and problematize the ontological divide between the scientific and the religious. In contrast, STS advocates reinstating a focus on social thickness and complexity in our understanding of S&Ts (Jasanoff and Kim, 2015), suggesting that scientific knowledge, as well as the creation and use of S&Ts, are intertwined with their historical–geographical processes and cultural contexts (Law, 2004; Latour and Woolgar, 2013). In other words, the production of knowledge is not an exclusive domain in laboratories characterized by "placelessness" (Livingstone, 2010), but rather oriented toward open, contingent, and highly mediated socio-technical processes. In the current debates, however, "the sacred archipelagos" (Wilford, 2010) tend to drift away from the S&T continent, since the voices of faith actors are either barely audible amidst S&T-related activities, or relegated to background noise (Evans and Evans, 2008; Han, 2016).

Notably, the heuristic of co-production contributes to a dialogue between religion and S&T, one that has affinity with, and also further enriches, the post-secular thinking in geographies of religion. On the one hand, post-secular societies are witnessing the interactive learning of multiple actors across the secular/sacred divide, during which the boundaries between various social and knowledge systems become inter-penetrable, thus establishing a key prerequisite for the co-production of diverse actors and subjectivities (Beaumont et al., 2020). Furthermore, post-secularity embraces multiple systems and sources of thoughts, always implying a symbiotic relationship between science, religion, and other ways of knowing (Casanova, 2010; O'Brien and Noy, 2015; Beaumont, 2022). On the other hand, the co-production approach emphasizes the co-evolution and co-shaping of scientific knowledge, technology, and sociocultural orders (Jasanoff, 2004a), and helps to "illuminate the connections between things usually regarded as ontologically distinct" (Brodwin, 2008: 129). Therefore, the marriage between the co-production approach and the geographies of religion enables us to further expand the discursive terrain of the post-secular inquiry, adding a hitherto relatively ignored parameter, S&T, as one of the missing pieces in the mosaic.

To elucidate these points, this paper draws upon a case study on Longquan Monastery in Beijing, China, touted as the "new center of Buddhism in China" and even the "the monastery most suited for scientific research"[4]in the context of the flourishing Buddhist revival in post-reform Chinese society. Longquan Monastery is an enterprising and ambitious Mahayana Buddhist institution in Haidian District, which is home to many high-tech industries, especially ICT industries, and prestigious universities. It is a relatively young religious site and brainchild of Master Xuecheng, a charismatic religious leader and former president of the Buddhist Association of China, who has brought it to fruition over the past two decades with the support of adherents and non-adherents alike. The monastery has orchestrated a series of S&T-themed marketing strategies to attract believers and volunteers with technological and business training, foregrounding theological discourses, Buddhist practices, and religious services that are compatible with S&Ts. In particular, this study focuses on three aspects of such co-production practices: (i) that spirituality enriches the lifeworlds of culturally and spiritually alienated tech professionals; (ii) that faith underlies an alternative niche of S&T activities that blends technologies with Buddhist values and ethics; and (iii) that a version of Buddhism reimagined as rational and scientific is promulgated by the monastery. In all, we investigate how the monastery fosters the processes of cross-over and mutual learning (Habermas, 2008) between Buddhism and S&Ts.

Foregrounding these dimensions, this research further contributes to addressing the enduring concerns in geographies of religion with religious spaces and practices as context-specific and spatially variable. For geographers, the tension and reconciliation between religiosity and urban modernity have ushered in situated re-inventions and innovations of religious practices – while urban modernity implies the hegemonic power to standardize urban spatial practices, religious spaces constitute a bulwark of beliefs for the preservation of identities and cultural awareness (Stump, 2008; Abramson, 2011). In the case of Longquan Monastery, one can detect spiritual impulse that continues to surge beneath the surface of an urban world wrapped in secular materialism, rationality, and science (Oakes and Sutton, 2010). As Chen (2022) reveals insightfully in her work on the spiritual cultivation of human capital in tech companies of Silicon Valley, the geographic concentration and dominance of tech industries in the metropolis have created a uniform, homogenous culture that obliterates the meanings of work and life, which in effect breeds motivations for the conversion of tech workers. Similarly, Longquan Monastery can be regarded as a faith community that fosters the emotions, meanings and cultural experiences needed to enrich the lives of tech workers. It thus provides a vivid testimony to the embeddedness of religious changes and practices in local and regional contexts (Stump, 2008).

Ultimately, this research looks at how an emerging Buddhist experiment, in which Buddhism and science are tasked to enrich each other, and faith networks among highly educated urban professionals, cast light on the ambiguity and porosity of both religion and S&Ts. To begin with, in recognition of the authority of scientific rationality in modernity, we interrogate "the diversification and fluctuation of religious ideas and practices" (Henn, 2008: 658) through the monastery's ongoing engagement with a particular urban context encoded by S&T development, and how such instabilities trigger the active innovation and adaptation of religious organizations (Lambert, 1999; Ji et al., 2019). The epistemology of co-production serves as a useful analytical

[3] Sometimes also referred to as "Science, Technology and Society" studies.

[4] https://www.dili360.com/cng/article/p53e88927a439391.htm.

device for tracing how various actors in socio-technical networks – S&T institutions, entrepreneurs, the monastery, lay Buddhists, volunteers and corporate actors – oversee the co-evolution of religious knowledge and scientific innovation. In this vein, we consider Buddhism as a dynamic learning process or an incremental and accumulated cognitive process (Habermas, 2006), in response to scientific and technological development in our (post)secular society.

2. Bridging the geographies of religion and Science and Technology Studies (STS): A co-production approach

2.1. Bringing science and technology back into the geographies of religion

The religion/science binary was an important theme in earlier religious studies and, more broadly, social science studies (Weber, 1958). Classical debates on the relationship between religion and S&T have centered on the deep-seated incompatibility between the natural and supernatural, reason and faith, and knowledge and belief (Evans and Evans, 2008; Sjöstrand, 2021). Technology, as a material embodiment of scientific knowledge, is unilaterally considered to be antithetical to religious logics (Kimura, 2017). Religion and S&T have thus been perceived to be associated with ontologically isolated values, experiences, knowledge, and domains of action. S&T has been referred to as a positivist, rational, and logically rigorous system of thinking, while religion, in contrast, has been considered primitive, pre-scientific, and irrational (Stark et al., 1996; Stolow, 2013; O'Brien and Noy, 2015). In other words, the causal explanations derived from logic and positivism resist the association with any theocentric and metaphysical worldviews (Habermas, 2008).

This dichotomy was deeply rooted in classical theories of secularization, whereby religion was viewed as a hindrance to the production of scientific knowledge, and in turn, a victim of technological advancement and its displacement of irrational experiences (Han, 2016; Harrison, 2017). There was a common argument that scientific rationality purified religious elements, which led to a contraction of religion into a cordoned-off niche to avoid an affront with science. Indeed, studies have suggested that S&T advancement and expansion have contributed to a widespread fall in religiosity, and that religious beliefs and practices decline as education increases, most notably among S&T professionals (Stark et al., 1996). In *The Secular City*, Cox (2013 [1965]) introduced the term *Technopolis* to the lexicon when explaining how the evolution of the modern city peaked under the aegis of S&T while moving toward a world devoid of religion. In this sense, S&T is arguably the most purified form of secularization. As Berger (1969: 126) once claimed, "the rise of science" imposed "an autonomous, thoroughly secular perspective on the world". Such a process makes up an integral dimension of secularization as the balkanization of secular and religious institutions, through which the state, market, welfare, education, science and other domains gain autonomy from religious institutions and belief systems (Casanova, 1994; Habermas, 2008).

With the resurgence of religion in the social, cultural, and political realms and in everyday lives, an agenda of revealing post-secular ethos and historically contingent and pluralized secularities is currently underway, based on the ongoing rethinking and modification of secularization theory (Habermas, 2008; Beaumont and Baker, 2011). On the one hand, Tschannen (1991) refers to the differentiation of multiple spheres as a double movement – as different domains achieve independence from religious hegemony, religion also tries to retain influence by partially adjusting its positions and functions. Religion, instead of fading away, evolves into one of the plural lifestyle options for a kaleidoscopic modern society (Taylor, 2009). As Wilford (2010) observes, the transformation of a holistic "sacred canopy" into the "sacred archipelagos" can be considered a mutation of religion from a rigid, total authority into diverse subjectivities with constantly generative possibilities.

On the other hand, the post-secular approach shakes up the static ontological boundaries demarcated by the thesis of differentiation, and deliberates on the fact that religious subjectivities are re-negotiated by constantly shuttling between various domains of meanings (Tschannen, 1991; Olson et al., 2013). As Berger (2014: 53) reflects, the secularization thesis utterly underestimates the agency of individuals to switch between the religious and secular spheres. Social differentiation is an unstable process that is fraught with reflexivity, contingency, and complexity in which different domains are not decisively disconnected from one another but rather parts of an interactive, evolving, and hybrid network (Latour, 2012). In this vein, paying attention to "the contingent nature of conflict and cooperation between and within various societal institutions" (Wilford, 2010: 342) can serve as a productive starting point for exploring the co-production of the sacred and the profane.

Different parameters of social life have thus far been reconceptualized and rethought at the secular-religious interface, such as the state and politics (Cloke et al., 2016), the provision of social welfare vis-à-vis neoliberalism (Atia, 2012; Williams et al., 2012), everyday lives and performances (Gökarıksel and Secor, 2015), the production of urban spaces (Henn, 2008; Yip and Ainsworth, 2015; Gilbert et al., 2019; Qian, 2019; Woods, 2019), and the spiritually encoded geographies of labor (Chen, 2017; Gao and Qian, 2020; Parsons and Brickell, 2021). In such spaces of post-secular rapprochement, we can witness religious actors navigating various relations for experimentation and collaboration, rather than remaining confined to well-demarcated sacred spaces (Ammerman, 2020; Woods, 2021). Religiosity can thus be viewed as a *contact zone* that translates meanings and symbols across the divide between the sacred and the profane (Mavelli, 2020). Despite these theoretical achievements, however, the boundaries between S&T and religion have not been thoroughly problematized in the geographies of religion, creating the impression that S&T is the one last stronghold of secular rationality that resists the penetration of spirituality. This study enriches the post-secular thesis by exploring the ethos of post-secularity into social studies of S&T in an attempt to transcend the deeply rooted cognitive dissonance between the sacred and the scientific, while theorizing the spiritual as an intermediary factor to support interventions into technical materialization and scientific knowledge production. We contend that the relationships between religion and S&T cannot be defined mechanically and formulaically, in terms of conflict, independence, dialogue or integration (Barbour, 1997), nor do we see the resuscitation of religion just as a means of escape from a world stifled by scientific reason. As claimed by Merton (1938) with considerable foresight a long time ago, it may be a futile endeavor to attempt to codify the "correct" relationship between religion and S&Ts in terms of conflict or harmony; in contrast, attention should be paid to the intricate ways that religious ethos and S&T interact and are entangled in actual socio-technical processes. Rather than considering religion and S&T as competing claims to truth, a more productive approach would be to focus on the social, cultural and political contingencies to which they both respond, and how social processes serve as points or nexuses of *articulation* for S&T rationalities and religious meanings (Gülker, 2019).

2.2. Toward a perspective of co-production

The secular prophecy that the divine will perish at the hands of S&T has repeatedly failed to deliver (Harrison, 2017). In a secular society rife with technocracy, S&Ts engage and interact with religions more substantially than what can be inferred from rigid categorizations, and a range of technological applications have attracted the attention of religious communities (Casanova, 2007). As Derrida (1998: 46) states, "religion today allies itself with tele-technoscience, to which it reacts with all its forces". Existing studies of the intersection between religion and technology have examined the engagement of religions with a gamut of mediating technologies (e.g., broadcasting, digital media and the Internet) that profoundly facilitate the dissemination of religious messages (Kong, 2001, 2006; Shelton et al., 2012; Gao et al., 2022). Technologies have reconfigured the spatio-temporalities of religious experiences and practices, connecting virtual and physical worlds. One

illuminating example is the inventive use of mobile devices to practice rituals of faith in response to the lockdowns and the closure of religious sites during the COVID-19 pandemic, which demonstrates that religion can be equipped with technological affordances to create diverse meanings for the lifeworlds (Chen et al., 2022). Indeed, the trajectory of religious innovation and mutation is, to a considerable extent, progressively influenced by sciences and technologies. For instance, the phenomenal growth of Pentecostalism in non-Western cultures has benefitted from the application of telecommunication and commercial organizational strategies (Cox (2013 [1965]; Yip and Ainsworth, 2015). As a flipside of the story, the crisis of religious authority and authenticity following the utilization of media technologies has emerged as an implicit concern for faith actors (Stolow, 2005), with two particularly noteworthy symptoms of erosion (Cheong et al., 2011): (i) the disembodied experience of online religion that challenges the traditional localized mode of religious organizations; and (ii) the dilution of monopolistic religious claims through the dissemination of knowledge from a variety of sources, especially those based on secular positionalities. Campbell (2010), however, offers an alternative interpretation of this crisis, referring to the "religious-social shaping of technology", in which religious organizations consciously negotiate the conflicts of identity and the boundaries between religions and technologies by endowing technological applications with new cultural connotations.

These studies, however, treat technologies as mediating instruments for overcoming physical barriers, rather than disrupting the bounded ontologies of S&T per se, and thus have had limited success in problematizing the ontological separation between religion and S&T. Consequently, the engagement with spirituality as an itinerary through which more reflexive and less enclosed conceptualizations of S&Ts are developed, remains a largely uncharted territory. To address this issue, we introduce the epistemology of co-production as a lens through which the configuration, dissemination, and utilization of scientific knowledge in specific social settings can be scrutinized, while noting that reflexivity is at the center of variegated socio-technical encounters (Wyborn, 2015). Co-production challenges the idea of technological determinism, which sees scientific progress as a unidirectional, linear path to totalizing rationality (Jasanoff, 2004b; Wehrens, 2014). From a deterministic standpoint, scientific knowledge is the ultimate form of truth, the purity of which is not to be polluted by social and cultural factors. This assertion has often raised concerns regarding the depletion of the spiritual world and the enslavement of humans by technologies (Hammond, 2004). The co-production framework, in contrast, rejects this linear model in favor of theorizing how knowledge is co-produced by scientific rationality, technical materiality, and social processes (Brodwin, 2008). The co-production literature, addressing such topics as climate change, energy, bioethics and sustainability, has brought S&T out of the laboratory setting and opened it to broader public debates (Mahony and Hulme, 2018; Holt et al., 2019). These processes enlist more diverse spaces and actors into knowledge production (including professional institutions, policymakers, experts, the public, etc.), and elucidate how specific claims to scientific knowledge are stabilized or discarded through the interactions and negotiations among various actors. This perspective thus takes into account the complex co-existences and frictions among diverse values, interests, cultural traditions, and materialities (Van der Hel, 2016).

The development and evolution of S&T are riddled with ambiguity and contradiction, as the concerns with risk, responsibility, and accountability hamper the linear growth of science and inevitably foster a conversation between the scientific and the social in terms of the social relevance and value of S&T (Hammond, 2004). In this sense, co-production offers a useful entrée into the melding of S&T and religion as intertwined hybrids (Latour, 2012). To begin with, S&T has been widely adopted by religions to enhance their adaptability and flexibility in the modern secular world. This can be observed in the ways that religion consciously aligns itself with scientific rationalism and pragmatism to accommodate the rising prestige of S&Ts, while also aggressively expanding its influence through digitally mediated technologies (Gao et al., 2022). Religion also provides the ideological and discursive conduits through which S&T-related issues are rethought and debated. In secular societies, religious institutions more frequently act as key "communities of interpretation" in a variety of S&T-related controversies, e.g., the legalization of abortion, euthanasia, reproductive ethics, climate change, etc (Habermas, 2008). In the meantime, the intersection between S&T and religion creates a form of "provincialization", with different religious groups making contingent, variegated, and purposeful interpretations of evolution theory in response to specific contexts, indicating that vernacular cultural politics profoundly shapes the adoption of scientific knowledge (Livingstone, 2005). Finally, religion can even provide rationalities, legitimacies, and inspirations for the ongoing renewal of scientific and technological knowledge. According to Evans (2010), religion has transformed into a cultural resource that the public consciously appropriates to reinforce the moral legitimacy of their opposition to reproductive genetic technologies and abortion, while Campbell (2020) suggests that the languages, imageries, and practices of religion are meaningfully appropriated as a "poetic" supplement to digital creativity and "emotionless" technical innovations. It has also been suggested that the normative shaping of individual qualities (e.g., self-control, honesty, diligence) by religion, as well as the social milieus and networks organized around religion, contribute to some extent to the creativities and inspirations underlying scientific knowledge production and technological innovation (Assouad and Parboteeah, 2018).

In sum, the co-production approach serves as a more inclusive epistemology to deepen the theorization on post-secular rapprochement and adds at least three insights to our efforts to rethink religion from a praxis-based standpoint: First, religion enriches itself by absorbing scientific ideas, interpretations, and discourses as a cross-over learning endeavour in a post-secular context. Second, S&T has become an open-ended process in which diverse actors are enrolled to contribute to the production of scientific knowledge for the advancement of plural interests, aspirations, and life projects, including those that are encoded by religiosity and spirituality. Finally, these processes are mediated by social contexts and are thus hybrid and contingent. They are complex translations rather than merely replications of existing doctrines and meanings, whether scientific or religious (Latour, 2005).

3. Background and methods

3.1. Buddhism Revival in Reform-era China

It is necessary to revisit the relationships between religions and S&T in the Chinese context, paying particular attention to the ideological hegemony of atheism and scientism endorsed by the Chinese state. According to Seng (2006), scientism has gained a robust footing in China, presupposing the intrinsic incompatibility between scientific progress and religion. In the Maoist era, this monolithic ideology portrayed traditional beliefs and faiths as feudal superstitions to be eliminated or rationalized (Laliberté, 2015; Ji et al., 2019). In other words, the state constructed a rigid divide between religion and science by upholding a fundamentally triumphalist position of S&T over religion. During the reform era, and the subsequent rapid urbanization and rise of a market economy, Chinese society witnessed a vibrant religious renaissance, supposedly in response to the alienating effects of secular modernity (Goossaert and Palmer, 2011; Jones, 2010), and the savvy religious market has not shied away from satisfying people's spiritual needs and providing religious products (Yang, 2006). The fetishization of money and increasing moral decay have been widely perceived and critiqued by Chinese people, leading the state to consciously steer the (re-)entry of religion into the secular social and cultural universes to alleviate the society's moral uncertainty and declining spirituality (Fällman, 2010; Chau, 2011).

Recent decades have seen Buddhism serving as one backbone of the

religious revival. According to a report by Pew-Templeton Global Religious Future Project,[5] some 48.2 % of the Chinese population were religious believers in 2020, including 254.7 million Buddhists (18.3 %), with Mahayana Buddhism being the largest institutionalized religion in China (Ji et al., 2019). In the post-reform era, Chinese Buddhist groups have reinvented themselves through the infusion of Master Taixu's vision of "This-worldly Buddhism" (Ch: *renjian fojiao*) into Buddhist doctrines and practices (Ji, 2013) – a philosophy that advocates the closer association of Buddhism with secular society in support of modernization. By adopting this theological position, Buddhism provides moral and spiritual guidance to those who feel spiritually alienated, but must also navigate the market and popular culture, expressed in Buddhism-themed tourist attractions, spectacular landscapes, the fever for meditation among urban professionals, the active roles of Buddhist NGOs in the provision of welfare, the commercialization of Buddhist cultures (Jones, 2010; Weller et al., 2018; Qian, 2019; Hsueh, 2021), and in the case of this study, an outlook that embraces modern technologies. In a word, Buddhism, once considered a secluded realm beyond earthly concerns, is rapidly gaining momentum in its adaptation to modernity under the market transition.

3.2. Methods

The empirical analysis in this study was supported by three data sources, among which newspaper reports were the primary source. A comprehensive search of the Wiser News Database, the world's largest repository of Chinese language media content, and Factiva, the global news database, was conducted to identify articles related to Longquan Monastery in both Chinese and English. The search window was set between January 1, 2005 (the year the monastery was established) and April 30, 2019 (shortly before we undertook data analysis). After filtering out duplicate materials and those not related to the study, a total of 440 relevant news articles were identified, including 394 in Chinese and 46 in English. In the following stage, Longquan Monastery was visited between November 27 and December 3, 2018 for a brief field study that mainly included participant observations in spaces that served secular functions, such as the animation center and the information technology center. The fieldwork also included in-depth interviews with four monks, all of whom were disciples of Master Xuecheng, as well as five lay Buddhists carrying out voluntary work at the monastery. All interviewees were anonymized in this study, and long-term communication was also established with them, primarily through email and WeChat (the most popular instant messaging application in China). The interviews aided us in ascertaining the accuracy of the collected news reports. The final data source for the study were books authored collectively by the Longquan Monastery monks or by Master Xuecheng himself, as well as the memoirs of those who had carried out voluntary works at the monastery. We also consulted the official website of Longquan Monastery (https://www.longquanzs.cn), its WeChat official account, the official website of the Buddhist Association of China (https://www.chinabuddhism.com.cn), the Beijing Ren'ai Charity Foundation based in Longquan Monastery (https://www.chrenai.com), and Master Xuecheng's *Sina Weibo* account (the most common blogging website in China).

This study prioritizes secondary textual data for two reasons: first, the phenomenal growth of Longquan Monastery's fame has been heavily reliant on digital media and active branding. According to Einstein (2007), religious branding attracts new believers by establishing a sense of distinction. To a large extent, Longquan Monastery has succeeded in creating a Buddhist brand, with the brand image tied to a series of S&T-related icons, technological innovations, and intensive use of artificial intelligence (AI). The gathered news texts relate to a variety of activities in which the monastery has been engaged, and cast light on the involvements of multiple actors, including monks, lay Buddhists, volunteers, IT workers, entrepreneurs, among others. Second, Longquan Monastery has been under considerable scrutiny by the government since August 2018 when accusations of sexual assault were made against its abbot, Master Xuecheng, by a nun. The monks and volunteers are thus wary of outsiders, making long-term fieldwork in the monastery impractical. For this reason, first-hand data from interviews served only as a secondary source of information in our empirical investigation.

4. The intersection of Buddhism and S&T

> "Buddhism is ancient and traditional, but Buddhists are modern"
> *Master Xuecheng, Sina Weibo, 10 October 2015*

Longquan Monastery is located on the Phoenix Ridge in the northwestern suburb of the Haidian District of Beijing. Following the opening of the Phoenix Ridge Scenic Area in 1995, the government and the faithful launched efforts to restore this long-abandoned temple as a tourist attraction. In 2001, Buddhist practitioner Cai Qun provided over 2 million Chinese RMB for the restoration of Longquan Monastery in cooperation with the local administration,[6] and on April 11, 2005, Longquan Monastery was officially registered as a place of religious activity, with Master Xuecheng, then Vice President and Secretary General of the Buddhist Association of China, as its abbot. The reconstruction of Longquan Monastery was touted as a turning point in Chinese Buddhism's exploration of "This-worldly Buddhism". In its 10th year, Master Hsing Yun, the founding patriarch of Fo Guang Shan in Taiwan, praised the monastery as "the center of Chinese Buddhism on the Mainland, affecting the entire Buddhist community with its every move".[7] This achievement was largely attributed to its charismatic leader Master Xuecheng, a highly entrepreneurial and politically influential "Buddhist maker",[8] who strongly supported a dialogue with S&T for the promotion of Buddhism. He dedicated himself to transforming the monastery into a "Bodhimandala", of "a place of awakening" that benefitted from the synergy between S&T and religion.

The Chinese Buddhist community's interpretation of "This-worldly Buddhism" reveals a preference for the "capitalist Buddhist spirit", referring to the mutually beneficial interaction of Buddhism and the market economy (Chandler, 2001). To expand Buddhism's influence, Master Xuecheng reformed the traditional monastic system and established an administration model based on the organizational structure of modern corporates. The monastic community could thus take on new roles and functions. As a series of newspaper reports reveal, the public image of the monastery was reinvented through its alignment with the needs of high-tech talents. Subsequently, three innovative strategies were developed to support the branding of the monastery[9]: (i) branding the monastery as a highly educated Sangha (collective of monks), including people with PhDs from Tsinghua University and Peking University, nuclear physicists, IT programmers and, most notably, mathematical genius Liu Zhiyu (Master Xianyu), who won a gold medal at the 2006 International Mathematical Olympiad and who gave up a full scholarship from MIT to join the monastery in 2010, abandoning the pursuit of material wealth and achievement and opting instead to discover the inner world; (ii) launching the iconic robot monk Xian'er, developed by Longquan Monastery in a joint project involving monks, volunteers, Internet firms and artificial intelligence firms; and (iii) hosting regular IT and AI-themed meditation camps attracting many

[5] http: //https://www.globalreligiousfutures.org.

[6] https://finance.sina.com.cn/leadership/crz/20130704/150216017100.shtml.

[7] https://www.buddhism.org.hk/news/Article-2101.html.

[8] https://www.jiemian.com/article/640216.html.

[9] J.C.Hernández, China's Tech-Savvy, Burned-Out and Spiritually Adrift, Turn to Buddhism, *The New York Times*, 8 Sept 2016. https://www.nytimes.com/2016/09/08/world/asia/china-longquan-monastery-buddhism-technology.html.

volunteers from relevant sectors to contribute to the temple's digitalization efforts in such areas as big data techniques and data mining for the deciphering of Buddhist scriptures (e.g., "Research on cloud computing for Sramana informatization in the age of big data", "Research on Sanskrit participles based on text mining"). These branding strategies not only support the preservation and dissemination of traditional Buddhist knowledge, but also the enrichment of Buddhist theologies in a contemporary contexts.

Overall, these initiatives have been successful in repackaging the monastery in accordance with Master Xuecheng's "religion + S&T" vision, which holds that Buddhism and S&T complement each other in advancing social benefits. To illustrate the mutual constitution and cross-over learning between S&Ts and Buddhism, our empirical materials elaborate on three major dimensions.

4.1. Buddhism as a spiritual resource for high-tech workers

For the first dimension, Buddhism injects humane values into "cold" scientific rationality, thus serving as a technology of care for the subjective well-being of high-tech professionals. Geographically, the "Buddhism + S&T" model is inextricably embedded in the concentration of high-tech industries and top universities in Beijing's Haidian District. Longquan Monastery places considerable emphasis on the cultivation of adherents from the highly educated and skilled groups, offering free meditation camps to professionals from such disciplines as IT, engineering and finance. Among these, it is the IT meditation camps that are attributed the most importance, with alluring names such as "Tech for Social Good", "AI·Enlightenment", etc. Dong, a cyber security engineer, shared his experience of the first "AI·Enlightenment" meditation camp, for which the monastery tailored a refined curriculum. During his three-day stay he was temporarily dislocated from his smartphone and computer, immersing himself rather in the experiences and practices of diverse forms of meditation (walking, sitting, and farming), sutra chanting, seminar study, and Dharma teachings. These activities provided him with moments of physical repose and mental tranquility, in stark contrast to the rapid pace of the IT sector. During a special session entitled "Longquan Night Talk", the monastic community exchanged ideas with the tech workers on such topics as the potential coexistence of Buddhism and AI and how Buddhist thought could be integrated with technological creativity. Particular focus in this regard was on the use of AI for the study of Buddhist sutras and knowledge, and more importantly, for the undertaking of social projects that embody Buddhist values.[10] According to a meditation camp participant's diary, 99 of the 200 participants left the camp as converts,[11] as confirmed during an interview with a monk, who said "the selection criteria for the meditation camp considers primarily education, religious inclination, and financial ability, as Longquan Monastery is seeking to put together a solid talent pool from among the believers. Moreover, it is thought that those with high social status, by virtue of their social networks, will be able to identify other potential converts, enhancing the monastery's social influence and sources of offering and support" (July 1, 2022).

The most illustrative of the latter is a foundation called Ren'ai run by Longquan Monastery, which has been operating the Ren'ai Heart Inn, a charitable initiative, since 2008, where volunteers cook congee to serve pedestrians and passers-by in the mornings for free with a smile, a bow, and a blessing. The project, which has been praised for its success in rebuilding social trust, was launched by Master Xuecheng upon witnessing the overarching loneliness of office workers in Beijing, particularly those involved in IT, many of whom had no time to eat breakfast due to the hectic pace of urban life.[12] As a further example, the Xi'erqi Heart Inn opened in April 2014 in Xi'erqi, known as "China's Silicon Valley", where high-tech companies like Baidu, Lenovo, Digital China and Hanvon Technology are clustered and employ tens of thousands of tech talents and white-collar workers. As the head of Xi'erqi Heart Inn Han pointed out, "The selection of Xi'erqi for serving congee has a special meaning, as the daily congee service can touch the hearts of these white-collars and technology talents and inspire their seeds of kindness".[13] Jin, one of the many IT programmers who benefitted from the Xi'erqi Heart Inn initiative, took up employment as a software engineer in Xi'erqi Shangdi Software Park after graduating from university in 2013. However, the wide chasm between her vision and the reality of the job became increasingly apparent: "The work is intense and hard; working overtime and staying up late is almost a daily routine, and every night, you can see the software park still lit up". She converted to Buddhism after realizing how meaningless her restless life had become, and got involved in the congee program and other initiatives, hoping to find happiness in doing good for other people.[14]

According to Madden (2022), the modern economic order demands an uninterrupted and uniform pace that erodes the lifeworlds of individuals and makes tiredness the norm. It is frequently mentioned in news reports that the foremost appeal of Longquan Monastery to entrepreneurs and tech workers is the spiritual refuge from physical and mental stress. An article entitled "China's Tech-Savvy, Burned-Out and Spiritually Adrift, Turn to Buddhism", tells the story of Sun Shaoxuan, the chief technological officer of an education startup, who converted to Buddhism after an IT meditation camp with the theme "Transformation of the Heart". The report idealizes Longquan Monastery as a utopia free of inter-personal conflict and calculation, where one's sense of trust and security can be restored, and a besieged mind can be soothed by a series of embodied experiences. In Sun's words, "I felt a purer, lighter mind almost immediately when being taken away from my smartphone, through meditation, listening to Dharma talks, and laboring in the garden". For some people, modern life, and the constant advances in technology, make it difficult to find balance between the perfection of material conditions and subjective well-being (Simmel, 1971). As Master Xianxin observes, "One of the feelings I've gotten from receiving visitors at Longquan Monastery over the years is that machines are becoming more and more like humans, while humans are becoming closer to machines,"[15] which resonates with Marcuse's (2013) "one-dimensional man" critique, namely that people feel increasingly subjugated to discipline under the guise of convenience brought by technological advancement. This is particularly evident in the explosion of information and fragmented time spawned by the Internet and other S&Ts, leading to a perpetual "information overload" of human perceptions and experiences, leading people to feel anxious, stressed, and confused amid the kaleidoscope of constantly updated knowledge. To address this issue, the Longquan Animation Center, in cooperation with the Tencent Research Institute, launched a series of animations entitled "What to do without smartphones", illustrating the information overload brought by modern S&Ts and the psychological anxiety felt by people when separated from their smartphones. The animations espouse Buddhist ideas and teachings to highlight the importance of "not being a slave to technology".[16]

Indeed, news reports in China have provided thick descriptions of hard-working IT programmers (*ma nong* in Chinese, meaning code farmers), with simple consumption desires, monotonous rhythms, and dull lifestyles, contributing to the digital order of society but lacking meanings in their own lives. They are entrenched in a "996" work

[10] https://www.jianshu.com/p/010863475a48; https://www2.jianshu.com/p/bb623ad51483.

[11] My bestie meditated in Longquan Monastery for five days, Baguanvpindao, 4 Aug 2018. https://mp.weixin.qq.com/s/fsbgrFKeX87vzh4euHU_kw.

[12] https://www.sohu.com/a/164746611_117822.

[13] https://www.chrenai.org/portal.php?mod=view&aid=866.

[14] https://www.chrenai.org/portal.php?mod=view&aid=4875.

[15] https://theinitium.com/article/20160714-mainland-longquantemple/.

[16] https://www.sohu.com/a/218696601_455313.

schedule (9 am to 9 pm for six days a week), overnight shifts, and non-stop hustle, and the prolonged depletion of spiritual experiences often compels them to seek solace in Buddhism as an alternative solution. As revealed by Lee (2018) in his profound insight into China's ICT industry, the law of "brutal iteration, hell-for-leather evolution" is the fundamental survival logic adopted by Chinese ICT firms. The neoliberal politics of urban technological growth is experienced in a way that penetrates the corporeal (Amin and Richaud, 2020), with people's sensory experiences being subsumed by a rhythm filled with the just-in-time production of bytes and codes. As one participant of the meditation camp confided, "I am constantly stressed at work and can't sleep. When I lie in bed at night, my mind is full of code – I can't rest at all, and I feel exhausted".[17] As Longquan Monastery envisions, Buddhism can denoise the human mind and brain, and thus offers an ideal antidote to the alienation wrought by the digital capitalism. For instance, a tailored temple residency program was introduced in response to the rising number of IT programmers seeking a spiritual retreat. For a period of three days to one week, tech workers immerse themselves in the monastic lifestyle, waking up at 5 am, spending the day laboring, chanting sutras, listening to Buddhist teachings, copying scriptures, and finally going to bed at 9 pm. In other words, the Monastery provides tech workers and entrepreneurs with the opportunity to reflectively engage with a discursive and affective framework as an opportunity for "respite, slowing-down, and moments of being" (Amin and Richaud, 2020: 862).

4.2. Buddhism as alternative rationality to S&T

In a second scenario, religion and spirituality, to some extent, permeate into scientific and technological processes, serving as an alternative source of justification, and even inspiration, for technological innovations. Citing a report in the renowned S&T magazine *Wired* commenting on how meditation inspires technological creativity in Silicon Valley, Master Xuecheng highlights how tech companies like Google organize "mindful lunches" and "walking meditations" for their staffs, how Facebook applies Buddhist thought to optimize its products, and how Apple's founder Steve Jobs drew inspiration for his product designs from Zen Buddhism and referred to Buddhism as the new "caffeine" for scientific and creative discovery (Weibo, Master Xuecheng, September 16, 2016). Meditation, packaged in scientific discourses, is believed to be efficacious in mitigating mental perplexity of tech professionals, enhancing task performance, and liberating them from pervasive anxiety associated with life and work (McMahan and Braun, 2017). This re-interpretation of Buddhism has been mentioned also in news reports. Tech professionals and entrepreneurs employed by some of the most famous tech firms in China, including smartphone manufacturer Xiaomi and e-commerce giant JD, believe that the calmness instilled by Buddhism allows them to focus more on the inner self, thus inspiring creativity and innovation.[18] An interesting vignette resonates with the Silicon Valley stories of tech professionals and entrepreneurs who seek creativity through Buddhist practices – it is rumored that the mastermind behind WeChat, Zhang Xiaolong, stayed at Longquan Monastery after becoming frustrated by the lack of a technical breakthrough. Several technical difficulties pushed him to the point at which he tore up a design document and threw it on the ground. A monk in charge of cleaning picked up the torn-up document and put it back together, and wrote down several suggestions that led Zhang to invent WeChat, which would go on to become a spectacular business success.[19] While the story has since proven to be fictitious, it continues to circulate as an urban legend among software developers, and has allured a large number of programmers and tech workers to Longquan Monastery, earning it respect and reputation within tech circles. This echoes Chen's (2022: 122) assertion that "religion takes on the instrumental logic of work", and that S&T professionals are embracing the Buddhist virtues of concentration, equanimity, and compassion, learning to meditate as a practice that boosts productivity and generates economic value.

Yu Zhichen, one of the entrepreneurial pioneers of artificial intelligence (AI) in China and the founder and CEO of Turing Robotics, serves as a further illustrative example. His firm released its first Turing Robot in November 2014 – then the most intelligent robot design in China – but given the prematurity of China's AI and robotics market and oscillating market demands, he was uncertain about the prospect of his company for the future. He visited Longquan Monastery with a volunteer, Yunfei Song, CEO of Feiyue Robotics, early in 2015 in an attempt to clear the confusion. Intriguingly, life at the temple sparked their imaginations and they came up with the idea of making a robot monk. In an interview with Economic Weekly,[20] Yu said, "I think it would be cool if Buddha statues could move like robots and interact with believers someday. Also, I saw many believers kneeling in the temple and telling their wishes and problems. Realistically, the Buddha statues cannot hear you. The abbot and monks also have limited time, and so it is impossible for them to respond to everyone". Eventually, Yu embarked on the creation of the robot monk by injecting Buddhist knowledge into the robot's artificial intelligence and building what was referred to as "Buddhist Siri", which could respond to people's queries with Buddhist knowledge. This combination of AI and Buddhism also motivated Yu's interest in the social use and value of technology, facilitating his pursuit of designs combining technologies with emotion, love and spiritual companionship. This went on to become the core philosophy of Turing Robotics, and the company has continued to be committed to the development of robots that conjure up a sense of humane interactions and relations.

The initiative that led to the creation of a robot monk was passionately embraced by the monastic community, believers, and volunteers from the S&T sector, leading to the creation of a collective project entitled the "Longquan Geeks Inn". The Robot Monk project was overseen and coordinated by Master Xianshu, the concept designer of Xian'er and a successful advertising entrepreneur prior to becoming a monk, and Yang, the founder of an AI tech firm. Over 20 tech and creative industrial companies were involved in the creation of the two generations of robot monks, including such AI giants as Iflytek, Tencent, and Sogou. While the first generation had a rudimentary human–machine dialogue function, the second had visual recognition capacity and a cloud brain capable of storing Buddhist scriptures, undertaking deep learning, cloud-processing human–machine dialogues, and connecting synchronously with the movements of the robot's physical structure. Robotics company CANBOT supplied the body, which was then installed with a database of audio Buddhist teachings and a voice recognition capability, allowing it to impart Buddhist knowledge to the faithful.

Buddhist values and teachings were notable in the creation of Xian'er, manifesting a kind of "devotional creativity" (Gilbert et al., 2019) and leading the volunteers from the S&T fields to actively appropriate Buddhist teachings and ethics through their interpretations of the commonalities between Buddhism and S&T. Liu, the founder of the robotics startup CANBOT, for example, mobilizes Buddhism terms for an interpretation for AI. "When robots, particularly service robots, incorporate intelligences that are germane to those of humans, we can refer to Buddhism's 'six senses' (Sadindriya): eyes, ears, nose, tongue, voice, and mind. Corresponding to AI are the visual, auditory, perceptual, linguistic/semantic, and motor intelligences, and intelligence in terms of autonomous recognition, etc".[21] Furthermore, the Buddhist ethos of "the

[17] https://www.icpcw.com/Information/rwgd/News/3287/328749.htm.

[18] J.C.Hernández, China's Tech-Savvy, Burned-Out and Spiritually Adrift, Turn to Buddhism, *The New York Times*, 8 Sept 2016. https://www.nytimes.com/2016/09/08/world/asia/china-longquan-monastery-buddhism-technology.html.

[19] https://mp.weixin.qq.com/s/qudZrH5EzrmjJiiz36sjTw.

[20] https://boyamedia.com/category/detail/5983/.

[21] https://www.leiphone.com/category/industrynews/IQaODOCGwgTNZpYu.html.

union of causes and conditions" (hetupratyaya), as well as mercy and selflessness has been applied to the formation of a socio-technical network of co-production, where the *"bodhicitta"* (the mind of awakening) of the monks, scientists, tech specialists, entrepreneurs and artists converge to form an "energy field" (a term used widely by Chinese Buddhists) under the guidance of Dharma (Yang et al., 2016: 101). For the monastery, the robot monk is an example of the use of technology for social good, and the various actors who invested time and money on the project commonly put aside concerns for economic returns of the robot project (Yang et al., 2016).

This meld of technical creation and spiritual passion testifies to the co-production of religion and S&T. In this case, S&T activities and knowledge production do not adhere to a unidirectional, economically utilitarian scheme of calculation, shifting more toward a culturally embedded calculation in which various values are contingently articulated (Barry and Slater, 2002). For instance, Longquan Monastery has, at several S&T conferences, stressed the value of reflecting on the dark side of rapid advancement of S&T, while asserting that Buddhism can serve as a social force that steers S&T toward humanity, goodness, and the warmth of social relations. In an exchange with Murray Shanahan, a world-renowned AI and Robotics scientist, Master Xianshu remarked, "Longquan Monastery has long been concerned with AI, especially in China, where there is much uncertainty and concern regarding its future. Since entrepreneurs consider only economic value when chasing technological advancements rather than morality and evil, they use technology to reduce costs. For instance, in a factory employing 1,000 people, an AI assembly line may require only 10 employees to operate, putting the remaining 990 out of work. To ensure that AI technologies remain in the hands of good people, I believe that more initiatives can be taken to introduce Buddhism to people as a pedagogy".[22] As Jasanoff (2015) has noted, in addition to depicting a vision of technological advancement, the socio-technical imagination also embodies a shared understanding of good and evil. For the monastery, the "sacred archipelagos" in modernity are viewed as active and dynamic mediating forces that "can enable ruptures in the seemingly hegemonic spaces of the current order" (Cloke and Beaumont, 2013: 44).

4.3. Toward more scientific Buddhism

Finally, science is appropriated as a means of rationalizing and modernizing the Buddhist faith and making Buddhist cosmologies compatible with everyday experiences in modernity. The ultimate goal is to expand the pool of laypeople with a potential interest in Buddhism. Longquan Monastery advocates the adoption of more scientific modes of Buddhist learning and practice in response to the educational backgrounds of their "clientele". According to Chen (2022), a process of "killing the Buddha" in Silicon Valley over the past 40 years was initiated in which dogmas and transcendence were abandoned in favor of a more rational, scientific, and efficient form of Buddhism, creating a distinct brand that has been modified and adapted to cater to the needs of tech workers and "awakening tech workers to their full productivity" (p. 194). This is reflected in the mode of co-cultivation adopted by the Sangha and the lay community through which they collaborate and establish study groups according to the believers' professions, and holding regular weekly seminars led by monks for the study of Buddhist sutras.

To begin with, the Buddhist treatise *Lamrim Chenmo* (*The Great Treatise on the Stages of the Path to Enlightenment*, originating from Tibetan Buddhism) is selected as the major text for lay believers as it divides the path to Buddhahood into three, namely the lower, middle and upper, paths. The three stages follow a logical and unambiguous sequence, each of which is defined by a specific set of practices. The text is promoted by the monastery as "rational" and "scientific", given the clarity of concepts and the unambiguous and logical relationships between each set of Buddhist practices. In other words, certain facets of Buddhism are claimed to be compatible with scientific principles through their alignment with scientific modes of thought (McMahan, 2004; Lopez, 2009).

Secondly, as commented by one monk (September 20, 2021) during the interviews, "some of the Buddhist thinking upheld by Longquan Monastery (about the world, life, values and methodology) is quite rational, drawing from Western medical research on near-death experiences to explain the Buddhist view of Samsara (i.e., the cycle of life and death), making it more appealing to rationally thinking people with high levels of education in science and technology". Indeed, Longquan Monastery is keen to propagate the compatibility of Buddhism with S&T. On the one hand, it introduces scientific knowledge into Buddhist teachings, discussing the benefits and drawbacks of science, in tandem with how Buddhism can respond to them. For example, it is suggested that the Buddhist ideas of opposing killing can shed light on the dangers of pesticide abuse. Resonating with McMahan's (2008) insight, Buddhist modernism touts an ambiguous association with science, aligning itself with the fundamental assertions of the latter while also endeavoring to take on a corrective role. On the other hand, the official website of the Monastery contains a section entitled "Religion and Science" that offers evidence of how Buddhism and science resonate with each other, detailing, for example, how Buddhist meditation has emerged as a research hotspot in the field of cognitive neuroscience, and how the benefits of meditation have been scientifically verified through magnetic resonance imaging of Buddhist monks' brains. As a further example, an article based on a presentation by physicochemist Zhu Qingshi, an academician of the Chinese Academy of Sciences (CAS), entitled "Quantum Consciousness: Where Modern Science and Buddhism Converge", suggests that the claim of the Buddha that "all of Dharmadhatu comes from our mind" is in tune with the quantum mechanical interpretation of human consciousness – a conclusion that he reached after comparing the studies of Buddhism and natural sciences.

On a parallel path, a slew of S&T activities have influenced the reform and reconstruction of theological ethics at Longquan Monastery, exemplifying many geographers' emphasis on "faith-by-praxis" (Cloke and Beaumont, 2013). As previously stated, Longquan Monastery has collaborated with diverse circles of tech workers in Beijing. As such, it innovatively reinterprets Buddhist theologies to align Buddhist ethos with S&T activities. It argues that high-tech workers' everyday life is of religious value and emphasizes the need for Buddhist doctrines to be validated through earthly labor, including that in high-tech sectors. This is demonstrated by the monastery's reappropriation of a mantra in Zen Buddhism, i.e., "valuing both agriculture and Zen" (Zen referring to the exercise and perfection of mind). This idea advocates that labor is both a route to material wellbeing and a means for reflection on an inner self. For Longquan Monastery, IT work in the modern context is germane to agricultural labor in a traditional society – in both cases, corporeal practices and fatigues can activate a reflexive mind. Master Xianxin, for example, puts forward a vivid analogy: "Buddhism is as shapeless as water, but when practicing Buddhism in real world, it is being filled into a cup that always has a shape" (Yang et al., 2016: 81). Hence, many converted tech workers tend to understand their hard work and difficulties in moralized and spiritual terms, as the cultivation of Buddhist merit called "karma". In one such example, Liu, the founder of the CANBOT robot start-up, was facing massive financial difficulties in 2014 as he was trying to get the company off the ground, with debts in excess of 20 million RMB. Feeling physically and mentally worn out, he started practicing Buddhism, and as a result viewed his perseverance in the AI sector as cultivation of "bodhicitta" (the mind of awakening). In his words, "Buddhism advocates the unity of knowledge and action, and the use of AI to advance the Dharma and improve life is also planting the seeds of goodness and bringing different forces together under the guidance of the Buddha" (Yang et al., 2016: 98).

[22] https://www.thepaper.cn/newsDetail_forward_1475277.

5. Conclusion

"The Buddha, the Godhead, resides quite as comfortably in the circuits of a digital computer or the gears of a cycle transmission as he does at the top of a mountain or in the petals of a flower".

Robert M. Pirsig, Zen and the Art of Motorcycle Maintenance (1999: 34)

Religion and S&T are two critical forces that have been present throughout the course of modern history, and the cognitive distance between the two has been deeply seated. The religion/S&T divide is however artificial and theoretically impoverishing, and does not do justice to the co-production of the scientific and religious ethea and practices in many contexts. Indeed, the sensibilities around post-secularity, according to Williams (2015), necessitate reflexive engagements with the binary oppositions endorsed by linear and monolithic versions of the secularization theory. By incorporating STS into the theoretical agenda of post-secular geographies, the present study fills the canvas of post-secularity with a touch of science and technology, while unearthing religion as an important layer of the sociocultural conditions underlying the production of technological discourse and knowledge, which has to date been largely overlooked by STS.

The purpose of this research, therefore, is to cast light on the conversations between the two fields of STS and post-secularity. In Longquan Monastery, Buddhism is given a great latitude of re-invention in accordance with the technological triumph in the modern society, as the monastery specifically targets religious clients who specialize in S&T and create optimal conditions for the co-production of religion and S&T. The collision and negotiation between scientific and sacred values give rise to a plurality of interests and aspirations for the actors that navigate the interface between them. In these context-specific and geographically contingent negotiations, spirituality serves as an intermediary in the reinterpretation of S&T activities and knowledge, while S&T, in turn, enriches religiosities and Buddhist practices. First, Buddhism acts as a spiritual lubricant that infuses meanings into the lifeworlds of tech workers, who would otherwise remain beset by technological rationality and a race-to-the-bottom mentality under the emerging digital capitalism. Second, Buddhism acts as a source of inspiration and creativity in S&T activities, injecting social, spiritual, and humanistic values into the reinvention of technologies. Finally, the monastery absorbs scientific discourses and logics to represent Buddhism as a logical, systematic body of knowledge, on par with what is expected of modern science and rationality. This entails the selective appropriation of doctrines, practices, and teachings to form a new, hybrid system of religious arguments and worldviews (McMahan, 2008).

In conclusion, this paper makes three contributions to the geographies of religion. First, it engages in a fruitful dialogue between STS and the geographies of religion to better incorporate science into the theorizations on religion. The co-production epistemology proves to be useful in examining the interface between S&T and religion, revealing the contingent entanglement of religion with scientific knowledge. Religion encodes science not only by addressing the alienation resulting from technological advancement and reworking the rationales behind S&T activities, but also by absorbing the logics of science and rationalism to make it more appealing to the highly educated in the religious marketplace. Second, the study approaches science as an important but to date relatively overlooked aspect that can nonetheless be squarely positioned within the broader agenda of post-secular rapprochement. Religion not only permeates politics, social welfare, and everyday experiences, but also the assumedly fortified, ontologically hermetic realm of science and technology. It is due to this assertion that we suggest a need for deeper investigations of the cross-over learning that transgresses the boundaries between religion and S&T. Based on the above-mentioned points, finally, this study follows an established approach in the geographies of religion, which links the innovation of theoethics and religious practices to urban and regional contexts shaped by variegated socioeconomic upheavals (Cloke and Beaumount, 2013), despite that we focus on a hitherto understudied issue, namely the spiritual alienation brought about by the agglomeration of technological production and consumption in cities. In this sense, this study may shed some light on the co-evolution of the spiritual domain with emerging technopolises and "cities of unicorns" (McNeill, 2016), an inquiry worthy of further investigation from geographical perspectives, given the sheer velocity with which new digital and AI technologies are being invented.

CRediT authorship contribution statement

Han Zhang: Conceptualization, Data curation, Formal analysis, Investigation, Methodology, Writing – original draft, Writing – review & editing. **Junxi Qian:** Conceptualization, Formal analysis, Funding acquisition, Investigation, Methodology, Project administration, Supervision, Writing – original draft, Writing – review & editing. **Lily Kong:** Conceptualization, Methodology, Project administration, Writing – original draft.

Declaration of competing interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

Data availability

The authors do not have permission to share data.

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