Flowing *Qi*, Vibrating Frequency: Toxicity, Healing, and Queer Animated Matters in Techno-biopolitical China (1980-)

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Abstract

This research examines a new site of techno-biopolitics enacted by the entanglement of toxicity, alternative healing, and technoscience in "neoliberal post-socialist" China. Drawing from Mel Chen's notion of animacy and in conversation with other feminist theorists including N. Katherine Hayles, Michelle Murphy, and Donna Haraway, I investigate how three (in)corporeal matters and concepts—toxicity, *qi* 气 in Chinese metaphysics, and frequency in science—are animated and incorporated into techno-biopolitical governance throughout Chinese people's grappling with healing from the 1980s' "*qigong* fever" 气功热 to a contemporary context. Through an interdisciplinary approach that combines archive research, visual and cultural analysis with ethnographic inquiry, this study attends to scientific research papers, popular science readers, *qigong* drawings, media coverages, and interviews and participant observations conducted in Dali, China. In so doing, I trace a genealogy of alternative healing from *qigong* 气功 prevalent in the late twentieth century to emergent *lingxing* 灵性 healing at the present; and its interrelationship with both material and metaphoric toxicity, intertwined with cybernetic remnants in techno-oriented China.

To explore these dynamics, first, I discuss how a scientific field, named "somatic science" 人体科学, reformulates and abstracts human bodies and *qi* into the metrics of experiment data by integrating cybernetics, Marxist political ideology, and East Asian cosmo-epistemology. This process not only reshapes the techno-epistemological framework of Chinese alternative healing but also broadly reconfigures understandings of the human-environment relationship. Subsequently, I focus on a Chinese woman artist, Guo Fengyi 郭凤怡, whose drawings and personal history urge a reconsideration of toxicity, gender, and (post-)socialist political economy of medicine and labour. Following this, I turn to contemporary *lingxing*'s reinterpretation of frequency as a healing lexicon, through which toxicity unfolds as an invitation of what I call "a queer technology of attunement" of living. Through these examinations, I suggest that toxicity, *qi*, and frequency are arguably queer animated beings—they are flowing and transmitting across boundaries of subjects, objects, and related discourses while unsettling liberal humanist normative notion of individual and security—showing a potential to destabilize the order of livings and non-livings across geopolitical differences, chemical exposure, chronic illness, gender, and class.

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List of Abbreviations

CCTV – China Central Television

FLG – Falun Gong, 法轮功

MIT – Massachusetts Institute of Technology

NAM – New Age movement

RA – Rheumatoid Arthritis

TCM – Traditional Chinese Medicine

TFC – the Third Front Construction, *sanxian gongcheng*, 三线工程

Introduction

From History to Now

On a typhoon night last summer, while I was waiting to board my delayed flight from China back to Europe in Shenzhen, a public dialogue between a theoretical physicist from MIT and a mystic was heating simultaneously in Dali. Just two weeks earlier, I had left this city after completing fieldwork for this research. Before pursuing my master's studies, I lived there for two years and often participated in or observed conversations and public events that explored similar themes. Throughout these engagements, physics—or more broadly, science—and spirituality[1], one rooted in highly abstracted scientific principles, and the other embodying a mysterious transcendental force, were discursively converging in the borderland of Southwestern China. Their convergence does not necessarily yield groundbreaking insights. Indeed, those vocabularies from theoretical physics such as energy, frequency, quantum, spacetime fluctuations, and dark matters, are frequently appropriated by modern esoteric practitioners across the globe. In the online group chat of this event, the audience shared their thoughts regarding manifestation, laws of attraction, *feng shui* (wind-water, 风水)[2], parallel universe, and other popular occult phenomena or imaginaries. Reading these messages in the airport lounge, I recalled numerous memories, occasions, and intercourses from my life in Dali.

As a Chinese hub of spiritual and alternative cultures, Dali brought me to the intersection of science and spirituality. Their enigmatic and blurred interrelationship led me to reflect on those solid and self-evident science-based worldviews constructed by atheistic and materialist education. This research is driven by this orientation but not a simple narrative about how these practices enable us to challenge those given presumptions grounded in existing stages of science; instead, I intend to interrogate their entanglement, affinity, and assimilation rather than an antagonist interpretation of their relationship. When I scrolled through the

[1] In my research, I employ the terminology, "spirituality", in a contemporary lifestyle way—a series of practices that "promotes fitness, healthy living, and holistic well-being" (Sheldrake 2019, 2). While spirituality encompasses a broad range of practices, my primary focus is on alternative healing in this research.
[2] *Feng shui* is a form of traditional Chinese geomancy, which claims that architecture and surrounding environment affect the flow of universal *qi* and further interfere with people's fortune.

conversation, another message in the group chat reminded me of another tendency to approach this intersection, it wrote:

> The 1980s were a decade of collective spiritual cultivation for all humans. The West was experiencing the New Age movement (NAM), while China was caught in *qigong* fever (*qigong re*, 气功热). Many of the concepts currently circulating in China's spiritual community can be traced back to the NAM.

Though it is crucial work to trace the transnational influences of NAM, this research does not aim to follow this direction to unpack its residues in the Chinese alternative community. The mentioning of "*qigong* fever" in this message surfaces one of the most significant alternative healing practices in contemporary China, *qigong* (气功), in the discussions. Defined as a "health-enhancing technique combining controlled breathing, meditation, and physical movement" (Li 2013, 181), *qigong*'s popularity emerged at a critical juncture in Chinese history, calling for a close examination of post-socialist China's political economy and techno-cultural landscape, beyond a reductionist attribution to NAM. Thus, this research is situated in my inquiries of how alternative healings are rendering visible registers of power surrounding China's social governance, which invites a brief review of its post-socialist history.

With the disintegration of the Maoist centralized economy and China's incorporation into the transnational capital market, the public medical system went through a process of privatization. Those emergent private factories had caused a large scale of occupational exposure to toxins and environmental degradation. *Qigong* was emerging against the backdrop of rising tensions between China's neo-liberalization and the mass needs for a healthy life in a toxic environment. Meanwhile, *falun gong* (法轮功; FLG; also known as the *falun dafa*), a Chinese new religious movement, gradually became prevalent around China in the 1980s and was oppressed and characterized as *xiejiao* (邪教, cult-like unrecognized religion) and superstition by Chinese authority in late 1990s (Chan 2004). *Qigong* was seen as central to FLG, implying its healing nature. After the crackdown on FLG, anti-*xiejiao* science education and discourse have become mainstream in China's policy and public sphere. The rapid development of science and scientism is incorporated into the official

ideology of the party-state and configured as a nexus of "state-market-science/technology" in China's social governance (Greenhalph 2020, 3-8). From this standpoint, alternative healing has to face the potential criticism and even regulation in post-FLG China within the regime of scientism.

Nowadays, China's neoliberalization has induced massive mental pressure and illness. The enduring ecological crisis also evokes public concerns about health and well-being. Therefore, the diffusing metaphor of toxicity embedded in people's mentality and toxic chemicals circulating in the environment co-constitute their desire for detoxification (*paidu*, 排毒) and purification (*jinghua*/*qingli*, 净化/清理) in order to heal and self-care. Motivated by this desire, more and more people are turning to alternative medicine and *lignxing*[3] (spirituality, 灵性). Since *qigong* fever in the 1980s (Deadman, 2014) and psy fever (*xinli re*, 心理热) in the 1990s (Zhang 2020, 3), there has been a new trend I called *lingxing* fever (*lingxing re*, 灵性热) arising in contemporary China. These historical moments are entwined with China's political-economic landscape, characterized by what Erin Y. Huang (2020, 2) terms neoliberal postsocialism, referring to the interpenetration of neoliberalism and post-socialism in a new global system. Erin Huang's (2020, 2) formulation of "neoliberal postsocialism" suggests "a globally expanding market economy without laissez-faire that depends on state intervention," which explicitly articulates the nature of the political economy of China and beyond in a (post-)Cold War time.

Situated in these intricate sociopolitical realities, this research aims to examine a new site of techno-biopolitics enacted by the entanglement of toxicity, alternative healing, and technoscience in "neoliberal post-socialist" China. My main question is: How does the intersection of alternative healing and scientific knowledge create new forms of techno-biopolitical governance in a neoliberal post-socialist context? And in what ways does it grapple with the diffusing material and metaphoric toxicity? Specifically, I am curious about what kind of new epistem and/or language of healing emerges through encounters between alternative cosmo-epistemology and science-based ideologies. From *qigong* to *lingxing*, how are these epistemologies embodied in participants' bodies and incorporated into the

[3] I use local expression, *lingxing*, to replace spiritual healing in my thesis for emphasizing its contextualization and specificity in contemporary China.

exclusionary and hierarchical operationalization of life in such a toxic (both material and metaphoric) environment? And how does this biopolitical regime intersect with geopolitical differences, chemical exposure, gender, chronic illness, and class; and finally probe a mode of queering living in my case?

Methodology and Positionality

Inspired by the feminist science and technology studies approach, this research is guided by the belief that "science is a contestable text and a power field," and thus, I position science as what Donna Haraway (1988, 577) articulates rhetoric rather than a self-evident objective. Therefore, this research aims to uncover the "limited location and situated knowledge" (1988, 583) enmeshed in alternative healing in neoliberal post-socialist China from the standpoint of feminist objectivity.

I address my research question in a way that traces the trajectory of the entanglement of alternative healing and technoscience from the 1980s to the contemporary context. This time horizon of my research enables me to develop a mixed methodology, covering archive research[4], cultural and visual analysis, and ethnographic fieldwork. In this research, I focus on two sets of technologically intervened healing genres or techniques. In the first case study, I delve into the historical phenomenon of "*qigong* fever" in 1980s China and its relationship with China's scientific and technological nationalism. In this part, I interweave my discourse analysis on the cultural representations of *qigong* in different forms of media, such as scientific research papers, popular science readers, state-funded television documentaries, and *qigong* drawings. In my second case study on contemporary *lingxing*, I would combine participant observation, semi-structured interviews, and analysis of digital writings on this topic.

I have conducted one-month fieldwork and eight in-depth interviews in Dali, China. Dali stands out as a center of alternative culture in China like Chiang Mai in Thailand and Bali in Indonesia, where a large number of domestic and even international migrants have chosen to

[4] In my research, I follow Marlene Manoff's (2004, 10) use of the term "archive" in its broadest sense to include a series of "formats that include sound, images, and multimedia, as well as text," beyond traditional framing of it as a place that preserves documents and other historical materials.

settle down for the last ten years for a better living condition. Unlike larger Chinese metropolises such as Beijing or Shanghai, where alternative practices often remain somewhat detached from ordinary life, in Dali these practices have integrated into everyday life (mostly for migrants instead of the local residents). Given the nature of my research—which involves exploring embodied experiences—participant observation and interviews emerge as the most fitting methods. In this part, I still engage with critical discourse analysis on digital content created by these practitioners (their written reflections and advertising) and related cultural representations.

As a young male master's student living in Vienna, even if I am Chinese and well-educated, same as most of my informants, our interlocking differences of gender, class, and age affect my interaction with them and data collection. For instance, I am unable to afford the fees of some multi-day workshops, which are crucial sites to build connections with some privileged informants, including mentors and participants. But class difference is not the main obstacle to building relationships with my interlocutors, as the community of *lingxing* practitioners itself is highly stratified—not everyone can afford the significant investment for their inner exploration. In addition, my comparatively younger age (which often renders me seemingly more innocent) occasionally works to my advantage in the field, because those middle-aged participants' children shared similar ages with me. Paradoxically, rather than driving us apart, our generational differences brought us closer together.

After coming back to Vienna in the fall, I presented my research at a workshop. Following my presentation, the next presenter joked about "refreshing" the audience from witchcraft. As a highly gendered metaphor in European history, the rhetoric of witchcraft reinvocates memories of witch-hunting. In this sense, his joke exemplified the gendered stigmatization and marginalization of alternative cosmo-epistemology in accordance with the Enlightenment's masculinist liberal ideals of rationality and science. During the coffee break, another person came over to me and asked if I genuinely believed what my informants said, especially those accounts of some mysterious phenomena they provided. These experiences have further solidified my commitment to this research as a feminist endeavor to interrogate the power dynamics that shape the reception of alternative knowledge systems. By doing so, I hope to contribute to a more inclusive and pluralistic understanding of knowledge and finally challenge the epistemological hierarchies.

Alternative Healing in the World

In this research, the emergent entanglement of alternative healing and scientific knowledge in post-socialist China (1980-) is the central focus, requiring me to track the literature that surrounds the entangled relationship between models of alternative healing or broadly defined body-mind practices and technoscience on a global scale. Building on these scholarships, I will shift attention to reviewing studies of the contextualization of this entanglement in China since its profound economic reforms in the late 1970s.

Inspired by the NAM around the Euroamerican World last century, scholars have noticed the convergence between alternative healing and science, as well as the friction these intersections create with governmentality in different contexts. Anthropologist Hans A. Baer, in *Biomedicine and Alternative Healing Systems in America* (2001), examines the medical pluralism in the United States where different strands of alternative medical treatment, fundamental to the diversity of beliefs, techniques, and social organizations. This mode of medicine converges with differences of class, race, ethnicity, and gender. Baer's central argument posits that biomedicine, supported by its powerful allies—industrial capitalism and the state—has historically sought to regulate, suppress, or eliminate alternative healing practices. Moreover, he underscores the stratified nature of the medical profession, with European American males dominating the physician ranks, while minorities, women, and individuals from lower social strata are relegated to paraprofessional roles and subordinate positions in healthcare. This research urges an intersectional analysis in the studies of alternative healing and the imperative to scrutinize its relationship with governmentality. Similarly, Emilie Cloatre's research in France (2019) investigates the tensions between alternative healing practices and state policy. She contends that alternative healing unsettles foundational republican ideals of scientific rationality and secularism, by examining the ambivalent position of complementary and alternative therapies in France. Her research highlights what transpires when treatments sought by patients deviate from conventional medical paradigms and are consequently deemed illegitimate by the state. Anne Koch and Stefan Binder (2015) contribute to this discourse through their exploration of postsecularism. They argue that postsecularism brings both public religion and secularisms back into focus, particularly in the domain of spiritual healing. Their work examines how esoteric and scientific cultural models increasingly intersect with medicine, extending into healthcare and

healing in a way that some key concepts from secularism such as emergence, quantum physics, and physicalism, engage in ongoing boundary work between conventional and alternative medicine. These scholarly contributions foster an understanding of the socio-political and epistemic dynamics shaping the incorporation and contestation of alternative healing practices in contemporary governance frameworks. Other than the limitation of their lack of coverage on non-Euroamerica contexts, these research also tends to offer a negative reading of the relationship between alternative healing and scientific knowledge by reducing it to the by-product of expansion of social control.

A substantial body of empirical research has delved into topics such as alternative medicine and contemporary spiritual/bodymind practices, aiming to contextualize the healing politics in post-socialist China. Judith Farquhar, a prominent medical anthropologist specializing in traditional Chinese medicine (TCM) and life-nurturance culture in post-Maoist China, contributes significantly to this discourse. In *Ten Thousand Things: Nurturing Life in Contemporary Beijing* (2011), co-authored with Qicheng Zhang, they utilize ethnographic data from Beijing to examine residents' diverse approaches to understanding and nurturing a good life, intertwining ancient Chinese metaphysics with post-socialist material culture. Further, in *A Way of Life: Things, Thought, and Action in Chinese Medicine* (2020), Farquhar investigates the phenomenological significance of TCM, moving beyond the conventional boundaries of Western biomedical science. These works encourage a rethinking of life from an onto-epistemological perspective, critically examining TCM not as a mystery or pseudo-science, but as a legitimate framework for understanding health and vitality. Expanding the scope to *qigong,* the bodily practice I intensively engage within this research, Nancy N. Chen (2003) traces the trajectory of rising *qigong* practices within the social transformation from state-subsidized medical care to for-profit market medicine. David A. Palmer (2007) identifies *qigong* not only as a uniquely Chinese healing tradition but also as a harbinger of a new scientific revolution, situating it within China's science and technology fervor in the late twentieth century. These studies collectively illuminate the complex interaction between traditional onto-cosmologies and modern scientific paradigms in China's evolving neoliberal healthcare landscape. In my research, I aim to add another crucial layer of toxicity to comprehend this multifaceted historical phenomenon, which is not fully investigated in related literature.

In addition to TCM, my research also deals with contemporary bodymind healing which shares a bond with psychological therapies. In her work *A Time of Lost Gods: Mediumship, Madness, and the Ghost after Mao* (2020), Emily Ng explores the politics of spirit mediumship, temple activities, and perceptions of madness in post-Mao China, presenting multi-vocal histories shaped by diverse cosmologies. Her analysis of the reconstruction of spiritual ethics—manifested through occultism, magic, religion, and psychiatry in a privatized China—reveals intersections between institutionalized psychotherapy and alternative therapeutic practices as sites of significant transformation. Similarly, Jie Yang (2015) critically examines the utilization of psychotherapy as a tool of social governance following the downsizing and privatization of state-owned enterprises in China. She highlights the role of psychology in state-led interventions designed to mitigate the effects of mass unemployment, shedding light on China's regulation of emotion and mental health since the 1990s. In her book *Mental Health in China: Change, Tradition, and Therapeutic Governance* (2017), Yang systematically reviews the convergence between governmental interests and psychology, illustrating how mental illness is mobilized to address social disorders. Building upon these foundations, Li Zhang's *Anxious China: Inner Revolution and Politics of Psychotherapy* (2020) offers an ethnographic account of the dynamics of selfhood, mental health, family structures, social governance, and sociality, all reconstructed by an inner revolution spurred by the prevalence of psychotherapy in post-socialist China. Zhang's work provides a nuanced understanding of how therapeutic practices influence personal and societal transformations in contemporary China.

Through reviewing these contributions, the existing literature has provided a comprehensive understanding of the intricate landscape of alternative medicine, spiritual practices, and mental health in post-socialist China and other contexts, highlighting the intersections of traditional cosmologies, modern therapeutic practices, and state governance. Yet, these research does not fully engage with emergent material, environmental, and metaphorical toxicity, those shaping the ways of healing significantly in an age of ecological crisis. My research seeks to bridge this gap by investigating the biopolitical entanglements of healing, toxicity, and technoscience, offering new insights into the shifting politics of life, cure, and purity in neoliberal post-socialist China.

Animacy, Biopolitics, and Toxicity

a. Animacy in motion

I draw from Mel Y. Chen's (2012) conceptualization of "animacy" to investigate the entwinement of toxicity and biopolitical governance in contemporary China. Originally from linguistics studies, animacy primarily refers to "the quality of liveliness, sentience, or humanness of a noun or noun phrase that has grammatical, often syntactic consequences." (2012, 24) The uneven distribution of possibilities of action in grammar[5] forms a conceptual order of things, namely "animacy hierarchy", shaping a descending, stratified structure spanning from human, animals, inanimates, to incorporeals, in accordance with notions of ergative markerness and degrees of individuation (2012, 25-27). This spectrum-like figuration disturbs the predominant binary systems of difference, such as life/death, and subject/object, in the discussions of biopolitical theories. Then it is imperative to review Foucauldian classical theorization of bio-power/politics, in which Foucault (2003) identifies a form of biopolitical right to "make live and let die," manifesting through a series of life-related techniques, including population regulation, birth rate control, and amassing extensive statistical data. By taking it as the point of departure, the antagonistic prototypes of life and death underlie thriving critical explorations and interventions of biopolitics and what Achille Mbembe (2003) later terms "necropolitics," in numerous research on "relations among states, populations, scientific knowledge, and administrative practice" within variegated historical, sociopolitical, and geographical contexts (Salter & Waldby 2011, 287). Mel Chen's (2012, 3) revision of bio-/necro-political framing of "life" and "death" invocates a reexamination of the production of humanness and "humanity's partners in definitional crime: animality, nationality, race, security, environment, and sexuality" with the biopolitical consequences of bodies of varying animacy status. This effort sheds light on the obscured integral of dehumanized humans, animals, and animated objects in the working of biopower and its materialization. Derived from linguists' use of animacy hierarchy as a conceptual structure and ordering in a textured world, Chen (2012, 29-30) recontextualized it as a politically dominant one "beyond linguistic coercion to broader strokes of biopolitical governance," to

[5] According to Chen (2012, 2), taking the relationship between hikers and rocks as example from a linguistic perspective , people "tend to prefer animate head nouns to go with subject-extracted relative clauses (the hiker who __ crushed the rock), or inanimate head nouns to go with object-extracted relative clauses (the rock that hiker crushed __)."

complicate and inquire the unstable and contingent categories of human, life, death, and things.

In Chen's engagement with biopolitical theories, they identify animacy as the key to understanding the operation of objectification and dehumanization. As they (2012, 43-44) argue, "dehumanization involves the *removal* of qualities especially cherished as a human; at other times, dehumanization involves the more active making of an object"; or "figurative substitution of a human with an animal figure." Both of these two approaches denounce certain groups of agents, "mostly women, animals, racialized men, disabled people, and incorporeals such as devils or demons," to a lower place on the animacy hierarchy (2012, 46). In this sense, linguistic animacy gradations entail not only grammatical consequences but political ones of governmentality. Chen's theorization uncovers the mechanism of negation of humanity within the working of animacy, and raises a counter-question: what are the ramifications of animating inanimate entities (in my case, they are toxicity, *qi* in traditional Chinese cosmology and frequency from science) through a reallocation of lifeliness, agency, and mobility to these conceptual and abstract incorporeal modalities? This inquiry bridges these crucial concepts, animacy and toxicity, together in my research. As Chen (2012, 10) suggests, animacy plays a crucial role in the conceptual and affective mediation of human and inhuman, animate and inanimate in language, rhetoric, and imagery, based on which they further define toxicity as "an animated, active, and peculiarly queer agent." Thus, it turns out imperative to attend to the ways in which technologies of animating facilitate new forms of power, subjection, and sovereignty through the reanimation of matters. Mel Chen's uncovering of toxicity's engendering of intimacy and affinity surfaces an affirmative and generative view of animacy within contemporary techno-biopolitical landscapes. This mode of questioning overlaps with but differentiates from feminist philosopher Jane Bennett's (2004; 2009) proposition of "vibrant matter" or thing-power materialism by which she aims to recalibrate the "vitality, willfulness, and recalcitrance possessed by nonhuman entities and forces." Her elaborations on thing-power materialism depict the flow of non-humanity around things and humans and lead to the ontological decentering of a unified, universal human subject. However, black critical theorist Zakkiyah Iman Jackson (2015) has reminded us of the hidden Eurocentric transcendentalism within the emergent post-humanist movement, urging a reconsideration of race and other registers of differences in the making of the periphery of the human. In Chen's work (2012, 190), they also claim that a

reconceptualization of "the order of things" has to do with the unconventional lines of race, sexuality, and ability. These insightful reconfigurations of animacy and incorporation of intersectional thinking in feminist new-materialist discussions inform the theoretical framework in my research. By exploring the animacy of toxicity, *qi*, and frequency, I not only further consideration of the animating of conceptual and abstract (in)corporeals in a post-socialist setting, but also bring about an examination of biopolitical realization of geopolitical differences, chemical exposure, chronic illness, gender, and class.

b. (Queering) toxicity and biopolitics, and these in China

If I were to uncover the multifaceted dynamics surrounding toxicity, it also calls for scrutiny of the conceptualization of toxicity in medical and environmental humanities broadly. Within the large-scale cumulative exposure to varied toxic chemicals in an era of climate change, toxicity and its embodiment have permeated our bodies and social imaginaries of science and popular culture (Cielemęcka & Åsberg 2019, 101). However, toxic exposure is disproportionately distributed among different groups, localities, and political settings. Previous research (Mandell, Israel & Schulz 2019) has pointed out that toxic exposure intersects with multiple categories of differences (e.g. gender, race/ethnicity, class, immigration status, etc.). The uneven chemical exposure and accumulation also construct the cultural fantasy of toxicity—according to Chen (2012), there is a racialized and sexualized imaginary of toxicity, vulnerability, safety, immunity, and threat across the Pacific. Chen develops this idea more comprehensively in their latest book, *Intoxication* (2023), and terms it "chemical intimacy" to "make sense of contemporary entanglement of intoxication, race, disability, and sexuality." (p2) This approach explores "repulsive political affects and dynamics wrought through a fantasy of chemical exchange," through which toxins' connotations are far more than "actual" substances (Chen 2023, 7). This discursive interpretation of toxicity resonates with Mary Douglas's (2003) classical anthropological research, in which she investigates the sociocultural dimensions of dirt in different temporal and spatial contexts and argues that the classification and categorization of dirt is the manifestation of social norms and group identity. As a similar entity to dirt, Douglas' argument also sheds light on toxicity's significance in the formation of identity and boundary. This thinking enables us to further reflect on the rhetorical and metaphorical dimensions of toxicity in social discourses. Chen (2012, 192) suggests that "all cultural productions of

toxicity must be rethought as an integral part of the affective fabric of immunity nationalism." Put another way, toxicities as a regime of biopolitical governance acts on "a co-constituting bond between human individual bodies and the body of a nation, a state." (2012, 194)

In classical biopolitics, immunity is a crucial notion to interrogate the technologies of self-regulation, social regulation, and biosecurity. As Haraway (1999, 204) has noted, the immune system is a map and plan "for meaningful action to construct and maintain the boundaries for what may count as self and other in the crucial realms of the normal and the pathological." Derrida's (2003, 94) model of autoimmunity then recognizes the political implications of the aporia of the immune system: "An autoimmunitary process is that strange behavior where a living being, in quasi-suicidal fashion, 'itself' works to destroy its own protection, to immunize itself against its 'own' immunity." Derrida's argument underscores immunity's intervention of subject-object relations, through which one part of the self becomes the other requiring self-dispossession/protection. This point echoes Chen's (2012, 195-203) observation on the possibility of recomposition of subjectivity and reattribution of animacy evoked by intoxication. Drawing from their own poisoned embodiment and queer intimacy with a couch, Chen illustrates a radical possibility of endowing inanimate matters with animacy and subjectivity (in their case, the animated object is their couch) through intoxication, something defined as threats by the immune system's defense. This collision of the order of subject-object surfaces a queer approach to toxicity. As Chen (2012, 68) notes, "queer is cannily understood as probing beyond the bounds of normativity, taking on the load of rejection, resistance, negativity, indiscretion, quirkiness, and marginalization."

Discussions of toxicity are incomplete without an examination of its antithesis, purity and detoxification. Asian American scholar Natalia Duong (2023) interrogates how the rhetoric of purity and protectionism works and how "the intrusion of chemicals, contaminants, insects, and other nonhuman life threaten the very boundaries of who and what are allowed to live." She frames it as "biopolitics of exposure," a politics about the fugitive categories of place of protection, and threat. Her elaborations on toxicity respond to feminist theorizing of the *home*, not only as a discursive construction of protected spaces but also as a site that endures the expansion of militarized logics. On a molecular level, toxicity has been continually blurring and reconfiguring existing boundaries and perimeters of materring, concepts, and perceptions.

Drawing on the aforementioned theoretical discussions, I aim to interrogate the diffusing embodiment and metaphor of toxicity, "detoxification" or "purification", in contemporary China's public sphere in conversation with biopolitical theories. Chinese historian Liu Yan in *Healing with Poisons* (2021) reveals the dialectics of drugs and toxic/poison in classical Chinese pharmacy through which people of medieval China were enabled to "devise a variety of techniques to transform dangerous poisons into efficacious medicines". This dialectical relationship between toxic/poison and medicines is still active in today's Chinese medical practice. In addition to this epistemological understanding of toxicity, the political dimension of China's environmental degradation crisis emerges as another dimension of toxic politics there. Yanzhong Huang (2020) emphasizes the failure of China's ecological governance lies in the pathologies inherent in the institutional structure of the Chinese party-state. Even though the reductionist proposition in this argument can be further discussed, it still reminds us of the imperative of consideration of China's political regimes. These discussions call for a situated revision of biopolitical theories for an analysis of contemporary China's prevalent toxicity in its historical and socio-political trajectories. In the past thirty years, scholars from different disciplines or situated in interdisciplinary positions have challenged the Eurocentric discussions surrounding the field of "biopolitics" through their critical engagement in China's medical institution, body and aesthetics, sexuality, frontier science and technologies, and ethnic relation (Zhan 2010; Heinrich 2018; Rofel 2007; Greenhalgh 2009; Roberts 2018). My refiguring of detoxification/purification hopes to examine a new mutation of biopolitical power in China's neoliberal post-socialist political economy and cultural landscape. In so doing, this research aims to explore a post-/decolonial condition of biopolitics in an age of "toxic worlding" (Chen 2012, 196), particularly a queering questioning or emergence of a mode of living that unsettles normative perceptions of toxicity, healing, and technoscience.

The Arrangement of Chapters

In my first analytical chapter, I investigate an experimental scientific project, somatic science (*renti kexue*, 人体科学), in the 1980s under China's scientific and technological nationalism. Initiated by Chinese pioneering scientist Qian Xuesen (钱学森), this research field integrates *qigong* metaphysics, modern empirical science, and Marxist philosophy with the hope of

activating a revolution of science, technology, and medicine. Building on my close reading of somatic scientific publications, media coverage, and public science readers alongside a comparative engagement with Western cybernetic theories, I illustrate how somatic scientists reimagine human bodies and *qi* with its animacy as infrastructures of an imagined China-led global scientific shift. Their attempts also generate a new episteme of *qigong* that later broadly shapes the techno-epistemological landscape of Chinese alternative healing and human-environment relationship. Moreover, I also engage with N. Kathrine Hayles' feminist critique on the disembodiment of information by reevaluating obscured woman *qigong* masters' contribution to somatic science in this part, which invites my further discussion on Guo Fengyi (郭凤怡) in Chapter 2.

Moving on to my second chapter, I center on Chinese woman artist Guo Fengyi's *qigong* drawings, and personal history from socialist times to post-reform China. Drawing from Guo's experience of toxic exposure and *qigong* practice, I provide an account of how *qigong* surfaces an embodied biopolitics of people's self-healing, endurance, and resilience at an everyday level. Throughout the toxic circulation and healing, the dynamics of how animated toxicity and *qi* are co-opted into biopolitical governance unfolds with my analysis. By tracing Guo Fengyi's experience of a working-class Chinese woman worker in the broader dynamics of the Cold War global militarization, socialist industrialization, and gendered division of labour, I unpack a radical queer potential to rethink a way of being together with toxins, chronic pain, gendered reproductive labour, and utopian envisioning of healing and science in the late twentieth century. Beyond a biopolitical critique on Chinese post-socialist transformation, more importantly, this chapter also shows an affirmative reading of *qigong* with low cost and reorientation of patient's agency and East Asian onto-epistemology.

Following this, I turn to contemporary *lingxing* healing in twenty-first-century China. Through scrutiny of my interlocutors' discourses on "toxicity" and "frequency," I trace the trajectories of how toxicity expands from material substance to metaphoric being, and how frequency emerges as a healing lexicon to replace *qi*, situated in multiple onto-epistemologies with the legacy of *qigong* fever and somatic science. In this chapter, I also conclude with two distinct approaches to the toxicity-frequency relationship, both articulate an individualized antidote of detoxification and purification without a structural critique of the stratified inequalities. While a biopolitical differentiation of life based on mentality surfaces in this

case, I suggest that an affirmative and reparative mode of living with toxicity also arises from their narratives, which I also call "a queer technology of attunement" beyond a normative order of security, self-protection, and purity.

Finally, in conclusion, in conversation with Mel Chen's approach to "queer" in *Animacies*, I suggest these three (in)corporeal matters or concepts in this research—toxicity, *qi* in Chinese metaphysics, and frequency in science—are arguably queer animated beings. Their unruly transgressions of boundaries of subjects, objects, and discourses informed by the liberal humanist normative notion of individual, security, and immunity, disturb the order of livings and non-livings.

A Note on Names and Translations

The Chinese names in this thesis are romanized using the *pinyin* system. Apart from known scholars in Euro-American academia, other Chinese names follow traditional order, with the surname preceding the given name. For instance, Guo Fengyi in my research, Guo is her family name, and Fengyi is her given name.

All translations from Chinese to English are by the author unless otherwise noted.

Chapter One The Technopolitics of *Qi*: Cybernetics, governance of animacy, and environment

In 1990, a four-episode television documentary called *Chinese Superman* (*Huaxia chaoren*, 华夏超人) aired on China Central Television (CCTV), the national television broadcaster of China. This series takes Yan Xin (严新), one of the most renowned Chinese *qigong* masters of the late twentieth century, as its focal point. The first episode of *Chinese Superman*, titled *The Yan Xin Phenomenon* (*yanxin xianxiang*, 严新现象), documents a public *qigong* instruction invented by Yan, which he called "power-inducing lecture" (as translated by David Palmer) or "*qigong* lecture" (*daigong baogao*, 带功报告). While Yan was delivering his lecture on the stage, he claimed to transmit external *qi* (*waiqi*, 外气), the *qi* outside of human bodies, to the audience. Throughout the lecture, some *qi*-sensitive people's extraordinary power would be activated, leading to a variety of spontaneous reactions. On the scene of the "*qigong* lecture," crying, screaming, and laughing were intermittently rising and falling. In this episode, producers also interviewed participants across different social backgrounds, including researcher in Traditional Chinese Medicine (TCM), college student, journalist, cultural and art workers, and disabled factory workers. The wide-ranging demographics of attendees indicate the remarkable popularity of *qigong* among a large body of the population in post-reform China.

With the end of the decade-long cultural revolution and the death of Mao Zedong in the late 1970s China, this trend of practicing *qigong*, popularly called *qigong* fever, engulfed this resurgent country. *Qigong*, as a body-mind cultivation and healing practice that reformulates ancient Chinese breathing and meditation techniques (Chen 2003, 1), has roots in traditional Chinese culture and medicine dating back as far as 4,000 years (Li 2014, 181). However, this revival is not the simple rehearsal of Chinese tradition, but an invention in modern health and medical institutions, supported by China's authority from the 1950s to the post-Mao era (Wu 2022, 10). In addition, this project had already been incorporated into China's scientific institutions: the China Academy of Chinese Medical Sciences (中国中医研究院) established a *qigong* laboratory in 1983 and created a master's degree in *qigong* in 1986 ("Zhongguo re," 2014). Throughout the 1980s and 1990s, *qigong* appealed to 60 million to 200 million practitioners around China ("Zuihou de tizhi nei qigong jigou," 2014).

In *The Yan Xin Phenomenon*, the voiceover quotes one research from the Institute of High Energy Physics, Chinese Academy of Science, (中国科学院高能物理研究所) to present scientific evidence of the objective existence of *qi*. In fact, the most radical scientification of *qi* and *qigong* was led by one Chinese high-profile scientist Qian Xuesen, who is known as the "Father of Chinese Rocketry" and one of the founders of Two Bombs and One Satellite[6] (*liangdan yixing*, 两弹一星) (The Xinhua News Agency 2009). As a key figure of China's rising "scientific and technological nationalism" (Yao 2023, 1), Qian (1988a, 33-44) wholeheartedly committed himself to an experimental project, somatic science[7], in the 1980s by integrating *qigong*, modern science, and Chinese Marxist philosophy[8] with the hope of activating a revolution of science, technology, and medicine. Moreover, he is also the founder of the field of engineering cybernetics, one branch of cybernetics focusing on control engineering and applications in robotics. During *qigong* fever, Qian's dedication to somatic science condensed his endeavor to bridge *qigong* with cybernetics and information theory in China's post-socialist socio-political transformation.

Through case studies of Chinese frontier research on somatic science and my comparative reading of classical cybernetic theories and N. Kathrine Hayles' feminist critique on it, this chapter aims to address two key questions: (1) How did China's rising "scientific and technological nationalism" (Yao 2023, 1) mediate body politics in relation to *qigong* during that time? (2) How has the technopolitics of *qi* in late-twentieth-century China shaped or influenced the public's conceptualization of alternative healing at an onto-cosmological level? Within the development of arguments, *qigong* fever and obscured women's contribution reveal non-Western cosmological and feminist possibilities of cybernetics, which not only contour the technological terrain of "utopian" post-reform China but also map out the techno-epistemological entry to alternative healing and human-environment relationship from the

[6] Two Bombs refers to the nuclear bombs (atomic and hydrogen bombs) and missiles; One Satellite refers to man-made satellites. Two Bombs and One Satellite is a general term to describe China's efforts in the development and achievement of nuclear and space technologies.

[7] Its literal translation is "human body science." In my research I adopt Qian's translation of somatic science, adhering to conventions.

[8] Chinese Marxist philosophy is a distinctive combination of marxist, dialectical, and historalist materialism. It is also the official ideology in (post-)socialist China's social governance. Here I would like to note the dialectical materialist perspective on development, emphasizing the dynamic, interconnected, and progressive nature of reality. The discussion between Chinese Marxist philosophy and rhetoric in somatic science will be given in the following parts.

late twentieth century to the present. This epistemological significance of somatic science underpins my intersectional critique of techno-biopolitics in the following chapters and techno-imaginaries embedded in Chinese alternative healing.

In what follows, I will begin with a historical account of the establishment of somatic science and its intervention with and incorporation of the animacy of *qi* during the Chinese 1980s. I will then move to the classical cybernetics and Gaia theories' formulation of human-environment coupling and its East Asian philosophical resonance and deviance, which opens up a space to rethink the entanglement of *qigong* and cybernetics on a onto-cosmological level. By tracing the possibilities of revising cybernetics through Chinese metaphysics and *qigong* fever, I further scrutiny of languages, terming, and underlying epistemologies in somatic science and obscured woman's presence, which invites decolonial and feminist discussions in the rest of this thesis. Finally, I will propose a techno-epistemological frame of Chinese alternative healing and techno-biopolitical condition of integrating the animacy of *qi* into a governance concern during *qigong* fever.

Inventing Somatic Science

A disclosed CIA report (2011), titled "Soviet and East European Parapsychology Research," documents the parapsychology and paranormal experiments conducted in the Soviet Union in the 1970s. During the Cold War, the US was also reported to have sponsored a large number of scientific and military research on supernatural phenomena and mental control techniques (Clark 2017). Driven by the influence of Cold War arms races and desire for space technology (Wu 2022, 10), Chinese leading scientist, Qian Xuesen, served as a primary officer in promoting this similar research field since the 1960s. He created an original science realm[9], somatic science, in the 1980s, treating human beings as an information system (Wu 2022, 10). In a paper written by Qian, he illustrates his ambitions in somatic science and its interconnections with other medical or occult practices:

> … in today's meeting, I should say that we have also benefited from the revelation of the theories of Chinese medicine. Therefore, we once

[9] In the preface of one collection of Qian and other somatic scientists' papers, the editors note the originality of somatic science lies in its empirical studies on human extraordinary power guided by Marxist philosophy (Liang & Yang, 1988).

> proposed to synthesize **Traditional Chinese Medicine, *qigong*, and the extraordinary power of the human body** to form somatic science. Now I would like to say that our theory has risen again to the point that **the human body is an open complex giant system**, and we want to use this perspective to **transform all the old studies about the human body**.
>
> (Qian 1991, 4, highlighted by the author)

In Qian's theorization, *qigong* shares the same epistemological significance as TCM and extraordinary power. He specifically envisioned a "phenomenological science of *qigong*," by which he planned to construct a scientific model of this alternative medical practice via "collecting, classifying, and systematizing knowledge, data, and documents" (Palmer 2007, 108). Through his own political influence within China's institutions, Qian scientized *qigong* as a legitimate research field in a language of cybernetics and systems theory ("the human body is an open complex giant system") and pinned his hope for revising Western science on it. According to Qian's (1988b, 284) formulation of what he terms a "modern scientific system," he conceptualizes TCM as protoscience (*qian kexue*, 前科学), as some of its phenomena and theories cannot be fully explained by chemistry or physics within this framework. In so doing, he (Qian 1988b, 287) further proposes the above-mentioned "*qigong* phenomenology" (*weixiang qigongxue*, 唯象气功学) by means of categorizing and systemizing fragmented practices and experiences in TCM and *qigong*. He (1988b, 287) also draws upon historian of science Joseph Needham's interpretation of *qigong*: "*Qigong*, or physiological alchemy, is an attempt to use the various somatic fluids, organs, and things produced by and within the body to practice the '*dan*' (cinnabar, 丹) for immortality[10]."[11] Qian's reference to Taoist cultivation of immortality reiterates his ambition to scientify these pre-modern Chinese metaphysics. To do so, he (1988b, 287) reinterprets the pursuit of immortality as a functional state of the human body by taking *qigong* practice as the entry to this healthy physiological status. Building on these efforts, Qian believes that the extraordinary powers unlocked by *qigong* would propel China into leading a new scientific revolution, enabling the country to attain a unique civilization and rise as a global leader (Palmer 2007, 106). From this perspective, the reinvention of *qigong* is explicitly a state

[10] The cultivation of immortality is an ancient Taoist practice, through which people aim to transform themselves as extraordinary being by combining inner/external alchemy (*neidan* 内丹, *waidan* 外丹), *qigong*, and religious rituals.

[11] This whole sentence is not Joseph Needham's original word, but my translation of Qian's quotation.

project aligned with China's rising scientific and technological nationalism in the cybernetic and information era.

As a feminist literary scholar who works at the intersection of literature and technoscience, N. Katherine Hayles in her book *How We Became Posthuman*, illustrates the interconnection between cybernetics and cultural products. Aiming at recalibrating the value of literary texts in the circulation and development of scientific theories, she (Hayles 1999, 21) emphasizes the scientific theories' appropriation of some assumptions from literature and more broadly other forms of cultural phenomenons, for instance, the development of three-dimensional reality imaging software got inspired from the futuristic vision of cyberspace in William Gibson's *Neuromancer* trilogy. In China, cybernetics, information theory, and system theory as an analytical method reaches out beyond the scientific field to "human society, economic structure, Chinese history, and even literature and the arts." (Liu 2019, 7) The emergence of *qigong* drawing (it will be detailedly discussed in Chapter 2), a genre of drawing induced by *qigong* practice, inevitably follows the attention from scientific institutions. Yang Sixun (杨思迅) is one artist whose artistic expression is mainly based on the inspiration and spontaneous actions sparked by *qigong*. He used to publish one collection of his *qigong* drawings in 1990 with a preface written by Li Zhinan (李之楠), the Secretary General of the China Qigong Scientific Research Society (中国气功科学研究会) at that time. In this preface, Li wrote:

> Yang Sixun, after cultivating qigong, experienced spontaneous releasing qi, followed by automatic drawing and automatic herb collection. Although this phenomenon of extraordinary power activated by qigong occurs in certain individuals with special qualities, **it holds significant scientific research value. Somatic Science aims to study human potential extraordinary power and the methods for activating it**. This collection of drawings is incredibly valuable, not only because of its artistic merit but, more importantly, **due to its scientific research value**. We are grateful to Yang Sixun for offering these works to the public.
>
> (*Yang Sixun Qigong Hua* 1990, 4, highlighted by the author)

Yang had been drawing for 5 years since 1985, adding to a series of spontaneous activities that had already emerged in his *qigong* practice, such as improvisational dancing, singing, and collecting and consuming herbs. As Li elaborated in the preface, those behaviors were

never seen as irrational and absurd in the age of "*qigong* fever," but as a space awaiting scientific explorations. During the period of scientification of *qigong*, *qigong* masters established collaboration with laboratories by sending *qi* toward samples for scientists' observation, measurement, and experiment (Palmer 2007, 120). This is to say when *qigong* masters traveled around China to give lectures, teach, and provide healing, *qigong* was seriously treated as a scientific subject in leading research institutions. Xiao Liu (2019, 7-9), in her study on information fantasies in post-Maoist China, argues that through the reconstruction of the human body as an "information body" in a way that it can be understood as a medium for information processing between the body and the environment, "the human body turned into a ceaseless information-processing machine for value extraction and was increasingly subject to various ideological and marketing 'information bombs'." The "*qigong* body" and *qi* could also be read as a form of information medium and experiment subject that carries the crucial empirical evidence of a new phenomenology of science and technology.

Liu's argument enables us to contextualize *qigong* and its practitioners' bodies in a broader setting of China's scientific and technological project in the late twentieth century. It urges us to forge a new vision of *qigong* as an infrastructural element of an "imagined" China-led scientific revolution. This vision is particularly evident in Qian Xuesen's (1988c, 29) conceptualization of somatic science, where he emphasizes living humans as experimental subjects and the use of instrument-based testing methodologies. In this sense, *qi*, a fundamental notion in traditional Chinese cosmology with multiple meanings, including "air, breath, energy, or primordial life source," (Chen 2003, 6) has already been reconstructed as one element highly technological but at the same time wholly natural through these artificial interventions, transforming its cosmological magic into a measurable and manipulable entity. The malleability of *qi* reifies its animacy, where it transgresses varied figurations of boundaries between humans, matters, environments, locations, and epistemologies.

Media studies scholars Sarah Kember and Joanna Zylinska (2012, 13) have suggested a new figuration of the human-technology relationship: existing humans are not simply living in a complex technological environment, but instead are physically and hence ontologically part of it. They (Kember & Zylinska, J 2012, xv) conceptualize "mediation" in a "theory of life," "whereby mediation becomes a key trope for understanding and articulating our being in, and becoming with, the technological world, our emergence and ways of interacting with it, as

well as the acts and process of temporarily stabilizing the world into media, agent, relations, and networks." Thus, in an intensely technologically intervened milieu, *qi* as vital energy is animated and mediated through a process that involves "mapping various biopolitical realizations of animacy" in Mel Chen's word. In this biopolitical realization, Qian's envisions of the scientification of *qi* interweaves modern empirical science and TCM by rendering *qi* and *qigong* practitioners' bodies as admissible in evidence of research, through which a significant proportion of the population along with their bodies and vitality is transformed into active participants in this techno-biopolitical project under post-socialist China's national rejuvenation strategy. In this light, the once unruly and cosmological magic of *qi* as well as its animacy is incorporated into the techno-biopolitical sovereign concern by the mediation of somatic scientists' endeavors. This reconfiguration not only reconstructs the animacy of *qi* but also underscores its role as a critical interface between alternative healing and China's social governance. In the next section, I will turn to the reconfigurations of the human-environment relationship in the second order of cybernetics and Gaia theories in comparison with the underlying Chinese philosophical underpinnings of somatic science, through which a specific Chinese techno-epistemological framework of alternative healing unfolds.

Detoxifying Cybernetics and Human-environmental Coupling

In one lecture, titled "Detoxifying cybernetics: from homeostasis to autopoiesis and beyond," N. Katherine Hayles (2024) delineates the trajectory of how "the turn from human-machine fusion to biota-environmental coupling" emerged in the wave of second-order cybernetics in the 1980s and 90s. In this strand of cybernetic thoughts, theorists emphasized some key notions of "recursivity, re-entry, the observer in the system, and system-environmental coupling," by getting inspired from and collaborating with biologists, ecologists, and environmentalists, marking a time of reflexivity. The introduction of reflexivity blurs the boundary between human/observer and environmental/observed in previous discussions surrounding cybernetics wherein the observer is ontologically separated from systemic dynamics, in an integrated framework incorporating organism and environment. This turn converges with James Lovelock's proposition of Gaia theory that sees "the earth as a self-regulating entity in which life forms and environments are tightly coupled into a single feedback system" (Hayles 2024, 87). By treating the earth and all the biological life forms as a living body, namely Gaia, Earth's biosphere forms a giant thermodynamic system away

from chemical equilibrium (Sagan 2024,101). This hypothesis echoes the idea of "autopoiesis," or self-making/-organizing in the second-order cybernetics, referring to "the movement whereby that which has been used to generate a system is made, through a changed perspective, to become part of the system it generates" (Hayles 1999, 8). Both the inclusion of preexisting conditions and observers to systems and Gaia theory's reconstruction of the Earth shed light on a relational onto-epistemology of biological organisms and environment, in which "we do not see a world 'out there' that exists apart from us." (Hayles 1999, 11) Put another word, we have already been a part of the environment, configuring a symbiotic relationship between human and nature, rather than an oppositional one, as proposed by the Enlightenment's humanist notion of human autonomy. In the discussions of first-order and second-order cybernetics, questions of boundary formation and constructions of subjectivity are crucial to their theorization. Ironically, the thinking of cybernetics not only failed to fully challenge the values of liberal humanism but was instead profoundly interwoven with "a coherent, rational self, the right of that self to autonomy and freedom, and a sense of agency linked with a belief in enlightened self-interest" (Hayles 1999, 85-86). The tendency of reaffirmation of humanist subjectivity indicates the enduring legacy of enlightened humanist subjects embedded in the development of cybernetics in Western contexts.[12] This reflection on cybernetic reiteration of liberal humanist subjectivity within its imaginary of human-environment coupling invites the following reading of its formulation of toxicity, which would surface an alternative to it.

Back to the title of Hayles's lecture, Hayles uses the term "detoxifying cybernetics" to redefine its collectivities and refocus its mission on environmental and computational concerns (Hayles 2024, 97). Even though in her original context, Hayles aims to invite a conversation of computational media with cybernetics and uses "detoxifying" in a metaphorical way, her terming still reminds us of an inherent entanglement of cybernetics and environmental and discursive toxicity. Gaian theorizers offer crucial examples in unpacking their relationship. They study element circulation under Gaia's planetary control,

[12] In the early years of cybernetics, the tensions between cybernetic theorization and liberal humanist assumptions always entailed Norbert Wiener's accommodation. In the second and third order of cybernetics, the link between self-regulation and liberal humanism stretched thinner and thinner. The reiteration of liberal humanist subjectivity in cybernetics in my thesis is a general and simplified account for the sake of analytical clarity. A more nuanced analysis of this topic lies beyond the scope of this study and would risk omitting crucial contextual factors. For more contextualized and comprehensive genealogy of this relationship, see Hayles 1999, 84-112.

through which marine eukaryotic cells have to export toxic calcium through their cell membranes; and toxic O_2 is transited into a vibrant atmosphere within the multibillion-year complexity and ecological recycling of Gaia (Sagan 2024, 107). These alchemical transformative materializations are manifestations of what Dorion Sagan (2024, 107) calls, "a billions-year reign of sensuous anarchies, a more-than-human ecological being maintained by countless autopoietic actions." This approach conceptualizes life as an open thermodynamic system in sustaining chemical and energetic equilibrium. This entwinement of the planetary biosphere and elemental composition of the Earth asks us to bear in mind that the transcorporeal movement of animate toxics beyond human intention is in a larger loop of self-producing within the Earth. This interpretation integrates human and toxic chemical circulation in a planetary feedback loop. In the same thriving period of the Gaia hypothesis, Qian's proposition of the human body as an open complex giant system in somatic science adopts a similar view of life to Gaian one. Qian (1988d, 164) further grounds this human-environment relationship in the ideal of a "human and heaven" relationship (*tianren guan*, 天人观)[13] as the philosophical foundation. According to Xiao Liu (2019, 1), this idea has roots in a traditional Chinese mythical belief, "resonance between heaven and mankind" (*tianren ganying*, 天人感应), through which "the macrocosm of the heaven and the microcosms of the state and the body became a single manifold set of resonant systems." Rather than taking it as the evidence of Chinese philosophical parallel of modern cybernetics, I inquire: how somatic science could distinguish itself from the western-centric genealogy of cybernetics and information theory by making its specific contribution or revision, particularly with its connection to *Qigong* and East Asian onto-cosmology in post-reform China? As I discussed above, under the condition that a liberal humanist subjectivity has been reiterated in mainstream cybernetics, how could somatic science and its broader cultural resonance be allowed to redefine a new condition of living as a human? These questions will initiate a re-reading of post-socialist biopolitics (discussed in the previous section) by incorporating more geo/political and ecological considerations while simultaneously furthering a decolonial and

[13] Qian translates it as "anthropic principle," influenced by American physicist Robert H. Dicke and Austrian astronomer Brandon Carter's proposition of the observation selection effect in Cosmology. This theory originally refers to the given conditions, properties, and structures of the universe that permit life to exist. In this hypothesis, there is no causal relationship between humans and the universe. But from my perspective, it is not an acute translation of Chinese philosophy on the relationship between humans and the universe, which emphasizes harmony and moral causality, where human behaviour may influence the natural world and vice versa. Thus, I only adopt Qian's translation in his paper's title and keep the use of "idea of a human and heaven relationship."

feminist intervention, grounded in the contextualized traces of somatic science explored in the following sections.

Cybernetics with Chinese characteristic: Non-western cosmological and feminist possibilities

To begin a discussion on how somatic science revises cybernetics during *qigong* fever, let me start with an experiment that illustrates an intersection of cutting-edge empirical science, local cosmologies, and Marxist political ideology. In 1984, two somatic science researchers conducted one experiment to study the effect of what they term "*qigong* information" on plants' growth and yield. In this experiment, three *qigong* masters gave radiation treatment of four plant seeds, respectively sugar beets, soybeans, sorghum, and grains, with human radiation energy in four separate ways. According to the published paper (Xie & He 1988, 291) based on this experiment, one consultant from the Ministry of Agriculture, who was also affiliated as a researcher in the Inner Mongolia Academy of Agricultural Sciences, was also involved. The controlled trial revealed that bioenergetic radiation emitted by *qigong* practitioners had highly variable effects on different plant species.[14] Combined with another repeat experiment in 1985, they (Xie & He 1988, 296) concluded that "the effect of *qigong* information on seeds may be objective and not a coincidence, but the mechanism of this effect is still a mystery to be further explored." Even though they claimed that they had not grasped the functional mode behind those phenomena that happened on seeds, they employed some more scientific-like terminology to replace "*qi,*" such as "*qigong* information," human radiation energy, and bioenergetic radiation. The combination of research on extraordinary power and theories of radiation and magnetics is not something new in the field of somatic science. And another concept, information, vital to cybernetics, was also frequently employed in the interpretation of *qi* in these cases. As Xiao Liu (2019, 6) has suggested, the rapid developments in wireless communication in 1980s China had "turned airwaves into a most powerful medium in both the scientific and popular imagination" in an enveloping information environment.

[14] According to the experiment outcomes, bioenergetic radiation emitted by *qi* produced yield increases for soybeans and sugar beets, reduced the yield of grains, and had no effect on sorghum. What is mysterious is that after the experiment, a cold snap hit the experimental field, but the seedlings that had undergone *qigong* information radiation remained unaffected and intact.

This experiment and Liu's observation ask us to bear in mind the crucial positions of seamless, boundless information and radiation waves in the theorization of somatic science. Anna Greenspan (2023, 157) in her studies on philosophical thinking of China and wireless technology, traces the interconnection of *qi* and the electromagnetic environment back to the nineteenth century. She (Greenspan 2023, 157-159) contends that some late Qing intellectuals, such as Kang Youwei (康有为) and Tan Sitong (谭嗣同), had proposed an equation of electricity as "an all-pervading, conscious energy" with *qi* in their attempts to "fuse modern techno-science with the classical Chinese discourses of natural philosophy." Greenspan (2023, 159-164) terms this mode of fusing modern technoscience and local philosophy as "occult materialism" or "techno-occultism" and suggests that it is not a China-specific phenomenon, but is prevalent throughout the developments of communication technologies around the world. Thus, this chapter does not aim to simply diversify the discourse surrounding science and mysticism, by adding China's case to existing scholarship. Through delving into the genealogy of Chinese cybernetics and its entanglement with alternative healing (TCM and *qigong*), this section strives to rethink Chinese cybernetic paradigms from a local cosmological and biopolitical standpoint, while also engaging with and extending Hayles' feminist critique of classic cybernetics.

If we were to uncover the contextualized specificity of cybernetics in somatic science, it is imperative to look into their formulation of "information," the key to cybernetics and information theory. In *How We Became Posthuman*, N. Katherine Hayles (1999, 2, 12) has already problematized the "concept of information as a (disembodied) entity" or "the disembodiment of information" predominant in the field of mainstream cybernetics from Anglo-American contexts. Within this thought, information and materiality are seen as separated and distinct entities, and humans are essentially fantasized as information, therefore, the conceptualization of humans is without the necessity of doing with the body (Hayles 1999, 12). The construction of materiality/information separation resides in abstraction and decontextualization. Hayles (1999, 60) notes that the operation of "stripping away context to expose (or create) a universal form" follows similar dynamics of "developing a logic coercive in its lawlike power" from a feminist critique of the history of logic. Her strategy of resurfacing the embodiment of information and dismantling the mythicized drive towards abstraction highlights the contestation of these assumptions from researchers in other fields, making the process of erasure visible (Hayles 1999, 12). By means of this, the mediation of

codes, bodies, and genes in information would reemerge in a post-humanist speculative present and futures. Her research offers a compelling challenge to the tendency of disembodiment in cybernetics. Though it must be noted that her critiques are mostly based on literary analysis and archive research on varying resources within the Anglo-American contexts without attention to non-Western cybernetic genealogy; and her feminist articulation of post-humanist subject in a unified form fails to fully consider the registers of race, coloniality, and national differences. Although these dimensions are occasionally referenced in her analysis, they are not substantially elaborated throughout the whole book. Some research (Peng 2004) has already historicized Chinese contributions to the invention of cybernetics by clarifying Norbert Wiener's collaboration with Chinese mathematician Li Yurong (李郁荣) in his earlier ages. In addition, as above mentioned, Qian Xuesen also pioneered the field of engineering Cybernetics, beyond existing research's primary focus on the Macy Conferences[15] in the early stage of cybernetics. Nonetheless, I will not advance my argument in this direction of illustrating the position of China in cybernetic theorization; instead, I want to focalize the Materialist formulation of "information" in Qian and his peers' visioning of a new paradigm of cybernetics in the Global South. This can be exemplified by the case of the plant seed experiment I discussed at the outset of this section, in which "*qigong* information," *qi*, human radiation energy, and bioenergetic radiation are interchangeably used in the paper. The divergence turns out to be clear if we make a comparison of information in somatic science and the one in the post-world-war West. In the first Macy Conference, one important progress was the proposition of division between information and energy: Wiener emphasized the movement from energy to information by which the thermodynamics of heat was incidental (Hayles 1999, 51-52). Conversely, in the plant seed experiment, the author claims that "*Qigong* masters are able to radiate a special kind of bioenergy (commonly known as external *qi*), which may contain certain information," serving as their underlying premise of the experiment. The materialist priority of information is not simply the derivative of cosmological understanding of *qi* as vital energy in Chinese metaphysics, but also an ideological inscription of Marxist philosophy in post-socialist China. In one paper, Qian used to directly illustrate his conceptualization of *qi*:

[15] The Macy Conference refers to a series of conferences that happened between 1943 and 1954, in which researchers from different disciplines would meet to discuss the most advanced topics in the field of cybernetics. The Macy Conferences played a key role in constructing the early paradigms of cybernetics.

> *Qi*, in this sense, is not precisely material. However, the physiological and psychological activities of the entire human body in qigong are vagrantly material, and thus 'qi' is the result of material movement. Only by looking at the phenomenon of the *qigong* master's luck in the body in this way can we get rid of that kind of mysterious and magical atmosphere and put "*qi*" in the framework of modern science.
>
> (Qian 1988c, 20, translated by the author)

In this quotation, though Qian recognizes the in-betweenness of *qi* as an ontologically ambiguous being (both conceptual and material), he still sticks to a demystified and material understanding of *qi*. When it comes to external *qi* in the experiment, Qian (1988c, 22) further identifies it as a manifestation of the advanced stage of *qigong*—it is not only material but also able to convey information. This developmental stage framework of *qi* and the primacy of materiality is an ideological encoding of dialectical materialism in China's philosophical underpinnings of governance strategies, in which a teleological and developmentalist model of history and anti-idealist ontological commitments conflate in this context. In so doing, the movement and animacy of *qi* have been translated into a hybrid language of cybernetics and Marxist philosophy in the landscape of post-socialist China's techno-political governmentality; that is a technology of governing the languages, epistemologies, and ideological articulations.

More than just saving materiality from attraction and decontextualization in cybernetics conceptually in Hayles' critique on the disembodiment in cybernetics, she also quotes a story of a woman called Janet Freed to highlight the significance of bodies in practice. Janet Freed served as an assistant to the conference program in the Macy Conferences. She was not the only woman among those intellectual debates and discussions; woman anthropologist Margaret Mead was a strong presence. However, Janet Freed faded within the voluminous archives of the Macy Conferences transcribed by her. As Hayles (81) claims, while those theoretical figures worried about the content of cybernetics, Freed was the person who primarily focused on materiality by making sound into words, marks into books. The case of Janet Freed and other women staff who were lower than her as well as their labour unveils the impossibility of disembodiment of information.

Hayles's feminist critique on cybernetics informs me of the insufficiency of investigating the specificity of Chinese cybernetics without an examination of gender—it is also a story about

Chinese women in everyday life, about their gendered and racialized bodies in a transnational circuit. Without reevaluation of gender, my argument will fall into the narrative trope of these somatic scientists' heroic and visionary efforts, obscuring the invisible work of Chinese women *qigong* masters in those advanced research. Critical race and feminist STS scholarship on cybernetics (Chaar López 2022) has already reminded us of the danger of glossing over the central role played by these players and the need to integrate gender and race into this field. As Donna Haraway (1991, 174) shows us in "Cyborg Manifesto," the figure of "young Korean women hired in the sex industry and in electronics assembly" who "are recruited from high schools, educated for the integrated circuits" is crucial for the science-based industries. In the case of somatic science, women *qigong* masters were notably active in the 1980s and 1990s in China's public sphere. In David Palmer's (2007, 151-153) classical research on *qigong* and Xiao Liu's (2019) studies on information fantasies in post-mao China, both of them mentioned Zhang Xiangyu (张香玉), popularly known as the Goddess of *Qigong*. Her invention of glossolalia (cosmic language, 宇宙语)[16] and information pot[17] (信息锅) are some of the most vivid reflections of the interrelation of *qi* and universe in an era of wireless communication. When those women represented by Zhang Xiangyu practiced *qi* in breaks in their everyday lives, somatic scientists were formulating a new language of healing and research by interweaving cybernetics, Marxist philosophy, and Chinese metaphysics. According to Palmer (2007, 152), Zhang used to be invited to demonstrate her healing power at the China *Qigong* Scientific Research Society. Even though at that time the experiments proved inconclusive, her case precisely shows us the women's participation in somatic science and more broadly speaking in the process of theorization of cybernetics in the frontier of the Global South. This reflection on the gender politics embodied in *qigong* fever and somatic science calls for a more nuanced analysis of the micro mechanism of techno-biopolitical governance in my thesis by looking at the intersections of gender, post-socialist political economy, and technoscience, inviting my further discussions in the next chapter.

[16] Glossolalia or "cosmic language" refers to a condition analogous to "speaking in tongues." In Zhang's interpretation, cosmic language has the magic to heal by communicating with the universe. See Palmer 2007, 151-153.

[17] Information pot is a cooking pot believed to receive "information from outer space so that a resonance between heaven and mankind could be formed." See Liu 2019, 1.

Conclusion: The techno-epistemological landscape of post-socialist China

Through a close reading of somatic scientific publications, media coverage, and public science readers alongside a comparative engagement with Western cybernetic theories, this chapter traces the trajectories of post-reform China's technopolitics condensed in an entanglement of *qigong* and technoscience. Under China's rising "scientific and technological nationalism," the pioneering scientific institutions reformulate and abstract human bodies and *qi* into the metrics of experiment data in a hybrid language of cybernetics and East Asian onto-cosmologies for underpinning a scientific revolution. Within these artificial interventions, *qi* has been translated into one highly technological element but at the same time wholly natural, unfolding in a new understanding of information and radiation waves in a time of telecommunication. I suggest that *qi* as the primordial life source bridging human bodies and the universe, is interpreted in multiple ways: as information, as radiation energy, or as an animate medium, by different actors. Throughout these interventions, the animacy of *qi* comes to light with its malleability and its transgresses of varied figurations of boundaries between humans, matters, environments, locations, and epistemologies. Nonetheless, Chinese scientific institutions incorporated *qi* and its animacy into techno-biopolitical governance through quantification and abstraction. My analysis has proved the inherent relationship between somatic science and cybernetics, yet this chapter adopts a critical standpoint to elaborate non-Western cosmological and feminist possibilities of cybernetics: (1) conceptually, somatic science formulates a materialist figuration of "information," the key in cybernetics, in a way in which Chinese metaphysics and post-socialist political ideology are co-constitutively mobilized, beyond the existing critique within western post-humanist scholarship; (2) from a feminist perspective, this chapter also sheds light on obscured women *qigong* masters' contributions to somatic science and cybernetics (a more detailed discussion on gender will be given in Chapter 2).

More importantly, this chapter aims to map a topology of the techno-epistemological landscape in post-socialist China, where an entanglement of alternative healing, toxicity, and technoscience configures as a new site of techno-biopolitics from the 1980s to the present. Inspired by N. Katherine Hayles's terming of "detoxifying cybernetics" and Gaia theory in the wave of second-order cybernetics, I further examine the human-environment coupling within and beyond somatic science and its proximity with toxicity. The booming of the

scientification of *qi* and popular imagination of information and wireless communication forges a new envisioning of bodies and related concepts in East Asian onto-epistemology. Building on these arguments, my feminist critique on somatic science furthers a focus shift from institution to bodies in practice, paving the way for an intersectional critique of micro techno-biopolitical governance embodied in differences of gender, class, chemical exposure, and chronic illness in the next chapter.

Chapter Two Healing/Drawing with *Qi*: Biopolitics of gender, exposure, and chronic illness in late-twentieth century China

At the age of thirty-nine, Chinese artist Guo Fengyi got early retirement because of rheumatoid arthritis in 1981.[18] It was the year that marked her nineteenth year working as a quality control staff at a local rubber factory[19] in Xi'an, a position that she had held since 1962 after graduating from high school. Shortly thereafter in response to the geopolitical threats from both the Soviet Union and the United States, China adopted the largest industrialization project in its history, namely the Third Front Construction (*sanxian gongcheng*, 三线工程, TFC) to build its home-front defensive industrial base (Li 2015, 314) in the 1960s. Situated against this backdrop, Guo devoted herself to the chemical industry as a working-class woman worker throughout the height of China's socialist industrialization and the global Cold War in the twentieth century. Although Guo didn't disclose the cause of this illness, medical research (Tang et al., 2023) has pointed out the association between exposure to occupational inhalable agents (including volatile sulfur compounds in the rubber

[18] Until now, there is no explicit explanation of the cause of rheumatoid arthritis (RA) in medical sciences. By definition, RA is an autoimmune disease. The medical paper I quote here just points out the possibility of occupational inhalable agents acting as important environmental triggers in RA development, with other influential factors including smoking and RA-risk genes.
Because of the fact that Guo has passed away, her archives have been preserved by her agent (I have no access), and she only left very limited interview materials, it is almost impossible to confirm her diagnosis of RA as a byproduct of her chemical exposure experience in the rubber plant. In order to trace Guo's cause of RA, I found out that one media report on Guo's exhibition, states that "due to the grueling nature of her work, she developed severe arthritis and was forced to retire at the age of 39." See Meng, 2023 March 24. After email communication, the author told me that she drew this argument from second-hand resources. I also had an email conversation with one curator of Gup's solo exhibition in Beijing, he confirmed that in Guo's diaries, she mentioned that *qigong* helped her alleviate the pain caused by RA. But he also explained that the claim of "Guo's RA as an occupational disease" is mostly circulated by informal verbal conversations.
In 1981 the year Guo retired, there was no labour law in China, resulting in people lacking the languages and perceptions of occupational diseases to articulate their pain from work. Moreover, the art gallery that promoted Guo also lacked interest in Guo's cause of RA because of its primary focus on Guo's mysterious experience and spiritual methods of drawing. The institutional ignorance of Guo's sick experience exemplifies the tendency to distance Guo from her embodied life in later analysis. Even though I could not suggest Guo's RA as an occupational disease in my thesis, RA is an autoimmune disorder, its weakening of the immune system is undoubtedly making her body more sensitive in a toxic working environment.
As feminist technoscience scholar, Michelle Murphy in *Sick Building Syndrome and the Problem of Uncertainty: Environmental Politics, Technoscience, and Women Workers* (2006, 4) notes, "A new kind of chemical exposure—indoor pollution—had been identified, not from a discovery in a medical laboratory or clinic but from changes in the ways ordinary people created knowledge about and experienced their everyday environment." Without the epistemology of occupational inhalable agents facilitating RA development, people could not relate their pain to the toxic workplace. Thus in my argumentation, I still bridge Guo's chronic illness with her occupational exposure history.

[19] Another source claims that Guo worked in a chemical fertilizer plant. However, after cross-referencing information in both English and Chinese, I discovered that this claim originates from the introduction to Guo's solo exhibition, *Guo Fengyi: To See from a Distance*, held at the Drawing Center in New York in 2020. I lean toward the more widely circulated account that places her in a rubber factory.

industry) and increased risk for rheumatoid arthritis in a general sense. In addition, Guo's premature retirement age also implies the possibility of chemical impairment in a toxic workplace. Grappling with chronic arthritis, Guo began to practice *qigong* to alleviate physical pain.

According to Rosario Güiraldes (2020, 25), on June 4, 1989, when Guo practiced *qigong* and meditation, she experienced the emergence of the image of "a Buddha meditating on a lotus throne" in her mind. Subsequently, she commenced replicating these visuals by drawing on the back of a calendar. As the title of this artwork (fig. 1) indicates, the Buddha is located in the underground palace of the Giant Wild Goose Pagoda (大雁塔), a sacred building believed to be the place to "store the scrolls and other treasures brought from ancient India by the Chinese Buddhist monk Xuanzang" (Güiraldes 2020, 25). It has been less than half a month since she first drew induced by *qigong* on May 21.

FIGURE 1: Guo Fengyi, The Buddha in the Underground Palace of the Giant Wild Goose Pagoda, 1989, Ink on calendar paper, 73.4 × 50.6 cm, Courtesy of Long March Space

While Guo drew this Shakyamuni Buddha in her small kitchen in Xi'an (Güiraldes 2020, 25), China's government suppressed one of the biggest student demonstrations in its history by

deploying tanks in Beijing Tiananmen Square. This event attracted intense global attention and was canonized as a flattened anti-authoritarian narrative about modern China (Wang 2020). Addressing this political event, Qian Xuesen criticized another dissident astrophysicist, Fang Lizhi (方励之), as "the national scum of the scientific community" (Yang 2009, November 5) for his participation in the protest. When the debate surrounding liberalization engulfed this country, as I have illustrated in Chapter 1, Qian wholeheartedly committed himself to somatic science. As a representative of state ideology, Qian's critique and statement exemplify a high-intensity biopolitical confrontation between state and civil society; rather, as a retired woman, Guo's practicing self-healing in the same way as usual, is not a simple representation of public indifference but calls for complicating the biopolitical struggles of Chinese people on a somatic level. The symbolic juxtaposition of these two critical moments—Qian's scientific research and Guo's spiritual drawing—foreshadows two different trajectories of *qigong* in the late twentieth century: one manifesting in a process of radical scientification at an institutional level, the other was embodied in people's mundane acts. Taking Guo's personal history[20] spanning from socialist industrialization in the Chinese hinterland to post-reform neoliberal privatization throughout published materials as the starting point, this chapter inquires: When large numbers of people sought self-healing through *qigong*, what kind of novel layer of biopolitics was activated and introduced in the nexus of becoming prevalent toxicity and post-socialist political economy?

To unpack it, this chapter draws from my close reading of Guo's drawing and her personal history, and critical engagements with a broader context of TFC during socialist times and post-socialist privatization trauma, toxin circulation, and political economy. With these examinations, I aim to trace the trajectory of the confluence of *qigong* and the mutation of biopolitics, conditioned by the entangled history of China's post-socialist transition, uneven chemical exposure, and healthcare disparities. More importantly, through reflecting on Guo's experience of healing and drawing in dialogue with Mel Chen's affirmative reading of toxicity and Donna Haraway's "cyborg writing," this chapter also invites an alternative way of approaching cure in place of the mode of modern biomedicine in a resource-limited setting and an alternative condition of living or way of being as a Chinese working-class woman worker with chronic illness in the Global South.

[20] One of the limitations of this research is the lack of reference of Guo's written diaries that is preserved by the Long March Space. I did not get access to these archives.

In the first part of this chapter, I provide an account of how the toxic chemicals circulated under harmful workplace circumstances and a dysfunctional public health system by situating Guo's diagnosis of rheumatoid arthritis within the context of China's shift "from subsidized medicine to for-profit market medicine" (Chen 2003, ix). In conversation with Mel Chen's concept of "animacy," my analysis unpacks the dynamics of how animated toxicity and *qi* are co-opted into a biopolitical governance in an embodied way. Then it will shift its attention to my engagement with the TFC in the 1960s in conversation with a cybernetic understanding of bodies by unpacking Guo's identity as a Chinese working-class woman worker in the broader dynamics of the Cold War global militarization, socialist industrialization, and gendered division of labour. I argue that *qigong* renders a biopolitical technology of bodies: in Guo's case, it embodies people's self-healing, endurance, and resilience at an everyday level. I also propose an affirmative view of *qigong*: it serves as an alternative approach to modern Western biomedicine with low cost and reorientation of patient agency and East Asian onto-epistemology. From Guo's case as a Chinese woman worker with chronic illness and self-taught artist inspired by the animacy of *qi*, I propose a queer condition of living together with toxins, chronic pain, gendered reproductive labour, and utopian envisioning of healing and science in the twentieth century. Guo's drawing and grappling with illness are queer because it disturbs normative and oft-quoted frameworks of Chinese bodies as passively enduring ones by inhabiting alternative pathways of healing imaginaries for the masses.

Qigong Drawings as Healing

In Guo Fengyi's case, after nineteen years of working in a rubber factory, she got chronic arthritis and began to practice *qigong* for healing. Guo once explained her motivation for drawing: during her meditation, many visual symbols and information appeared in front of her eyes, and she had to express them with paper and pen for the balance between body and mind (Liu 2018). Guo's chronic suffering urges her to practice *qigong* and draw successively in the hope of restoring her health. In one interview with another Chinese artist, Xu Tan (徐坦), she mentioned that:

> "I began drawing on May 21, 1989. Before that, I was frequently ill, and my health wasn't optimal. I heard that even those who cannot write can

> prescribe medicine, which to me sounds quite magical, so I decided to try drawing—that's how I began. **What I drew was mostly about treating illness**: How to treat leukemia? How to treat toothache? How to treat depression? I then drew accordingly."
>
> (Xu 2020, 74, translated by Xin Wang and highlighted by the author)

Even at this present moment, there is no cure for rheumatoid arthritis. The general goal of treatment is to relieve pain and inflammation and help ensure joint function, including medications (nonsteroidal anti-inflammatory drugs, disease-modifying antirheumatic drugs, Glucocorticoids, and other antirheumatic drugs) (Gaffo, Saag, & Curtis, 2006), physiotherapy, and surgery. Guo's *qigong* practice and drawing envision an original way of healing without relying on medical institutions and biotechnological interventions. Most of these regular treatments, particularly drug therapy, have been proven toxic for periods (Alarcón, Tracy, & Blackburn Jr, 1989; Romão, Lima, Bernardes, Canhão, & Fonseca, 2014; Schiff & Whelton, 2000). The specter of toxicity constantly looms over the remaining years of people with chronic diseases (possibly) caused by toxic exposure. Their chronic conditions necessitate lifelong medicine intake and treatment for surviving the sequelae of toxic exposure, which in turn may debilitate them in the forms of persistent short and long-term side effects from ongoing treatments.

Medical anthropologist Thurka Sangaramoorthy (2018) critically examines the discourse surrounding the 'end of AIDS' and HIV as a chronic condition and argues that these debates lay bare unquestioned assumptions about 'where, how, and for whom AIDS may be ending' (Benton, Sangaramoorthy & Kalofonos 2017, 474). Inspired by this question, I rearticulate it in my analytical case as 'where, how, and for whose chronic pain is suffered and may be healing.' As Sangaramoorthy (2018, 995) suggests, I attempt to bring into view "the embodiment and perceived pathologies of crisis and the stagnant futures, deteriorating presents, and collapsed pasts of people and places left behind" by revealing the enduring crisis embedded in *qigong* fever.

It is imperative to locate Guo's struggle with chronic disease and decades of occupational chemical exposure through *qigong* practice and drawing in a broader context of post-socialist China's labor, environmental, and medical politics. In fact, until January 1995, China did not have labor laws, which resulted in a vast number of work exposure to toxic substances

(Hawthorne 2007, 159). Though Guo's work in a rubber plant happened during the socialist time (from 1962 to 1981), her case of intoxication might serve as a harbinger of the larger-scale chemical exposure in China's neoliberalization. According to statistics, occupational toxic exposure spread rapidly after China's economic reform and opening. In 1988, the total number of occupational disease cases reported was 28,357 (Chen 1989); until 2005, there were more than 16 million toxic and hazardous enterprises in China, and the number of people exposed to the hazards of occupational diseases exceeded 200 million (China News 2006). Meanwhile, in the early period of China's marketization of the medical system, the mass population lacked support from public health insurance and was forced to pay for high healthcare costs. With the disintegration of the Maoist health care system in the early 1980s, government health spending as a percentage of GDP began to decline, from 1.1 percent in 1980 to 0.8 percent in 2002; by 2003, more than 70% of the population had no health insurance at all (Huang 2011). As Judith Farquhar (2016) has shown us in the case of health media in post-socialist China, its popularity lies in its response to the high cost of medical care and the limited availability of sufficient health insurance. The chronicity of occupational diseases is another form of the by-product of China's neo-liberalization embodied in the suffering of precarious workers.

Another Chinese bodily practice, Chinese martial arts (*wushu*, 武术), became thriving during the same period of *qigong* fever. These trends flow together under the integration of China into the global economy, which requires enterprise privatization and individual flexibility. Some factory workers grappled with chronic disease and sought the endurance of the "ancient masters" to go through their 10-12 hour shifts by practicing martial arts (Judkins 2012). The prevalence of *qigong* shared similar logic: the emerging *qigong* effectively filled the gap in public health care and transferred the care responsibility from the state welfare to the individual. One of the editors of a famous *qigong* magazine, *China Qigong* (中华气功), explains the reason for the popularity of *qigong* in an interview: "In fact, *qigong* is very important in the national economy and people's livelihood. Environmental pollution is getting more and more serious, people's bodies have to fight to avoid sickness, and now medical costs are so expensive." ("Bajiushi niandai qigong chuanshuo" 2015) In this sentence, the editor uncovers the entanglement of toxic circulation and health reforms through the mediation of bodies by parallelling the environmental pollution and medical costs in post-socialist China.

Michelle Murphy (2013) uses two terms, *distributed reproduction*, and *chemical infrastructure*, to discuss intergenerational chemical exposure along the St. Clair River in Canada, an area with a history of significant chemical manufacturing and waste discharge. Murphy (p2) suggests "distributed reproduction as a way of reframing what counts as reproduction" and "as a question of reproduction occurring beyond bodies within uneven spatial and temporal infrastructure," in which different aspects or forms of life are treated unequally. By chemical infrastructure, Murphy (p3) emphasizes the spatial (from pipelines transporting oil to air, water, soil, and chemical contaminated round goby) and temporal (from colonial history to uncertain futures) circulation of industrially produced chemicals among different actors, such as the indigenous and fishes, and periods. Through this term, the concept of infrastructure is reconstructed in a way that the spatially and temporally extensive practices that are sedimented into and structure the world have been included (p2).

In dialogue with Murphy's discussion on *distributed reproduction*, I suggest considering medical treatment as a variant of *distributed reproduction*, from the lens of Feminist Marxist theorists' interpretation of social reproduction as "the activities and attitudes, behaviors and emotions, responsibilities and relationships directly involved in the maintenance of life on a daily basis, and intergenerationally" (Laslett & Johanna 1989, 382). Though in Murphy's original theorization, the discussed "reproduction" refers to biological reproduction, the critical thinking of "reproduction" posed in the text is highly relevant to my expanded inquiries into social reproduction. They (Murphy 2011, 24) argue that: the current ontological politics of reproduction is not only "celebrated for its malleability and changeability," but also its "fostering of life is at the same time understood as its alteration, management, and speculative preemption." This argument allows me to rethink the distribution of medicine, care, and cure along with its reconstruction of living during *qigong* fever. Especially in the context of late twentieth-century China—the reform of the medical system aggravates the uneven distribution of medical resources and facilitates the popularity of *qigong*—people from different social positions get different forms of healing and medical treatment in such a resource-limited setting.[21] Through Murphy's reconstruction of infrastructure, we can trace the toxic chemical circulation beyond the workplace and the

[21] During *qigong* fever, It has been rumored that some political leaders, celebrities, and the rich engaged in practicing qigong. But for these privileged, practicing qigong came more from interest and life-nurturing rather than any urgent health concerns or medical necessity.

damaged environment. If we move to the afterlife of toxic chemicals, they are still active in people's post-exposure treatment, hospitals, sanatoriums, medical instruments, and self-healings. In the cosmology of *qigong*, human vitality is circulated with the movement of *qi*, by which the sedimentary toxicity can be excreted from the body and returned to the universe. Under the condition of uneven distribution of medical resources, *qigong* is involved in a process of infrastructureization as a core part of the toxic circulation. It means that without the intervention of *qigong*, the collapse of the old medical system and large-scale occupational chemical exposure will lead to a greater disaster, or put another way, *qigong* mediates and negotiates the tension between China's neo-liberalization and mass need for a healthy life in a toxic environment. Existing literature has contended that the workers from State-Owned Enterprises "compose part of a newly formed but gigantic subaltern working mass within contemporary China's slowly solidifying class structure (Li 2019, 2). Unlike the threat of collective action in other contexts (Arce 2008; Foster 2011; Reese, Vega & Geidraitis 2005), self-healing emerged as one of their reactions to privatization trauma before the politicization of Falun Gong. This practice also disrupts the dependence on medical institutions, pharmaceutical companies, and scientific experts, which recenters the agency of patients. This allows them to pursue healing regardless of time, place, fees, and other constraints.[22]

In the epistemology of *qigong*, "*qi* refers to the vital energy of the body" (Li 2014, 181), and circulates within the human body as the source of spiritual and physical nourishment in a process involving intense sensual engagement with the physical world and disengagement with the social world (Chen 2003, 5). Visualization and imagination are core techniques to bridge individual senses and intellects to cosmological power (Chen 2003, 1-2). Guo's experience of emerging images in mind is not an isolated incident but a necessary component of *qigong* practice that happens in a large number of cultivators. In other words, her drawing is not solely a hobby or an interlude between ailment and healing, but a sediment of environmental contamination, healthcare disparities, and post-socialist body politics.

[22] Even though numerous financial fraud scandals involving *qigong* masters emerged during that time, with some of these masters later being denounced as charlatans, for most practitioners, engaging in *qigong* remained a relatively low-cost activity.

The following image (fig. 2), *The Diagram of the Liver Meridian* (肝经络图), encapsulates the operation of *qi* and how it allows for activating a novel ontology of life to imagine vitality as a form of energy that can be circulated, exchanged, and enhanced. In the cosmology of Traditional Chinese Medicine (TCM), the liver "rules processes of dredging and draining as well as dispersion (of *qi*) upward and outward; it stores blood, unfolds in the sinews, vents at the eyes, and manifests in the nails" (Farquhar 2020, 42). Its function of revitalization is linked to the element of wood in the Five Phases (*wuxing*, 五行), which associates the liver with the color green-blue, a symbolism often reflected in depictions of this organ. In this drawing, different from TCM's tradition, Guo used red to present the liver's color. This innovation reflects Guo's instinct and cosmo-epistemology. Moreover, in Guo's drawing, what constitutes the liver is not material flesh and blood, but meridian, visualized through *qi*, whose operation is similar to the electrons in physics that are subject to the influence of a magnetic field and move at high speed. As the basic unit of life, *qi* circulates and interacts with different acupoints and meridians in the human body. TCM uses this theory as the therapeutic principle—regulating the operation of *qi* in the body to achieve therapeutic effects. In contrast to the reductionist premise of contemporary Western biomedicine, which acts upon life at a molecular level and regulates gene expression and transcription for diagnosis and intervention (Rose 2006, 5), *qigong* regards the overall circulation of *qi* in the human body and the exchange of *qi* with the outside world as the basic principle. As I have mentioned, the liver is perceived as the main organ functioning in revitalization by controlling blood circulation in TCM. It is also seen as the detoxification organ in modern medicine. These two different cosmologies are encountered at this point. However, either toxic molecules in the rubber solvent that debilitated Guo (though it is not directly reflected in this drawing, it can be imagined as the object being detoxified by the liver.) or *qi* within and surrounding us are tightly intertwined as flowing lines in Guo's drawings. Those lines also offer a cosmological revelation/unveiling of the ephemeral materiality of *qi*.

Qi's ephemerality, mobility, and mutability exert an affective influence on humans during healing, exemplified by the comfort it provides while alleviating pain and relieving stagnation. As Mel Chen's (2012, 204) articulation of "a particle's affective involvement on radically different scales" in their discussion of the animacy of toxicity, *qi* as an queer animated entity in TCM, in *qigong*, and in Guo's drawings introduce complexities to the biopolitical governance of life, where the regulation of vitality and animated *qi* replaces the

regulation of life and death. The reason why *qi* here is queer is that it not only challenges modern medical science's way of healing, but also overcomes boundaries of different agents, scales, and locations.

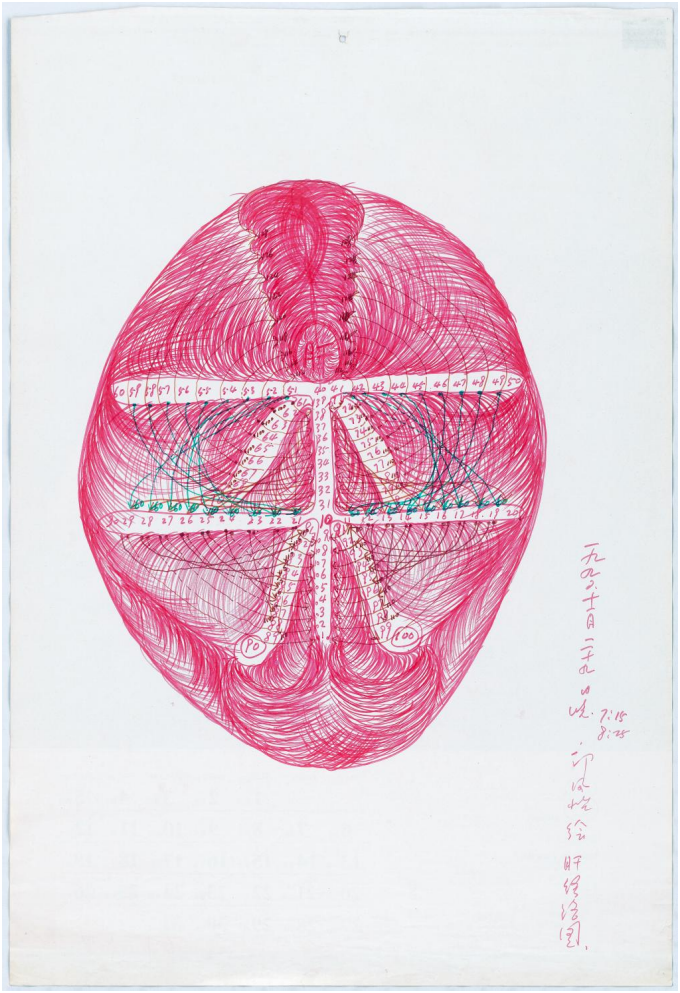

FIGURE 2: Guo Fengyi, The Diagram of the Liver Meridian , 1990. Colored ink on calendar paper, 77.3 × 52.3 cm, Courtesy of Long March Space

Those symmetrical numbers inscribed on the white limb-shaped area in this drawing call for scrutiny of Guo's experience of chemical exposure. According to Wang Huan (2024), as a former rubber factory technician, she was very familiar with chemical ratios as a result of her work, and from her notes, she seems to perceive numbers with a high degree of caution and sensitivity (her experience of working as a chemical technician will be further discussed in the next section). Moreover, this drawing is also related to acupuncture. Guo incorporated her own numerology into the theory of meridian, in which "the liver meridian is one of the twelve meridians within human body" and "has fourteen acupuncture points dispersed on it"

(Ryor 2020, 57). Guo's drawing is arguably a form of 'chemical equation' of her own embodied cosmology, toxicity, and post-socialist political economy. While China began to adopt the Western paradigm of medical system reform in the late twentieth century, *qigong* is rising ironically by providing low-cost and flexible forms of life-maintaining with people's desire, hope, and resistance in the backdrop of becoming prevalent toxicity and healthcare disparities. As Rosario Güiraldes (2020, 39) argues, we can rethink Guo's drawing in a way in which we can capture "the concept of biopolitics—a politics of the body, realized in the personal act of self-healing, endurance, and resilience." In the next section, this chapter moves to Guo's earlier experience of working as a chemical technician throughout the height of the global Cold War in order to interrogate how her gendered body is integrated into the making of militarization in the twentieth century, and how she and her drawings enable us to probe an queer condition of living, complicating the framework of endurance and resistance applied to Chinese lives.

Chinese Women Workers/Artist with Chronic Illness in the Multiple Margins

Rubber with the characteristics of flexural plasticity, good insulation, and stretch resistance, serves as a crucial strategic and industrial raw material in China's post-war economic growth. Widely used in the production in fields of industry, military, transportation, and medicine, both natural rubber cultivated in tropical China and artificial rubber synthesized by oil, gas, and coal, have deep roots in ecological extractivism and environmental dispossession. In the TFC, rubber is also one of the key products in the production of machinery for industrial and military purposes (Naughton 1988, 380). Even though I have no evidence directly illustrating the factory where Guo was working as a subproject of the TFC, there is a clear demonstration of the strategic significance of Xi'an during the TFC (Zhong 2024). As a working-class woman worker who entered a rubber factory in the 1960s, Guo Fengyi's identity as a chemical technician intersects with the imperialist Cold War geopolitically, and element movement, extraction, and toxic circulation environmentally. Tracing the militarist origin of cybernetics, Norbert Wiener's World War II work on anti-aircraft predictors introduces an interpretative entry to locating humans in a feedback loop within a defensive system. In Wiener's envisioning of the defensive integrated system, "a human (an anti-aircraft gunner), a calculator, and a weapon" was forged into a single integrated system (Hayles 2024, 85). Human's instinct for repetitive acts allows him to build a predictory mechanism of the

evasive maneuvers of an enemy aircraft (Hayles 2024, 85-86). Wiener's attention on "antiaircraft predictor" is grounded in and later goes beyond the diffusing anxiety of Nazi air attack during WWII and becomes "more widely to include the vast array of human proprioceptive and electrophysiological feedback systems." (Galison 1994, 229) Peter Galison (1994, 264) has shown us cybernetics' reference to WWII warfare and how its proposition of "pilot-as-servomechanism" incorporates humans and the bodies to cybernetics by seeing them as self-correcting black-boxed entities with "a correlated and characteristic set of input and output signals." My discussions here echo my feminist critique on cybernetics in Chapter 1 by uncovering the layer of the gendered body in the context of the Cold War. Guo's case as a socialist woman worker serving in a military-industrial complex complicates the entwinement of human bodies and cybernetics, especially revealing obscured stories of Chinese woman in a mundane space in the making of militarization in the twentieth century.

Peter Gilson's (1994, 230) research also points out the racialization in the cybernetic ontology of the enemy, wherein the Enemy Other was seen as barely human. In the discourses Gilson analyzes, dehumanization refers to the process of reducing humans to insects and barbarians or keeping physical and moral distance caused by air forces' remote vision of the enemy on the land. His analysis of the destruction of human bodies in the early stage of cybernetic theorization primarily focuses on the masculinist battlefield and defense technology laboratory. Donna Haraway (1991, 151) offers a powerful critique on the overlooking of gender by identifying the feminist figure of cyborg as "the illegitimate offspring of militarism and patriarchal capitalism." This conceptualization indicates the incorporation of women's bodies (particularly women of color's bodies) into the military in advanced industrial societies. Haraway (1991, 180) frames the domination and subjection of gender in an embodied way, extending from feminists' claims that "women are given to dailiness, that women more than men somewhat sustain daily life, and so have a privileged epistemological position potentially."

On most occasions, Guo Fengyi addressed herself as "wife, mother, chemical technician, *qigong* instructor, and retired worker" rather than a transcendental and elitist artist (Zhong 2023). In her self-identification, the first two titles emphasize her familial obligations within the realm of social reproduction, followed by those that highlight her roles in the public sphere. This sequence of self-identification reveals two presuppositions. First, Guo primarily

identifies as a wife and mother, reflecting the notion that her identity as a woman has been naturalized as her foremost position. Second, her engagement in social production as a trained worker during socialist times did not dismantle her gendered labour in so-called "private spaces." There has already been a rich scholarship on the figuration of gender during China's socialist period (Hershatter 2014; Wang 2016), in my research I want to focus on a specific conjunction of gender and technology and its remnant in Guo's life. As I have mentioned, Guo entered the rubber factory with a high school degree; her job as a chemical technician was not simply a manual laborer but required professional chemical knowledge. However, it is crucial to note that her professional skills in chemistry were only sufficient to allow her to work as an ordinary worker to sustain the assembly line rather than a research and development professional or the scientists I discussed in Chapter 1. During the same period, the digital industry, another department vital to the military, grew significantly. Wang Hongzhe (2015) in his research on China's socio-industrial history of electronic information technologies, offers a case of the "barefoot electrician" (*chijiao diangong*, 赤脚电工)[23]. In his case studies, he shows how a woman worker without any foundation mastered the basic knowledge of electronic technology after a few months of study and engaged in industrial mechanical automation that later formed a new way of surveillance, in China's 1960s. Guo and barefoot electrician's cases elucidate the intricate relationship between gender and technology under the militarist shadow: on the one hand, a small group of women are encouraged to obtain some scientific and technological knowledge in order to support a state-led military-industrialization; on the other hand, those "educated" women workers failed to get rid of otherization and debilitation.

Eunjung Kim's (2019, 13) interpretation of the South Korean labour-right documentary film, *Factory Complex*, gives an account of what she articulates as "heteropatriarchal notions of care and labor as domains of femininity naturalizing the labour that serves the state." Together with this argument, Guo's self-identification urges a more nuanced feminist critique of techno-biopolitics in (post-)socialist China. Throughout her nineteen years of working in the rubber factory, she raised four children and took care of her husband. Suddenly falling ill and disabled, she had to stop working and never returned to the workforce, forcing her to

[23] This naming is inspired by another popular phenomenon, barefoot doctor, during China socialist times. "Barefoot doctor" refers to healthcare providers who only received basic medical training and worked in rural villages in China.

accept early retirement. Suffering from acute arthritis and recurring insomnia caused by chemical exposure for years (Meng 2023, March 24), she finally was released from her role as a mother after her four children had reached adulthood. The industrial harm and chronic illness and gendered labour division in socialist military-industrial construction, and reproductive care labour in the "home" co-constitutively contribute to Guo's disablement, frailty, and linger in her magic power as a *qigong* practitioner and creativity as an artist. Mel Chen (2012, 211) redefines toxicity as "*conditions* with effects, bringing their own *affects* and animacies to bear on *lives* and nonlives." As I have illustrated in the last section, Guo's drawing is her embodied and creative way of grappling with healing after toxic exposure, detoxifying the chemical sediment within her body, and connecting herself with the universe. Toxicity in this case is animated to ignite her artistry with the movement of *qi* beyond the reach of critique on the biopolitically interested distribution of toxic work. Following Kim's argument, toxicity here is also gendered as it intersects with Guo's unvalued female labour and reproductive care in the ground of life.

When Guo first presented her work in the Venice Biennale in 2013, a Chinese art critic Peng De wrote an article "Guo Fengyi Phenomenon." In this article, Peng (2013, July 9th) called Guo a peasant grandma (*nongcun dama*, 农村大妈) and criticized the institutional recognition of Guo's work, describing it a contemporary version of mischief that occurred during the Chinese Cultural Revolution.[24] Peng's personal identification of Guo emphasizes her intersectional background as a rural woman, which is not necessarily influential on her artistry; and his deployment of the historical metaphor of cultural revolution imposes the stereotype of irrationality and anti-intellectualism of that period to Guo's *qigong* drawing. Conversely, Lu Jie, the curator who discovered Guo and brought her to the art market, mentioned in one interview that Guo's super fans come from professional elites and internationals with a professional vision (2013, July 9). Lu's elitist and cosmopolitan visioning of Guo's work distances her from her situated social position and filters the danger of orientalization under gazes from those professionals in Western arts. These two rhetorics surface critical interventions of gender and/or race/coloniality in my discussion. In the last part of "Cyborg Manifesto," Donna Haraway gives a powerful interpretation of the meaning of writing for women of color. She (Haraway 1991, 175) wrote: "Writing has a special

[24] Cultural revolution is a sociopolitical movement launched by Mao Zedong during his last decade in power (1966–76). One goal of this movement is to make the educational, health care, and cultural systems less elitist.

significance for all colonized groups. Writing has been crucial to the Western myth of the distinction between oral and written cultures, primitive and civilized mentalities, and more recently to the erosion of that distinction in 'postmodernist' theories attacking the phallogocentrism of the West, with its worship of the monotheistic, phallic, authoritative, and singular work, the unique and perfect name." She (Haraway 1991, 175-176) calls women of color's writing "cyborg writing", the writing about the power to survive, and the politics behind it is all about the struggle for language and against perfect communication. In conversation with Haraway, the rethinking of Guo's drawing from a feminist standpoint bridges my engagements with cybernetics and gendered bodies in global militarism and (post-)socialist techno-biopolitics.

Guo is not a writer but a drawing artist — drawing is her language of "writing." Once she explained her inspiration for drawing, she said: "Because I draw from not knowing — and then slowly draw it, finally I know. I'm not like you, you draw after you know…… if you draw a picture, you've already thought about it, you've already designed it, but I don't know when I'm drawing." (MACA 2024) I believe that when she was drawing, she might never have thought about the feminist implications of her drawings, her past life as a socialist woman worker in the global Cold War, *qigong*'s relationship with post-socialist political economy, and the transformative potential opened up by her "not knowing," all of those that I am trying to do in this chapter. When Haraway (1991, 176) comments on Audre Lorde's work *Sister Outsider*, she claims that this book hints at a possibility "to write without the founding myth of original wholeness." This argument not only resonates with Guo's artistic approach without knowing but also informs my discussion here not to restore the "truths" about her. From a woman working with toxics in the 1960s under China's geopolitical threats from two blocs to being labeled a "rural amateur woman artist" who practices *qigong* with the magic of healing, Guo Fengyi, and her drawings are not simply a figure of the cyborg (as a woman of color) and another form of "cyborg writing" respectively, but push us to rethink a new condition of lives of what Haraway (1991, 175) suggests "seizing the tools to mark the world that marked them as other;" a way of being together with toxins, chronic pain, gendered reproductive labour, and utopian envisioning of healing and science in the twentieth century, integrated into a cybernetic framework of planet, human, and elements (*qi* and toxic molecules).

More importantly, Guo and her *qigong* drawings elucidate a more subtle narrative of Chinese living under a neoliberal post-socialist regime. As art theorist Hentyle Yapp (2014, 134-135) contends, Chinese artists and their works have been reductively categorized as endurance or resistance arts against state and cultural customs, obscuring a more nuanced framing of artistic articulations of contemporary China. Guo's *qigong* drawings explore an alternative to submission and resistance in the contexts of the global Cold War and neoliberal globalization, which embodies the power of not knowing—a refusal of normative perceptions of certainty, fixity, and stability. This way of self-healing and spiritual actualization of cosmological magic nurtures her artistry, showing a queer non-normative critique of privatization trauma, gender norms, and transnational flow of capital. In every drawing, she wrote down the time and theme of *qigong* meditation in a way of self-archiving from the very beginning, demonstrating a serious commitment to artistic self-expression. This effort shows us that what distinguishes her is not the discovery of a curator with a heroic vision but her own consistent self-regard and self-driven effort. My above-mentioned quotations of the reception of her works frame her either as an outsider of contemporary arts, or as an object of gazing from professionals and the Western. Inspired by the interpretation of queer as a tactic to unsettle the notion of normality from queer Asian studies scholarship (Yiu, 2025), I suggest that Guo and her drawing envision a queer critique of a normative framework. This framework often renders her life and body as a silent site of confronting exploitations (from socialist mobilization and patriarchal labour division), interpretations (from elitist and orientalist gazings), and appropriations (from commercial art galleries) under an authoritarian regime. In this light, the unruly flowing *qi* among her drawing fingers are not only a vital energy in Chinese metaphysics but also a queer being that lingers on Guo and her way of living with its animacy.

Conclusion: Qi at now, and then

In 2019 summer, I served as a volunteer in a Chinese non-government organization, Love Save Pneumoconiosis (大爱清尘), whose mission is to help and treat "the 6 million Chinese rural migrant workers suffering from pneumoconiosis, a devastating lung disease" caused by industrial dust (Love Save Pneumoconiosis n.d.). I participated in conducting a survey on migrant workers receiving service and aid from this NGO in Shaanxi Province, the place where Guo practiced *qigong* and drew for around thirty years from the 1980s to 2010. In the

medical center sponsored by this NGO, there was a specific room for these patients' rehabilitation training, including Eight Pieces of Brocade (*Baduanjin qigong*, 八段锦). This genre of *qigong* was rechoreographed and promoted by the General Administration of Sport of China (国家体育总局) in 2003 and recommended by officials for fighting against COVID-19 during the pandemic (Lu 2021).

Dating back to 1994, China authorities changed its attitudes towards *qigong* and denounced it as a pseudo-science, resulting in the end of *qigong* fever (Liu 2019, 10). In 1999, the conflict between the CCP and a politicalized healing organization, *Falun Gong* triggered the collapse of the *qigong* community. As I mentioned above, even though *qigong* is not as unmentionable as *falun gong* in contemporary China, it has been depoliticized and demystified as a pragmatic way of healing. But *qi* is still entwined with China's everyday life: according to Victoria Nguyen (2020, 456), as the connotation of air, it "draws our attention to fundamental environmental and non-human entanglement, as well as our bodily capacities for both vitality and vulnerability" under China's air pollution crisis. *Qigong* or *qi*, then, in these two above-mentioned sites of rehabilitation and pollution invites a recounting of the mediation of toxicity in and around life, death, vitality, and ecologies in post-socialist China. In other words, *qigong* shows us: a mode of self-healing, a way of grappling with disabling, and an elemental craft of regulation of life, wherein toxicity and *qi* along with their animacy have been incorporated into the biopolitical governance. Moreover, *qi* in this case presents a queer radical potential that not only challenges dominant medical discourses, but also overcomes boundaries of different agents, scales, and locations.

Through reviewing Guo Fnegyi's artistic practice along with its broader historical context, this essay traces the convergence of *qigong* and the mutation of biopolitics in post-socialist China. This essay uncovers a newly introduced layer of biopolitics here: under the condition that medical treatment had been highly stratified and distributed by class difference, *qigong* provided low-cost and flexible forms of life-maintaining with chronic conditions in a "toxic" environment, which was co-opted by China's political power and inhibited the potential of collective action and structural transformation. At the same time, this deferral of health care to self-care in Guo's case is also gendered in connection with gendered labour division in social production and reproductive care labour in the "home."

However, the biopolitical interpretation of *qigong* in this chapter does not aim to rehearse the simplified narrative of authoritarian illiberal China's exploitation of life, which would enhance the racialization of China as a "Global other." Rather, my critical reading of this multilayered history attempts to complicate the oft-deployed frameworks of individual oppression applied to Chinese lives by urging us to move toward an alternative approach to healing, medical technology, and broadly a mode of living. I argue: first, *qigong* offers a decolonial model of modern Western biomedicine with low cost and reorientation of patient's agency and East Asian onto-epistemology; second, Guo's drawings show us a queer way of being that integrates utopian visions of healing and science with the material and discursive conditions of life and artistic productions in the late twentieth century.

Chapter Three Embodying Frequency: Toxic embodiment, *lingxing* healing, and queer technology of attunement in contemporary China

Ruyun, a woman sound healer living in Dali, had a coffee chat with me one- afternoon last summer. I knew her from ecstatic dance, my favorite improvisational movement practice in Dali. According to the introduction in its online promotion, this genre of dance is about "getting out of your head and into your body" on dancers' self-pioneered journey, which highlights one of the principles of *lingxing* healing (spiritual healing, 灵性疗愈)—refocusing on your embodied feeling rather than mindwork to integrate bodymind as one. Apart from ecstatic dance, Ruyun organizes sound healing workshops twice a month, where she usually uses various instruments including singing bowls, gongs, drums, rainsticks, and such to give group therapy. In one introductory blog on sound healing written by her, she contends that "We are using one of nature's most wonderful forces and the creator of music: sound frequencies."[25] "Frequency" here she used, as the most commonly employed scientific terminology describing rates of vibratory phenomena, is not her personal wording, but emerges as an underlying metaphysics for *lingxing* healing in China and beyond.

In our conversation, Ruyun illustrated her motivations to enter the field of *lingxing* and develop expertise by telling me a story of her grandmother's *qigong* practice and its influences on her. She said:

> At that time, my grandma practiced intelligent *qigong* (zhineng *qigong*, 智能气功)[26], which is actually very good ... my grandmother used to exercise early in the morning, and at first she danced and *zhan zhuang* (站桩, Standing Meditation).[27] Later on, she started to learn intelligent *qigong* and would often practice it at home. The audio she played would actually take you to meditation ... My grandmother, who was very hardworking, used to put me to bed while I was falling asleep, and when I fell asleep, she would start practicing quietly by herself ... She went to what they called a senior activity center, and they had a big studio where they would practice together, and for a while, at night they would send *qi* to each other … I can

[25] In order to keep the anonymity of my research, I won't provide resources for my interviewees' online writings.
[26] Intelligent *qigong* is one of the most popular genres of *qigong* during *qigong* fever. It emphasizes on cultivating intellectual capacity and enhancing physical abilities.
[27] Zhan Zhuang is a traditional Chinese meditative practice. As a static stance training, it asks the practitioner to stand like a post usually for at least half an hour and even longer.

> remember the scene of the meditation. I felt that there were a lot of old people there and that everyone was in good spirits."

When she recalled these treasured memories, she smiled but promptly was interrupted by her mentioning of *falun gong*'s collapse. Ruyun's memory is not simply a revitalization of the historical moment of "*qigong* fever" and its afterlife under political oppression, but a reminder of the potential continuity from *qigong* to contemporary alternative healing in China.

Ruyun is not the only person who connects their *lingxing* explorations with *qigong*, my another interviewee Dongbao also addresses his childhood dream of becoming a *qigong* master, influenced by Chinese Martial Hero Films and family members' passing down of *qigong* stories in the millennium, when *qigong* fever was brought to an end. The connection between *qigong* and contemporary *lingxing* in their narratives is not a coincidence; rather, it is a historical continuity that I want to examine further. It motivates me to raise the core question in this chapter: from *qigong* to *lingxing*, what does a new epistem of healing emerge, interwoven with the techno-biopolitical reality in contemporary China?

To unpack this question, this thesis moves from historical and cultural studies on "*qigong* fever" in the last two chapters to my ethnographic inquiry in the contemporary context. This chapter centers on two key figures, Ruyun and Dongbao, from the fieldwork as the core of the discussion, while incorporating the narratives of other interlocutors and digital writings as supplementary perspectives. This chapter does not aim to provide a comprehensive analysis of *lingxing* or spirituality, which is a huge topic awaiting more scholars' attention and scrutiny, but sheds light on a specific aspect of how *lingxing* has translated the scientific term—"frequency"—into a healing lexicon with multiple cosmo-ontologies for Chinese people to grapple with more diffusing metaphoric toxicity. Iterating from *qi* to frequency with enduring toxicity, the animacies of these conceptual and abstract (in)corporeal modalities configure a new site of techno-biopolitical governance, wherein these ephemeral, porous, and invisible beings have been reconceptualized as parameters of human difference and advanced a new way of living.

In what follows, I first discuss the process of how *lingxing* reimagines frequency as an entry for healing in a way in which this term has been expanded from the sonic and physics realm

to human property with the cybernetic remnants of *qigong* fever; subsequently, I elucidate an affirmative and transformative reading of toxicity in *lingxing* with an emergent queer technology of attunement rather than negative view of its harm in the rhetorics of security and immunity; and finally, I conclude with two distinct approaches to toxicity-frequency relationship and their animacies in techno-biopolitical governance in the twenty-first century.

From Toxicity to Frequency

Dongbao previously studied humanities at a Liberal Arts College in New York, where he got to know organic agriculture. His privileged education experience and general interest in science enable him to formulate a specific vision of toxicity and frequency by combining different strands of knowledge. As he said: "I would use 'toxicity' to express something that can cause you pain and even death. It's a bit like the analogy that Jiddu Krishnamurti[28] said: if I know something is toxic, I won't eat it. It is as simple as that." His quotation of Indian philosopher Krishnamurti and later mentioning of Nagual[29] in Mesoamerican spiritual traditions not only surface transnational influences in Chinese *lingxing* but also remind me of the imperative to recognize the fact that some onto-cosmological thinking in *lingxing* may not be so unique to China or the Chinese society; rather it urges me to map distinct parameters of *lingxing* if I are to contribute to broader insights into the system of power surrounding the alternative healing and biopolitical governance.

Following his understanding of toxicity, Dongbao further elaborated on his observed Chinese people's relationship with toxicity: "But very often in life, those toxic things may be considered non-toxic, or even if they are toxic, it's okay. This feeling will cause a lot of pain, stress, and anxiety. So if you really realize that it is toxic, just don't touch it anymore." After I proposed my follow-up question regarding why people think toxicity is acceptable even though they know they are harmful, he used the case of the boss-employee relationship to give an account: "Because the boss may be under pressure himself, and what is his pressure? He feels that this company needs to do well and make a lot of money. This pressure may be self-imposed. But if he gives in to this pressure and doesn't release it, he can't bear it himself.

[28] Jiddu Krishnamurti is an Indian philosopher and spiritual figure, well-known for his influence within the global spiritual community.
[29] In Mesoamerican spiritual traditions, a Nagual refers to a human being who can access spiritual power and universal energy.

He needs to release it. So he releases it on his employees, and his employees release it on their families. Then this pressure continues to be transmitted, and everyone is constantly transmitting pressure, and then in every aspect of life." His outlined case of the boss-employee relationship precisely exemplifies the metaphorical use of diffusing toxicity while describing Chinese people's inner turbulence, or what Chinese Sociologist Zhang Li (2020, 5) terms "anxious China"—an emerging potent signifier of large-amount Chinese people's general affective condition in a country undergoing four decades of economic, structural, and cultural transformations. In China, mental disorders contribute to 13% of the overall disease burden associated with non-communicable diseases (Charlson et al., 2016). The first national survey of mental disorders in China revealed a lifetime prevalence of 16.6% for mental health conditions among adults (Lu et al., 2021), while a similar survey focusing on children and adolescents reported a prevalence of 17.5% (Li et al., 2022). The significant prevalence rates of mental disorders among both adults and children in China highlight the biopolitical reality of mental health in contemporary China, which underpins the state governance of its population's mental well-being. Against this biopolitical backdrop, in our on-site interview, I was fascinated by his point and associated this case with the material nature of toxic chemicals by saying that: similar to transmitting toxic pressure among people, they are also flowing within the environment and accumulating in food chains. Dongbao resonated with my proposed connection between his metaphorical use of toxicity and the materiality of chemicals and said:

> It's a bit like the traditional Chinese saying "What's near cinnabar goes red, and what's next to ink turns black". (近朱者赤近墨者黑) In *lingxing*, it is said that things of the same frequency attract things of similar frequency. It's actually the same idea, which is that toxic things emit toxic substances, and toxics will be transmitted. The only way to avoid toxicity is to stop producing it. The only way to be free of toxicity is not to produce it.

Here, a conceptual framework of toxicity-frequency relationship is configured in our conversation, in which toxicity can be read as something or someone with bad and toxic frequencies. The introduction of the concept of "toxic embodiment" is useful to examine the embodied configuration of toxics in this case. Originally referring to "a condition where differentially situated human and non-human bodies, land and waterscapes are immersed in the naturalcultural intra- and interaction with toxicity," (Cielemęcka & Åsberg 2019, 102) toxic embodiment enables us to investigate toxic-related terms' environmental, cultural, and

political implications. Olga Cielemęcka and Cecilia Åsberg (2019, 102) have noticed the widespread circulation of terms like "bioburden" and "bioaccumulation" in environmental social imaginary, those that help to identify the cumulative process of concentration of toxic pollutants in organisms situated in the ecological chain. As I have above noted the metaphorical use of toxicity in these discourses appropriates the materiality of chemicals, it unavoidably leads to another question: what ramifications are caused by employing the rhetoric of toxicity from substances and non-human organisms to describe humans? My analysis here is not simply underscore, once more, Mel Chen's (2023) argument on queer, crip, racial, and imperial making of toxicity, but advance these considerations to the system of powers surrounding people's mentality, where the intoxicated object is no longer a body but a mind, that is how a person thinks, interacts with others, and lives in an anxious society. In Dongbao's narrative, his resolution of avoiding toxicity is "not touching" and "not producing," externalizing people with toxic frequency as dangerous "others," whom we should keep distance from or avoid becoming. A biopolitical differentiation of life emerges in two ways: first, this externalization overlooks sociopolitical factors of imposing and reproducing a toxic mentality, and enhances the self-obligation of detoxification; second, the objectives of "not touching," "not producing," and self-purification obscure the marginalized subjects deemed untouchable, positioning them within deeply stratified social hierarchies. In Mel Chen's (2011) studies on the rhetoric surrounding the threat of lead content in Chinese-manufactured toys in the U.S., they suggest that certain groups of people (such as Chinese labourers and intoxicated people of color) are rendered invisible within the discourses that centered on the vulnerability of white children. Chen's insight into racialized dynamics of toxicity illustrates how inanimate objects can be racialized, which amounts to a kind of animacy. With a similar logic, in Dongbao's articulations of externalization, the subject associated with so-called "toxic frequency" is rendered and otherized as threats without considering which modalities of power come into play and how they operate, thereby linking the animacy of toxicity and frequency to mechanisms of othering and exclusion.

In addition, the unit of this biopolitical governance is frequency, replacing *qi* in *qigong* fever and life in Foucauldian biopolitical regulation. It is not my first time to notice the deployment of "frequency" in *lingxing* and found myself intrigued: as a term used to describe sound waves, does this scientific and engineering parameter become a metaphor for describing

people? Dongbao's answer began to direct me to reflect on this question from multiple dimensions—scientifically, discursively, and embodied:

> I think if you look at it in a very scientific way, everything in the world is vibrating. It doesn't exist if it doesn't vibrate, so it needs to vibrate. Even an atom needs to vibrate very slightly, because it has temperature. If it were absolute zero, it would be absolutely still, completely without any movement. Everything in the universe is in motion, whether it's slight or violent, so it will have a vibration frequency,
> Different vibration frequencies may have different reactions. Since humans are also a physical body, they will react differently to different vibrations. Just like the gong bath, why does it have some reaction in the body? Because it is a physical thing that will cause different reactions. This is applied to many sound healing practices as sound is often understood as something for the ears, but it is also for the body. If you use your body to feel the sound, you can also feel the vibration. So that feeling is not quite the same as just listening with your ears.

Dongbao's use of the example of sound healing is not random but refers to Ruyun's gong therapy workshop we attended together. Therefore his explanation of the material vibration of things is situated with our shared experience of sound healing, but it is not the only approach to understanding the work of incorporating "frequency" in *lingxing*. Yong is another interviewee, who is a Navy veteran and now working on naturopathy. According to Yong's definition, naturopathy is a way of healing through connecting with nature and liberating from dependence on hospitals and medicine. In our interview, he proactively mentioned the application of frequency in healing. He said:

> Every day, I go to the fields to farm barefoot. Grounding for about one to two hours causes 60% to 80% of the inflammation in your body to be ionized and eliminated. The human body is an electric field, and through grounding with nature, inflammation can be neutralized …When you reach that frequency, you naturally receive information at that frequency. I believe that the information of the universe, the entire universe, exists in a certain space in the form of electromagnetic waves. When you reach that frequency, you may come into contact with it.

Yong's articulations on frequency and Dongbao's account revisit my discussion on post-socialist China's development of wireless communication in Chapter 1, where I have elucidated how the imagination of radiation waves became diffusing in the public's understanding of the environment. Against this backdrop, their interpretations here further the

imaginary of healing through vibration, wave, and frequency in a contemporary techno-oriented context, where Qian Xuesen's dream of a China-led scientific revolution has been actualized in multiple scientific and technological realms. Either Dongbao's emphasis on the vibrating materiality of things or Yong's use of electromagnetic waves reiterates the elemental like *qi*, embedded in the everyday. As Anna Greenspan's (2023, 150) tracing of the modern discovery of electromagnetism shows, at the very beginning of wireless telecommunication there had already been a deep entwinement of bodies, occult culture, and technologies. *Lingxing*'s adaptation of frequency may not be unique to China but has to do with a specific Chinese techno-landscape. Greenspan (2023, 156) marks the *qigong*'s pioneering construction of the human-electromagnetism relationship by reviewing somatic science's reconstruction of the body as "a medium opening to an electromagnetic atmosphere" and accessing "the planet's hidden electromagnetic vibrations." This argumentation along with Dongbao's thermodynamic explanation of vibration ("because it has temperature") and Yong's faith in "the information of the universe" highlights enduring cybernetic remnants in *lingxing*, even though somatic science has faded into obscurity.

The interlacing of *qi* and frequency works in their metaphorical meanings as well. Similar to Dongbao's idea on reactions to different frequencies, Yifei Li (2021, August 17) suggests *qi* is differentiated in social life by mutating into "a mass of congenial *qi*" and *qi* against others in Chinese tradition. The cosmo-spiritual-materialist concept of frequency integrates what Chia-ju Chang (2021, 192) suggests "the techno-oriented modern way of thinking and the pre-modern aesthetic-metaphysical one." Here, animacy becomes a property of frequency, an (in)visible materiality of universal matters but not matters themselves. Frequency can be heard, can be touched, can manifest somatically, and can be transmitted both in reality and in imagination, which in turn marks people's mentality and hierarchies people in a language of purity. This operation of hierarching people exemplifies the animacy of toxicity and frequency, echoing what Mel Chen (2011, 266) writes, "figures of toxicity have moved well beyond their specific range of biological attribution, leaking out of nominal and literal bounds while retaining their affective ties to vulnerability and repulsion." In the following section, I will turn to Ruyun's model of toxicity and purification, which presents an affirmative and productive reading of toxicity and further complicates the animacy of frequency.

A Living with Toxics

If Dongbao's interpretation frames toxicity as a steady property, Ruyun provides a fluid and phased understanding of it in *lingxing*. Ruyun told me one of her main reasons for deeply exploring her inner power originates from her difficult childhood overshadowed by parental disputes and divorce, raised by her grandparents. After graduating with a degree in finance and working as a bank clerk, she struggled with the arranged life imposed by his father and began to explore herself with pain and trauma. What she calls a "toxic relationship" and "annoying workplace" drove her to detoxify and purify herself at the outset. As she said:

> In the beginning, we were in a society with a binary way of thinking, and I think the pain I felt earlier also came from this binary mindset and the struggle against it. Because I wanted to reject that pain, I labeled it as 'toxic,' whether it was an emotion or a relationship, and I wanted to break free from it. The first stage was that I hated it and wanted to break free. At that time, the toxicity might have been perceived by my subjective consciousness as something that was draining me, or something I hated, disliked, or felt I wasn't suited for.

She went on to say that:

> This serves as a driving force, and then in the second stage, you begin to realize that it's a projection from within yourself, and you start to examine it on that psychological level. It's about moving from complaining about others and feeling like a victim to practicing more to refocus on yourself, to look at how you perceive that toxicity and whether it also exists within you. However, in the second stage, there is still a lot of discrimination and judgment within me, a black-and-white view of right and wrong, thinking that this is negative energy, that negative energy is bad, and that I shouldn't have it.

At this point, the onto-epistemological being of toxicity in Ruyun's narrative diverges from Dongbao's. In the earlier section, my analysis unpacks one prominent way of sensing toxicity: the externalization, in *lingxing*. Ruyun's second phase of approaching toxicity challenges the boundary between toxics and humans by considering it as a projection from within oneself. As she noted, "on that psychological level," toxicity is within herself. But at this stage, toxicity is still considered as something harmful rooted in what Ruyun calls "a binary way of thinking" or "a black-and-white view of right and wrong." In the third phrase, Ruyun

advances a more radical deconstruction of the concept of toxicity. In her words, "Now, I feel I've entered the third stage, a stage of unity, where I no longer rigidly define toxicity. The toxicity is more about my own opposition. I might ask myself why I perceive it as toxicity, and whether my beliefs and unconscious perceptions allow me to label it as wrong." Ruyun's problematizing of "toxicity" is a depoliticized internalization of toxicity (without calling into question the paternalistic social structures) in a way in which its political connotations have been erased and transformed into a person's reflections on one's own mentality, thoughts in need of inner work.

However, my analysis here does not aim to frame Ruyun's conceptualization of toxicity as a manifestation of what Li Zhang (2020, 16) articulates "therapeutic self," by which she intends to investigate "a mode of self created with the aid of psychotherapeutic engagements" under China's therapeutic governance. Rather it furthers an affirmative and productive reading of toxicity in *lingxing*, which enriches Mel Chen's proposition of animated toxics' unexpected evoking of sociality. In Chen's (2012, 207) argumentation, toxicity is not necessarily negative but invites revision of queer theorizing of intimacy and affinity by opening up a queer-utopian imagining that would reattribute subject-object dispositions and challenge the heteronormative understanding of intimacy. Ruyun's integration of toxicity within herself does not fit in Chen's queering inquiries of heteronormativity, yet it surfaces a new mode of questioning the order of subjectivities and security. By integrating toxicity, something harmful in the rhetoric of security and immunity, into oneself, her refusal to judge the wrong of toxicity envisions a way of living without difference or distinction of contamination and intoxication. Corresponding to her understanding of toxicity, Ruyun also illustrated a phased model of detoxification and purification:

> The essence of this process, for me, also has three layers corresponding to the three stages. In the first stage, the detoxification is—I wanted to break free from this toxic relationship. For example, I disliked my job at the bank …This pain drove me to seek what I truly wanted to explore. So, at this point, I've physically stepped away from that toxic relationship. However, psychologically, I was resistant and resentful … the purification in the second stage is when I started to turn inward, transforming complaints into gratitude. This involves shifting perspectives and empathizing with others on a deeper level. In this dimension, I've actually come a long way in terms of self-forgiveness. However, I feel that in the second stage, I still did not achieve fundamental self-reconciliation. I entered the third stage of purification, which I consider to be true self-

> reconciliation, truly seeing the opposing beliefs and the inner divisions within myself …Then, in the third stage of purification, I completely release opposites and become aware of my beliefs. Completely releasing and letting go of attachments—these attachments are my beliefs, my firm convictions that this is right, that is wrong, that this is problematic, and that things should be a certain way. For me, letting go of these firm convictions and attachments is a profound purification.

In Ruyun's narrative, she has disengaged from a judgmental mindset and oppositional consciousness in the third phrase. Though she did not tell me the specific objective of detoxification and purification in the third stage, it is not difficult to infer that what needs to be filtered is the "binary way of thinking" in Ruyun's words. This approach to toxicity and purity is highly political (a solid critique on the diffusing binarism within social ideologies) in a depoliticized way (focus on individual inner work without questioning the structural factors). As a sound healer, she also explains the work of frequency in overcoming the constraints imposed by social ideologies, for instance, she emphasizes its efficiency in releasing limiting beliefs. Regarding the onto-epistemology of healing (bodily and mental) through frequency, I found that Ruyun introduced the benefits of frequency in one of the advertising blogs of her sound therapy: "The sound waves of gong music cover the entire frequency spectrum of sound … It affects neurotransmitters and neuropeptides and helps regulate the immune system." It is related to Dongbao's articulation of the universal vibrating nature of matters: only if every being across different scales, (in)organic forms, and mediums exist through vibration, then frequency emerges as an entry to heal. In this way, frequency emerges as a technology of attuning to a living with toxicity. It is no longer a marker of human difference from Dongbao's elaborations, but a reparative care of a person's spirituality, mentality, relationship with the world, and trauma and pain. Toxicity in this formation occupies a liminal space between the material and the discursive, where toxic chemicals, toxic people, and toxic mindset have no essential difference—they are all manifestations of vibration in the universe. Toxicity and frequency then transcend their biopolitical connotations of negativity, and invite an arguably productive and affirmative mode of existence that arose from living with them.

Conclusion: Vibrating cosmo and a queer technology of attunement

While reading the article concerning enhancement of the immune system written by Ruyun, Guo Fengyi's rheumatoid arthritis as an autoimmune condition resurfaces in my mind. Although both frequency and *qi* are endowed with the power of healing, they are situated in different yet overlapping onto-cosmologies. Through a close investigation of Dongbao and Ruyun's narratives of *lingxing*, this chapter examines two specific configurations of toxicity-frequency dynamics in a new techno-biopolitical landscape with the legacy of *qigong* fever in twenty-first-century China.

In the first case, by comparing the materiality of chemicals and the vibration of matters, toxicity is interpreted as something or someone with bad and toxic frequencies. This rhetoric expands my focus on material toxic substances in the last two chapters to a discursive and metaphorical formation in the contemporary context. Building on it, the animacy of frequency operates within a biopolitical system of powers, regulating and shaping people's mentalities—that is, how a person thinks, interacts with others, and lives in an anxious society. In this onto-epistemological articulation of toxicity-frequency, a nuanced biopolitical differentiation of life emerges: first, the externalization of toxicity overlooks sociopolitical factors and enhances the self-obligation of detoxification; second, the purifying strategies of detoxification obscure the marginalized subjects deemed untouchable within deeply entrenched social hierarchies and stratified inequalities. My analysis also situates the animacy of frequency within post-reform China's techno-imaginary of wireless telecommunication and human-electromagnetism relationship during *qigong* fever.

In Ruyun's narratives, toxicity refigures in a phased model spanning from an external being to a projection of a binary way of thinking within humans. This reconfiguration challenges the rhetoric of security and immunity in which toxicity is seen as a threat, instead suggesting a way of living without the difference or distinction of contamination and intoxication. Frequency then becomes a technology for attuning to life with toxicity, shifting from a marker of human difference to a reparative practice, beyond the biopolitical negativity.

Even though these two cases present distinct ways of approaching toxicity—one suggests externalization, and another calls for attunement—the working mechanism behind these is the same. They employ frequency as the grounding metaphysics of the operation of the cosmo. In Dongbao's narrative, the key is recognizing the collisions of myriad figurations of

frequencies; and for Ruyun, inner attunement is at play for living in a multi-vocal world. Both of these cases exemplify the shift of working concepts from *qi* during *qigong* fever to frequency at the present. As I have noted, this animated being is deeply entangled with a biopolitical differentiation of human lives through marking their mentality in a stratified society. However, the animacy of frequency paradoxically disrupts this hierarchization by turning to a technology of attunement. In this light, toxicity-frequency coupling surfaces queer intimacies by bringing human and perceived "dangerous" toxics together, embodying a queer critique on normative order of security, self-protection, and purity.

Conclusion: A queer living, being

In *Animacies*, Mel Chen (2012) explores the political consequences enacted by those considered insensate, immobile, deathly entities in the contemporary biopolitical world. This thesis is inspired by their interrogation of the life/death regime dominant in inquiries of biopower and extends to a neoliberal post-socialist context, requiring a reexamination of biopolitical theories. I focus on three (in)corporeal matters or concepts—toxicity, *qi* in Chinese metaphysics, and frequency in science, all of which are categorized at the bottom of the animacy hierarchy ("abstract concepts, natural forces, state of being, and qualities") in accordance with Chen's (2012, 27) theorization. These ephemeral, (in)visible, and embodied entities move across scientific institutions, healing places, air, bodies, and minds. Their mobility and malleability in different localities, epistemologies, and physical and discursive beings call for an interdisciplinary investigation from science studies, environmental humanities, critical disability studies, and feminist new-materialist engagement in my thesis, by urging a reconsideration of chemical exposure, gender, chronic illness, class, and geopolitical differences in the making of Chinese people's grappling with healing, detoxifying, and purifying from the late twentieth century to the present.

This thesis begins with a historical account of somatic science, particularly focusing on how Chinese scientific institutions reformulate *qi* in East Asian cosmo-epistemological tradition into empirical, quantifiable, and operationalizable metrics in experiments, inspired by the intersections of *qigong* and cybernetics and information theory. I argue that their attempts not only witness the animacy of *qi* flowing through human, universe, and laboratory instruments but also evoke a biopolitical abstraction of human bodies in a way in which these scientists incorporate human, *qi*, and vitality into techno-biopolitical governance under an imagined scientific revolution. My comparative reading of classical cybernetics, Western feminist critique on cybernetic understanding of information, and somatic scientific discourses reveals obscured non-Western decolonial cosmological and feminist possibility of cybernetics, which broadly structures China's epistem and languages of alternative healing from *qigong* to *lingxing*. In this light, the animacy of *qi* is further complicated in its haunting of people's thinking, living, and curing.

In my analysis of Guo Fengyi's *qigong* drawings and personal history, I examine the visualization of animated *qi* in the form of flowing lines within Guo's artistry. Her drawing works materialize her spiritual vision of inner observation with layered complexities: as a form of healing, as an entry to unruly images for drawing, and as a cosmological revelation/unveiling of ephemeral materiality of *qi*. This chapter refocuses on Chinese people's mundane acts from the previous chapter's concern on the institutional appropriation of *qi*, by zooming in on people's endurance and self-healing against the backdrop of socialist mobilization of labour, post-socialist transformation, becoming prevalent toxicity, and gendered reproductive care. Here the term animacy is reimagined in molecular or chemical terms, as particles of environmental toxic molecules in rubber assembly chains and electronic-like elements of *qi*. The existence of *qi* nurtures Guo's artistic potential, repairs her intoxicated body, reconciles social tension at large, and invites a radical possibility of living that integrates utopian visions of healing and science with the material conditions of life in the late twentieth century. More importantly, Guo and her drawing surface a potential refusal of a normative framework that renders her life and body as a silent site of confronting exploitations, interpretations, and appropriations, revealing a queer critique that challenges not only the biopolitical realities she confronts but also the oft-quoted frameworks used to represent Chinese lives.

In my analysis of *lingxing*, I illustrate two distinct ways of approaching toxicity: one understands it as a marker of human difference by externalizing, and another blurs the boundary and sees it as a projection of internal awareness. Both of these interpretations enhance self-obligation of detoxification and purification in a toxic world. Even though these two cases present distinct ways of understanding toxicity, the working mechanism behind these is the same, that is the frequency in a vibrating cosmos. This emergence of frequency as an underlying metaphysics of alternative healing resides in its reference to chemical materiality and vibration of matters, within the cybernetic remnants of *qigong* fever and somatic science. In conversation with Mel Chen's queer intervention of toxicity's potential to evoke new forms of sociality, I suggest toxicity and frequency in this case surface a new mode of questioning the order of subjectivities and security in the rhetoric of immunity. Rather than biopolitical negativity, animacy of frequency here envisions a reparative practice, a queer technology for attuning to life with toxicity.

Throughout this thesis, my primary focus on alternative healing reveals a new site of biopolitical governance outside of biotechnological intervention in a transnational biocapitalist time. This way of healing mobilizes local, indigenous, and alternative cosmo-epistemologies in place with a predominant science-based worldview and approach to cures across the globe. Neither a romanticization of its transformative potential to biocapitalism nor a unilaterally critical realization of its overlook of structural violence, my efforts in this thesis aim to reconcile these debates and render visible the multi-layered complexities of trauma, pain, desire, and agency embedded in Chinese people's grappling with healing, detoxifying, and purifying in a neoliberal post-socialist age. Engaging with biopolitical discussions of non/in-human and the material, my analysis of toxicity, *qi*, and frequency traces a confluence of embodiment (intoxicated body, vibrating body), affective state (pressured mind), and matters (*qi*, toxic chemicals, and radiation wave) in a techno-biopolitical reality of everyday life. The comparative-historical continuity of my cases spanning from the late twentieth century to the present introduces the transmutations of toxicities and ways of healing. These shifts navigate across the post-socialist utopian imagination of a futuristic state to neoliberal precarious times of anxiety and tiredness, both consequences of techno-biopolitical mobilizations.

My theoretical examination of animacy in these cases opens up a space for interrogating biopolitical regulation on an elemental scale. Following Mel Chen's (2012, 11) suggestion of "queer" as "animacy's veering-away from dominant ontologies and the normativities they promulgate" beyond its exclusive concerning of sex, reproduction, and intimacy, I suggest that toxicity, *qi*, and frequency are arguably queer animated beings. They are flowing and transmitting across boundaries of subjects, objects, and discourses informed by the notion of liberal humanist individual, and security and immunity. They are not only the derivatives of power, but agents of entailing, reproducing, and challenging the matrix of subjugation, oppression, and resistance. Chen (2012, 233) also demonstrates the inherent relationship between queer and animacy: the multi-modalities of queer as matterlike (a noun) or other things (an adjective, verb, adverb) for them resembles "an operator that shiftily navigated gradations of matter, including things, actions, and sensibilities." This observation allows me to substantialize the queer animacy of these three beings in my research. They are bringing these incongruous entities together: from high-level technoscience, exhausted and intoxicated bodies, cosmological mattering, to material-discursive toxicities. This queer assemblage

comes to play only with the animacy across affinities among groups as diverse as somatic scientists, (woman) *qigong* masters, self-trained artist with rheumatoid arthritis, working-class Chinese woman worker, sound healer, and elitist *lingxing* practitioners, to name but a few.

My primary focus in this thesis is confined to a Chinese context but also touches on Mel Chen's (2012, 7) opening of transnational race scholarship in *Animacies*. In Guo Fengyi's case, her experience of evolving in the chemical industry at the height of the Cold War and practicing *qigong* during China's neoliberal transformation of the health system implicates the process of incorporating racialized and gendered bodies into geopolitical tensions and transnational flow of capital. Above all, my case studies show a potential to destabilize the "animacy hierarchy" and the order of livings and non-livings by recognizing the metaphysical significance of *qi* and frequency in organizing human life. In this light, these "abstract concepts, natural forces, state of being" are reified as an aperture into a new order of things, which hopefully present what Mel Chen (2012, 19) articulates as an ambition to "refuse to categorize humans, animals, and objects as so very cleanly distinct from one another."

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